

RECORD  
OF SERVICE IN  
THE  
SECOND WORLD WAR  
THE UNIVERSITY  
OF  
BRITISH COLUMBIA  
VANCOUVER

# IN MEMORIAM

A roll of graduates and enlisting undergraduates of the University of British Columbia who, serving in Canadian or Allied armed forces during the Second World War, gave their lives.

Armitage, D. H.

Armour, L. L.

Arnell, A. L.

Atkinson, J. L.

Aves, R. E.

Bain, D. L.

Barrett, J. H. D.

Barrett-Lennard

Bastin, D. H.

Beaton, F. B.

Beaumont, L. M.

Benton, J. H.

Bessette, G.

Black, J. H.

Boe Bernard

Boss, N. H.

Beyce, W. J.

Braathen, H.

Braun, W. G.

Breerton, G. W.

Brown, R. H.

Bull, A. McK.

Canfield, W. J.

Charters, J.

Child, C. G.

Clark, J. D.

Clark, R. S.

Clark, J. L.

Colledge, W. W.

Cooke, H. A.

Coulter, A. H.

Cox, E. G.

Crickmay, P. W. H.

Cruit, R. N.

Curtin, F. J.

Custance, J. P.

Darby, J. L.

Daunt, A. F.

Davidson, C. P.

Davies, J. C.

Day-Smith, L. C.

Dennis James

Dennis, P. J. A.

Dilworth, J. G.

Dockrill, J. F.

Douglas, L. P.

Dunell, G. E.

Fairbairn, R. D.

Fairgrieve, W. C.

Fergusson, D. N.

Field, R. C.

Filtan, J. F.

Fletcher, W. J. K.

Flynn, J. P.

Fraser, W. MacM.

Friker, W. L.

Frost, D. W.

Gilbert, W. D.

Graham, D. R.

Granger, J. D.

Gray, R. H.

Greene, P. S.

Greenwood, G. A.

Griffin, F. P.

Gross, D. H.

Hall, F. C.

Hamilton, D. A.

Hamilton, J. P.

Harmer, J. C.

Haywood, R. A.

Henry, J. M.

Hentig, J. K.

Hissette Andre'

Holland, D. C.

Horswill, S. R.

Hudson, A. G.

Inglis, H. Maxwell

Killam, D. A.

Lane, S. C.

Laronde, H. D.

Latornell, M. C.

Law Henry

Leitch, A. H.

LeMare, J. David

Livingston, G. A.

Locke, R. P.

Logan, J. E. M.

Louie, Q. J. L.

Lunn, G. A.

Maitland, W. J.

Markham, D. A. W.

Marlatt, S. P.

Martin, A. N.

Martin, H. K.

Martin R. McC.

Matthew, R. D.

Mayhew, C. A.

Miller, W. F.

Monkton, J. P.

Moody, D. B.

Morrison, G. I.

Morrison, J. B.

Morrow, D. J.

McBride, K. G.

McBurney, S. L.

McCarthy, J. J.

McCarvill, C. J.

Macdonachie, J. K.





McCulloch, W. D.  
Macdonald, I. A.  
Macdonald, K. F.  
McDowell, T. A.  
Macfarlane, M. E.  
McIntyre, R. F.  
McKelvey, W. W.  
Mackie, G. def.  
McLellan, W. F.  
McLeod, J. M.  
McMillan, R.  
McQuillan, M. R.  
Nickerson, W. J. M.  
Nordale, A. M.  
Orr, A. G.  
Pedlow, D. S.  
Perry, K. O.  
Pickell, O. F.  
Pringle, G. R.  
Purdon, R. M. H.  
Purslow, J. E.

Roberts, J. M.  
Robinson, A. L.  
Robinson, C.  
Robinson, G. A.  
Robson, D. M.  
Robson, G. C.  
Rose, R. H. M.  
Ryall, W.  
Sanderson, G. B.  
Sades, L. N.  
Scudamore, J. G.  
Shives, A. B.  
Sinclair, R. M.  
Smalley, R. C.  
Smith, D. W.  
Steeves, H. D.  
Stewart, D. E.  
Stewart, H. C. E.  
Stewart, M. MacI.  
Storey, J. E.  
Strong, G. F.

Stuart, F. C.  
Suminson, J.  
Swinton, W. Auld  
Tate, S. G.  
Taylor, R. D.  
Thicke, D. A.  
Urquhart, A. M.  
Vance, T. C. B.  
Vickers, G. P.  
Wallace, C. A. B.  
Whalen, J. Henry  
White, W. A.  
Widdess, E. H.  
Wilson, H. R.  
Wilson, R. A.  
Wilson, R. Alfred  
Wood, D. H.  
Wyzykowski, J. D.  
Young, A. J.  
Young, T. McL.





RECORD  
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THE  
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UNIVERSITY OF  
BRITISH COLUMBIA


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University of British Columbia War Memorial Manuscript Record.  
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# Contents




2	ROLL OF THE DEAD, WORLD WAR II. <i>Facsimile reproductions.</i>
4	PAGE TURNING CEREMONY, WAR MEMORIAL GYMNASIUM. <i>Photograph.</i>
8	MEMORIAL POEM, WORLD WAR II. <i>Facsimile reproduction.</i>
9	EDITOR'S PREFACE.
12	LIEUTENANT ROBERT HAMPTON GRAY, V.C., D.S.C. <i>Photograph.</i>
13	CITATION TO LIEUTENANT GRAY. <i>Reproduction.</i>
14	ROLL OF THE DEAD, WORLD WAR I. <i>Reproduction.</i>
15	INTRODUCTION: PRESIDENT EMERITUS LEONARD S. KLINCK.
21	FOREWARD: PRESIDENT N. A. M. MACKENZIE.
25	THE VETERAN RETURNS: DEAN S. N. F. CHANT.
32	CANADIAN OFFICERS' TRAINING CORPS.
34	UNIVERSITY NAVAL TRAINING DIVISION.
36	UNIVERSITY AIR SQUADRON.
37	CONTRIBUTIONS TO WARTIME RESEARCH:
	FACULTY OF APPLIED SCIENCE
	DEPARTMENT OF BACTERIOLOGY AND PREVENTIVE MEDICINE
	DEPARTMENT OF BIOLOGY AND BOTANY
	DEPARTMENT OF CHEMISTRY
	DEPARTMENT OF FORESTRY
	DEPARTMENT OF MATHEMATICS
	DEPARTMENT OF PHYSICS
	DEPARTMENT OF UNIVERSITY EXTENSION.



**WE** think they breathed the future and they died

of it, and there alone's our solace. No seed  
of hope can sprout but from the wounded side—  
of selflessness. Since they who walked in freedom  
and the ways of reason fought on our front, we—  
foresee the plot is solvable, the duel worthy.

And yet our stage will pile with poisoned years  
untill we tell aright the Prince's words,  
and blood as proud as theirs has built a prouder world.





## Editor's Preface



*This booklet is intended to illustrate and to supplement the Roll of Service of the University of British Columbia in the Second World War, 1939-45. It has been prepared by the University's Remembrance Committee, formed during the session 1948-49.*

*The first task of this committee was to assemble a record of some two thousand students, alumni and faculty of the University who had served in Canadian or Allied forces during World War Two. To their names were attached, wherever available, the dates of enlistment and discharge, rank on discharge, decorations, and the year and faculty of graduation or of proposed graduation, completed to the year 1945. This material was then given final recording in the form of a single illuminated manuscript, the Roll of Service, which was placed on permanent display in the lobby of the University's War Memorial Gymnasium.*

*The manuscript, consisting of fifty-six vellum folio pages, was hand-lettered in delicate brush-stroke by the Vancouver artist, Mr. Chuck Yip, who also supplied original border and cover designs, in the same technique, conceived in a contemporary spirit and symbolic of the memorial nature of the volume. The work was then bound in red morocco by the University Library and, in late 1953, placed in a specially constructed glass and steel case in the lobby of the Memorial Gymnasium. Ever since its installation, on the eleventh of every month, a page of the manuscript is turned at a special ceremony conducted by a University cadet-officer and student Guard of Honour detailed from navy, army and air force training units on the campus.*

*In addition to the record of military service, the manuscript*

## EDITOR'S PREFACE

Roll contains four specially designed and illuminated pages; two of these list the names of those who died in service; a third is devoted to a memorial poem by the editor; the fourth presents the citation of Lieutenant Robert Gray, R.C.N.V.R., a student of this University, who was posthumously awarded the Victoria Cross for great bravery in a naval action during the closing days of the war in the Pacific, an action which cost him his life.

These four pages are given two-colour reproduction in the present pamphlet, together with a photograph of Lieutenant Gray and one of the page-turning ceremony by the officer of the Guard of Honour.

Since 1953 the Remembrance Committee has prepared a companion manuscript Roll for World War One, based on a printed Record of Service assembled and published by the University in 1924. The new manuscript consists of twenty-four illuminated vellum pages setting forth the names and military records of some seven hundred students, graduates and faculty either of this University or of one of its ancestral colleges (Vancouver College, and McGill College—British Columbia) who served in the first World War. The work was designed and executed by another Vancouver artist, Mrs. Sylvia MacIntosh, wife of a student at present in this University. It is in process of being bound and will shortly be added to its companion volume in the display case in the Memorial Gymnasium.

A reproduction of the In Memoriam page from this companion volume will be found on page fourteen.

The remainder of the present volume, following this illustrative material, offers, as a supplement to the manuscript Roll of Service in the Second World War, an account of the civilian contributions which a number of departments and faculties in this University made to the war effort, and of the University's auxiliary contribution to military training. Such material, though unsuitable for inclusion in an illuminated manuscript, was felt by the committee to be integral to the total record.

## EDITOR'S PREFACE

*It is the editor's hope that the present booklet will serve not only to place on record an important aspect of the University's work in war years but, also, by calling attention to the existence and nature of the two illuminated Rolls of Service, to prompt those interested to view the manuscripts when next they visit our University. Although the rolls are of particular concern to those who served, or whose relatives served, in either World War, they are also of general interest both as records of voluntary service and sacrifice in two great international struggles and as examples of the products of British Columbia artists working in the beautiful but now rarely practised tradition of manuscript lettering and illumination.*

*Your editor is keenly aware that not all the records are complete. Where information has not been obtainable, as occasionally in respect of dates of enlistment, gaps have been left in the manuscripts in the hope that the data may still be discovered and added. Any member of the public who, after inspecting the rolls, finds that he has information which the rolls lack, or which has been incorrectly set down, is earnestly asked to inform the University, so that the records may be adjusted.*

*Whatever accuracy and completeness our Rolls now possess are the result of the joint efforts of a number of University faculties, offices and departments, the U.B.C. Tri-Services personnel, officials in the Department of National Defense, Ottawa, the U.B.C. Alumni Association, as well as several student clubs and fraternities and the voluntary aid of many individual faculty members and friends of the University. For all such aid and counsel, willingly given, and for the unfailing patience and encouragement of the University administration during the seven years it has taken to prepare the two Rolls of Service and this booklet, the Remembrance Committee and your editor in particular are sincerely grateful.*

MAY, 1955

Earle Birney.







IN MEMORIAM

LIEUTENANT ROBERT HAMPTON GRAY  
VC, DSC

**R**OBERT HAMPTON GRAY of Nelson, B.C., while an undergraduate in the Faculty of Arts at the University of British Columbia, enlisted in the Royal Canadian Naval Volunteer Reserve on 26<sup>th</sup> September 1939. He was attached to the Royal Navy and served in the Pacific as a naval airman, with such distinction that he was early awarded the Distinguished Service Cross.

On August 9<sup>th</sup> 1945 Lieutenant Gray led an attack on a Japanese destroyer in the face of intense anti-aircraft fire from shore batteries and from at least eight enemy warships. Wounded, and with his aircraft in flames, he nevertheless pressed home his attack, scored a direct hit and sank his objective, but at the cost of his own life. For his bravery on this day Lieutenant Gray was posthumously awarded the Victoria Cross.

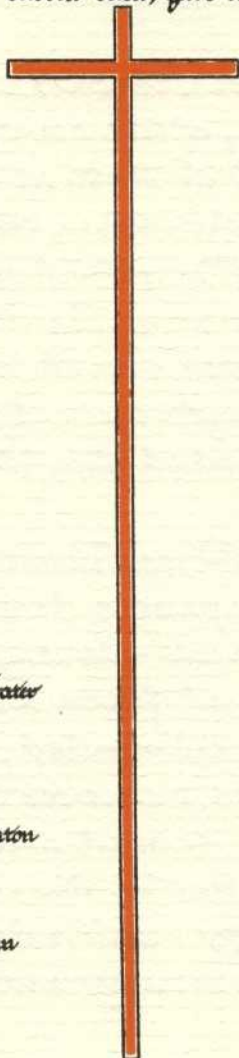


# IN MEMORIAM



roll of graduates, enlisting undergraduates and faculty of the University of British Columbia and of McGill College, British Columbia, who, serving in Canadian and Allied armed forces during the First World War, gave their lives.

Anderson, Claude William  
Anderson, Goldie Fraser  
Atkins, Basil Elmo  
Berry, Edward Ueldon  
Black, Ronald Douglas  
Bowser, William James  
Boyes, David Alexander  
Bunn, Raymond Spence  
Cameron, Ian Mackenzie  
Campbell, Fred Edward  
Chaffey, Charles Russell  
Clement, Carleton Main  
Creery, Cuttbert John  
Creery, Ronald Hulbert  
DesBrisay, Eric Merrill  
Duncan, Charles Andrew  
Duncan, Robert George  
Dunn, Frank Newburn  
Frame, William Layton  
Fraser, Robert Leslie  
Gerow, Albert Augustus  
Gibbins, G. Gwynn Gilbert  
Gibson, Harold Alexander Frater  
Gilbert, Reginald Herbert  
Hardie, Charles Mauer  
Harvey, Gerald Myles  
Harvey, Oliver Colin  
Heyland, Domenic MacNaughton  
Hillis Bruce Sinclair  
Howell, Benjamin Henry  
Hughes, Norman Vincent  
Jeffs, William Armour Cowan  
Knowling, Albert James  
Lawson, Duncan McDonald  
Lechie, George Arthur  
LeMessurier, Thomas



McCannell, Donald Morgan  
MacLennan, Neil Kenneth Finlayson  
McNaught, Robert Donald  
Mathers, Wilfred Wilfrid  
Mayers, James Christian Francis  
Meadows, George Douglas  
Moore, Guy Borthwick  
Morrison, Albert Henry  
Munro, Alexander Jnr  
Murray, Kenneth William  
Mutch, John Thomas  
Owen, Harold Heber  
Price, Harold  
Putnam, Laurie Chalmers  
Rand, Edwin Arthur  
Raynes, Walter Livingstone  
Ross, Douglas William Robertson  
Samuel, Cecil Valentine  
Sclater, James Louitt  
Seidelman, Edward Joseph  
Suarman, Thomas Stinson a Bechet  
Swerth, Henry George  
Stevens, David Valentine Vernon  
Stewart, Earle Richard  
Stewart, John Malcolm  
Stone, Horace Gordon  
Stuart, William James  
Taylor, Arthur  
Thomson, Andrew Bennett  
Trapp, Donovan Joseph  
Traves, Edmund Cornelius  
Turnbull, Robert Franklin  
Underhill, Charles Bertram  
Wilson, Conrad Blackadder  
Wright, Douglas Archibald  
Wynn, Harold William



# *Introduction*

BY PRESIDENT EMERITUS LEONARD S. KLINCK

B.S.A. (TORONTO), M.S.A., D.S.C. (IOWA STATE COLLEGE), D.S.C. (BRITISH COLUMBIA), LL.D. (WESTERN ONTARIO), OFFICIER DE L'INSTRUCTION PUBLIQUE, F.R.S.C.



IN THE SIX YEARS between the constituting of the University of British Columbia by legislative enactment in 1908 and the declaration of war on August 4th, 1914, considerable progress had been made towards the realization of the dream of the founders.

When war was declared, the very existence of the University was threatened. Practically all development ceased; the unexpended balance of the initial legislative grant reverted to the Provincial treasury, and contemplated appointments to the professorial staff were deferred. This change in policy, while drastic in the extreme, was made unhesitatingly in view of the magnitude of the struggle in which Canada had voluntarily engaged.

Under these circumstances it would have been impossible for the University to open its doors in 1915 had it not been for the existence in Vancouver of McGill University College of British Columbia. On this excellent foundation the University began its work at the Fairview site.

The opening years were anxious and distressing. The war was uppermost in the minds of faculty and students alike. Military training was compulsory. The Canadian Officers Training Corps devoted special attention to the training of potential officers. Enlistments were spontaneous and heavy. When conscription was adopted on the campus only six students were affected.

Early in the conflict provision was made, not only for those enlisted men who would return to the University to resume their



## RECORD OF SERVICE

studies, but also for many non-university men who would wish to take vocational training in Agriculture, Engineering, Mining and Forestry. For these intensely practical courses approximately thirteen hundred students registered. Tuition was free and no examinations were required. The costs were borne jointly by the Dominion Government, the Provincial Government and the University.

As the war progressed, wartime activities on the campus increased. More and more of the staff enlisted or were granted leave of absence to engage in wartime research or to serve in administrative or advisory capacities in government departments or in industry. Those who remained, in addition to carrying the usual teaching load and taking an active part in the C.O.T.C., gave instruction in vocational classes, served on food production and food rationing boards, on committees supervising vocational education for returned men and women and the placement of veterans. Women students took instruction in First Aid, worked in the University Branch of the Red Cross, organized the dispatch of food parcels to men overseas, and spent their vacations in war work.

The valor of the men, the devotion of the women, and the inspiring leadership of the faculty and staff during these war years created a cherished tradition which imbued their successors with courage, inspired them with confidence, and steeled them with determination to maintain the traditions which had been established at such cost in the formative years of the University.

In the interval between the two wars the University, which had moved to Point Grey in 1925, expanded rapidly in staff, buildings, equipment, enrolment and curriculum. Upon the outbreak of hostilities in September, 1939, the Dominion and Provincial Governments naturally looked to the University for assistance in many departments of the war effort. To this appeal the University responded promptly by offering to make avail-



## INTRODUCTION

able whatever personnel, accommodation and equipment could be provided consistent with the maintenance of reasonably efficient standards of instruction. From the outset, the University co-operated closely with many departments of the Dominion and Provincial Governments in numerous projects affecting the national welfare.

The primary functions of a University in normal times are teaching and research. In time of war the functions remain the same but the emphasis changes. Early in World War II the University adopted a freely-evolving policy determined by the changing needs of Canada and the Allied Nations as these were made known by the Government and the National Research Council. To implement this policy new courses were added and many established ones were discontinued or revised. Highly specialized researches of a confidential nature were undertaken in many branches of the war industry. Military training was made compulsory; a programme of physical fitness for men and women was instituted; inter-collegiate athletics were discontinued, and social activities were curtailed—all with a view to enabling the University to make the greatest possible contribution to the prosecution of the war.

Owing to the nature of the conflict, the need for highly-trained technical men early became so evident that the government advised students in the sciences, whether pure or applied, to continue their courses until graduation rather than to enlist immediately for active service. In announcing this forthright, forward-looking policy, the Department of National Defence made it clear that students affected by the ruling were not in any sense a privileged class but that, in the national interest, they had temporarily been placed in a special category. Notwithstanding this clear directive, undergraduate enlistments continued to be heavy.

In co-operation with the Dominion Departments of Labour

## RECORD OF SERVICE

and the Provincial Department of Education, generous bursaries were made available for specified classes of students of high scholastic standing who, without such assistance, would not have been able to enter the University.

Numerous special wartime courses, differing widely in nature and content, were offered by the University and by co-operating bodies. Many of the texts used were prepared by members of the staff as personal contributions to the re-training of discharged veterans.

Early in the war years a thoroughly modern and completely equipped Armoury was erected from funds provided entirely by the members of the Canadian Officers' Training Corps. This much-needed building greatly facilitated the work of the Corps and was, at the same time, tangible evidence of the public-spirited devotion of the officers and men of the Contingent who, since the re-organization of the Corps in 1928, had assigned their entire headquarters training pay to regimental funds. With this gift, the members of the Corps, without financial assistance of any kind, made a magnificent contribution not only to the war effort but also to future generations of students.

When compulsory military training was introduced in the 1940-1941 session, the C.O.T.C. was well-nigh overwhelmed by the sudden influx of recruits. One course was given for students taking basic military training. In the spring of 1943 the University Naval Training Division and the University Air Training Corps were established. Following the organization of these new units, all military training came under a capable, unified command. The parade grounds were graded and regulation uniforms and equipment were obtained, and the interest and efficiency of the Corps increased. In co-operation with members of the faculty in at least eight departments in the University, instructors in the Corps studied scientific problems having an immediate practical bearing on the conduct of the war.

## INTRODUCTION

Women members of the staff and student body were also actively engaged in war work, both compulsory and voluntary. The response was immediate, enthusiastic and sustained. Physical Education and recreational activities were expanded; Red Cross projects of many kinds were carried out; contributions to the self-denial fund were generous, and responses to the call for blood donors were numerous.

War conditions were reflected in the physical appearance of the campus. Gun emplacements were erected; part of the forest belt was cleared; traffic was diverted from Marine Drive to the Main Mall; the wireless station was transferred; blackouts were instituted; elaborate precautions were taken against the possibility of air raids and gas attacks; valuable records were stored in fire-proof sub-basements; trenches scarred the grounds; agricultural lands were used as landing fields for parachute troops, and congested parade grounds contrasted sharply with the almost deserted playing fields.

As early as 1943, discharged servicemen began returning to the University to resume their interrupted studies. The decision of the government to give financial aid to all undergraduates who wished to continue their academic training was an act of statemanship comparable with the earlier decision to encourage students in science to defer enlisting until after graduation.

Throughout the long years of both wars the students—men and women—gave unmistakeable evidence of their seriousness of purpose. They were quick to realize that the nation's interests were paramount and by their conduct they demonstrated their determination to do their duty.

Midsummer, 1944, marked the close of the thirty-year period covered by this introduction. During that time the University had witnessed two World Wars—wars in which it played an honourable part. It had proved its ability to adjust its curriculum to the rapidly changing demands imposed by great national

## RECORD OF SERVICE

emergencies without sacrificing the liberal tradition unduly; and it had demonstrated, not once only, but twice within a single generation, that the quality of its undergraduates and alumni was such as to bring credit to their Alma Mater and honour to Canada in whose service so many of her sons and daughters gave their lives unselfishly.



# Foreword

BY PRESIDENT N. A. M. MACKENZIE

C.M.G., M.M. AND BAR, Q.C., B.A., LL.B. (DALHOUSIE), LL.M. (HARVARD), LL.D. (MOUNT ALLISON,  
U.N.B., TORONTO, OTTAWA, BRISTOL, ALBERTA, MCGILL AND GLASGOW), D.C.L. (WHITMAN COLLEGE),  
D. SC. SOC. (LAVAL), F.R.S.C.



IT IS FITTING that universities which can perform their true function only in a world in which free inquiry is accepted and practised, should record in an appropriate manner the service of those of their members who fought, and particularly of those who died, in defence of freedom and of their country.

Because of this, after the First World War, the University of British Columbia compiled its *Record of Service* and published it in 1924.

After the Second World War it became an obligation to see that this record was maintained, and made as complete as possible. At the request of the Board of Governors, Professor (Major) Earle Birney accepted the responsibility for this work. In carrying it out he was assisted by a Remembrance Committee representing the teaching staff, the Services on the Campus and the Alumni Association.

To the editors it has been a responsibility additional to their normal duties, willingly undertaken on behalf of those with whom they served. The President Emeritus, Dr. Leonard S. Klinck, who was responsible for the publishing of the first record of service, and who was President until the summer of 1944, has contributed an introduction which, in a very short space, sketches the activities of this University in two World Wars.

As I did not come to British Columbia until August, 1944, I

## RECORD OF SERVICE

can do little more than record my admiration of the strong tradition of national and personal service which has characterized the members of this University since its inception.

During the eleven years that I have been here, I have come to understand, through contacts with the Alumni, with the older members of the Faculty and with the student body, something of how this tradition was fostered and has been maintained.

We were particularly fortunate during the immediate post-war years, which brought a great increase in the student population, to have had with us and to have kept with us many of those members of the Faculty who were nearing the age of retirement, for they helped immeasurably in giving continuity to the established traditions, and in passing on these traditions to their successors. We were fortunate, also, that over 5,000 of our peak enrollment of 9,376 students were themselves veterans whose traditions of service, maturity and responsibility made it easy for them to find their place in their Alma Mater.

It was a temptation to the Committee to include the story not only of the graduates and the students who enlisted from the University, but also of the student veterans who came to us after the war, and whose only University affiliation has been with the University of British Columbia. Unfortunately it proved impossible to obtain full details about such a large number of students; consequently, the present record is confined to those who were enrolled in the University prior to or during the war.

Because of this, I should like in a general way to express the University's gratitude for the contributions made by the student veterans during the war and in the succeeding years. The record of those years and of the veteran programme is to be found in a separate article in this volume. I merely want at this time to record the fact that those who returned to the universities from the Services left a lasting impression on Canadian

## FOREWORD

university life because of the maturity, responsibility and sense of purpose with which they participated in their own higher education. We are grateful for their contribution.

The primary purpose of this volume is to commemorate those who, bred in the tradition of our society and of this University, honoured this tradition in their defence of our society. We honour particularly those who died.



# *The Veteran Returns*

BY DEAN S. N. F. CHANT,

O. B. E., M. A. (TORONTO)



DURING THE earliest years of the war the Government of Canada prepared the plan for the rehabilitation of the men and women who served in the armed forces. By the time hostilities had ended, a programme of rehabilitation on a hitherto unprecedented scale was ready to be put into effect. It provided ample means for the education of qualified war veterans in Canadian universities. By the autumn of 1945 the universities, working in the closest harmony with the Department of Veterans' Affairs, were ready to receive the rapidly increasing number of men and women who, on being released from the armed services, applied for university education.

The University of British Columbia made special arrangements, in addition to the regular admission of students in September, permitting veterans to register in January, May and July so that upon their release from the services, they were able to commence their studies without undue delay. The consequent intake of veterans at the University of British Columbia was very rapid. The records of the Department of Veterans' Affairs show that in 1944-45 only 208 veterans were in attendance at the University, whereas during the Session 1946-47 there were 4762 enrolled. This latter figure takes into account only those student veterans who were in receipt of rehabilitation allowances. An additional number who had by this time already exhausted their entitlement to allowances were continuing their



## RECORD OF SERVICE

studies at their own expense. It is reliably estimated that well over five thousand student veterans were in attendance at the University of British Columbia during the 1946-47 session. In addition to these there were other students who had served during the war with the Merchant Marine. Many of these students from the Merchant Navy, although they were never classified as war veterans within the terms of the government's rehabilitation plan, had seen long and hazardous war service and the University made liberal use of its own financial resources in order to provide aid for those who were in need. University bursary and loan funds were also made available on a large scale for all student veterans who required financial assistance in addition to their rehabilitation allowances.

Veteran enrolment reached its peak in the Session of 1946-47; during the Session of 1949-50 the number of student veterans who were still drawing allowances had dropped to 2114. By the spring of 1950 there were 3690 veterans who had successfully completed their courses and had received their degrees while still in receipt of allowances. Taking into account those who completed their courses at their own expense, it is estimated that approximately four thousand veterans had graduated by June, 1950. An additional number, after having successfully completed the second or third years, had left in order to enter professional courses in Medicine, Dentistry, Optometry, and Physical and Occupational Therapy at other universities.

The size of the student body at the University of British Columbia was increased by the influx of veterans to a proportionally greater extent than at any other Canadian university. In 1944-45 the student body numbered 2569; in 1947-48 it numbered 9374. It is interesting to note that among the student veterans about one in five attended high school in some other province, whereas only one in ten of the non-veteran students had done so. Doubtless the timely action of the Board

## THE VETERAN RETURNS

of Governors of the University in agreeing to accept all qualified students contributed to this trend.

The student veterans as a group differed in several significant respects from the other students. On the average they were older by some four or five years. Most of them had been away from school for several years. The average length of time they had spent in the armed forces was between forty and forty-five months, during which time they had been trained and disciplined. Between sixty and sixty-five percent of them had served in a combat zone and practically all of them had journeyed far from home in the course of their service. A number had been wounded; others had been prisoners of war. They represented all ranks from Air Commodore and Colonel to aircraftsman and private. Many had been decorated for acts of bravery and devotion to duty. Very few of the non-veteran students were married, but of the student veterans, fully twenty-five percent were married and the percentage increased as the students progressed. Of the married veterans one-third had children. Both the numbers and sizes of the families increased and by graduation some of the veterans took pride in families of three or even four children. The faith, courage and resourcefulness of the veterans' wives who cheerfully carried on in spite of inconvenience, hardship and sometimes unavoidable disappointment matched the devotion to duty which their husbands had displayed during the years of conflict. The University will long remember these pioneering women with pride and affection.

Although over seventeen percent of the men and women in the armed forces of Canada had educational qualifications equivalent to junior matriculation or better, there were many veterans who sought a university education in spite of the fact that they had not completed junior matriculation. The rehabilitation programme provided pre-matriculation courses for these veterans whereby they were enabled to qualify for university

## RECORD OF SERVICE

entrance in as brief a time as possible. Such students more than justified the opportunity which the rehabilitation programme afforded them.

In order to provide for the greatly enlarged classes, the University added many new members to its staff and erected numerous temporary structures on the campus to serve as classrooms, laboratories, study-rooms, lunch-room, dormitories and offices. In spite of these measures, many classes were crowded and several laboratory sections carried on into the night. The supplying of text-books and equipment was a major problem that was finally overcome by the persistence and diligence of the University staff. The veterans cheerfully accepted all of these insufficiencies and, in their determination to make good, seemed oblivious of many inconveniences. The wholehearted enthusiasm for the venture that was displayed by the teaching staff amply compensated for the many improvisations, with the result that the quality of instruction was enhanced rather than impaired.

In recognition of the maturity of the student veterans, the Faculty Council relaxed some minor disciplinary regulations and granted the veterans exemption from obligatory physical training periods and made certain minor concessions to them with regard to courses. These steps were fully justified by the high standard of the veterans' scholastic success and deportment.

The majority of student veterans, particularly those who were married, found it necessary to supplement their rehabilitation grants with earnings during the term and over the Christmas and summer vacations. In order to facilitate this, the University established an employment service. The employers of the province willingly co-operated and many veterans were thus enabled to earn as well as learn. Wherever possible the University employed its student veterans on janitorial and

## THE VETERAN RETURNS

maintenance work and for services in the library, book-store and lunch-rooms. The employment service also assisted with the placement of graduates and each year brought to the campus groups of employers from all over Canada to interview and hire the new graduates. The fact that an almost negligible number of veteran graduates turned for employment to some other country than Canada can be attributed in no small measure to such services.

In conjunction with the employment service, the University established a Counselling Bureau for student veterans. Here they were able to obtain academic and vocational counselling, advice on their progress and help with personal problems. This bureau also provided the liaison with the Department of Veterans' Affairs, distributed allowance cheques, and fulfilled the services required by the Veterans' Loan Board, Scholarship Committee and other bodies.

The success of the student veterans more than justified the faith and vision of those who planned the rehabilitation programme and of those who threw open the doors of the University to receive them. Instructors found them to be the most interested and interesting students they had ever taught. Their conduct was above reproach and the University authorities found them to be imbued with a helpful initiative that lightened the labours of the administration. They became partners in a challenging enterprise rather than pupils to be directed and controlled. They raised university life to a level of maturity it had never previously attained and they showed unfailing appreciation for every service the University performed.

Contrary to the expectations of some, the veterans settled down to academic life with a minimum of apparent difficulty. A strong sense of responsibility and a determination to make good seemed to prevail over any other attitude. They actively assisted the University in developing residential camps for hun-

## RECORD OF SERVICE

dreds of married and single veterans. They formed the University of British Columbia Branch of the Canadian Legion as a centre for their various activities; they organized play schools for their children, organized co-operative stores in their camps, and worked to the advantage of the University in many other ways.

Many of the student veterans became prominent in student affairs and held high office in student organizations. Several starred on the University's athletic teams, although many found little time for either sports or entertainment. The responsibilities of maintaining a home and keeping up with their studies completely absorbed the time of most of them.

The progress they made in their studies was somewhat superior to that of other students. As a group the married student veterans excelled all others. At each successive graduation, veterans figured prominently in the list of those who had won scholarships or prizes. Approximately fifty percent of those whose initial period of entitlement had expired prior to graduation were granted continuous allowances because they had obtained at least Second Class standing or stood in the top twenty-five percent of their classes. Of those who failed and repeated a year at their own expense over eighty percent successfully completed the next higher year. In 1948-49, ninety-two percent of all the student veterans who were on rehabilitation allowances passed to the next higher year or graduated.

A considerable number of veterans who achieved high standing have continued to graduate work. Many others have entered upon their professional and occupational careers. They are among the strongest supporters of the University in their various walks of life.

The return of the veterans was the greatest single event in the history of university education in Canada. The scale upon which the academic training of veterans was conceived and

#### THE VETERAN RETURNS

carried out greatly surpasses any other national venture in higher education. Its success surpassed all expectations and its effects upon our educational and national life will be far-reaching and enduring. Soon the sons and daughters of our student veterans will enter our universities. Their mothers and fathers have left for them a splendid tradition of initiative, and of devotion to the best that a university can offer.

## *The University of British Columbia Contingent Canadian Officers' Training Corps*



AFTER THE First World War the University of British Columbia Contingent Canadian Officers' Training Corps was disbanded. On 28 November, 1927, about 150 students submitted to the University authorities a petition requesting that a University contingent be organized for the purpose of offering officer-training to interested students. After the Students' Council and Board of Governors had given approval, the Senate gave permission for the formation of the C.O.T.C., and a University Military Committee was established. Lt. Col. H. T. Logan, M.C., was appointed as the first Commanding Officer. Enlistment proceeded immediately. Quarters for administration and training were provided in the basement of the Arts Building, and training got under way. Lt. Col. Logan initiated the policy which resulted in the assignment of all Corps members' pay to the Regimental Funds. The understanding was that the funds which remained after current expenses had been defrayed should become the nucleus of a Corps building fund.

The years 1929-1939 witnessed a steady expansion of the unit. Numbers almost doubled, rising from 53 in 1928 to 94 in 1938-39. Again, there was an increasing demand from local militia units for officers trained in the Corps. Two changes in command took place. In October, 1930, Lt. Col. Logan was succeeded as Commanding Officer by Lt. Col. (now Major General) H. F. G. Letson, M.C., E.D., and in 1937 Lt. Col. G. M. Shrum, M.M., was appointed to succeed Lt. Col. Letson.



## CANADIAN OFFICERS' TRAINING CORPS

The outbreak of war in September, 1939, created new problems. The challenge of training larger numbers of cadets necessitated an increased establishment. The parade strength of the unit rose to 219, as a result of two innovations. One of these permitted graduates of accredited Canadian Universities to enlist as cadets and the other granted first year academic credits to students who qualified in C.O.T.C. exams.

In 1940, the Dominion Government inaugurated the policy of compulsory military training for all physically fit male students of the University. By agreement with the universities, however, the conscription of eligible students into the armed forces was postponed until graduation and training was given on each campus.

As a result of this new policy, the enrolment in the Corps reached 1738 in 1940-41, and an all-time record of 1879 in 1941-42. During the war years, the total enlistments from the Corps into the services reached 1680. Of this number 417 enlisted in the Royal Canadian Navy, 629 in the Canadian Army (Active) and 634 in the Royal Canadian Air Force.

In the year 1940-41, the assigned pay which had accumulated as a result of the policy initiated in 1927 was sufficient to begin the construction of the U.B.C. Armoury. In 1942 the building was officially opened by the Lieutenant-Governor of the Province and was turned over to the University. Subsequently all service training on the Campus was concentrated in one building. In the following years additions were made to the building to provide space for stores, training equipment, and offices. No other contingent in Canada possesses a comparable building. To all present and former members of the Contingent who contributed to the undertaking, the Armoury has been a source of pride and satisfaction, and it has added in no small measure to the high morale that has always characterized the U.B.C. Contingent.

## *University Naval Training Division at the University of British Columbia*



THE UNIVERSITY Naval Training Division was established at the University of British Columbia in March, 1943. Its purpose was to supply partially trained ratings and potential officers for the rapidly expanding Royal Canadian Naval Volunteer Reserve.

Lieutenant H. M. McIlroy, C.O.T.C., Department of Mechanical Engineering, was appointed Commanding Officer, with the rank of Lieutenant Commander (Special Branch). He was responsible for administration and discipline in the Division and for general liaison between the University and the Naval Service.

The Naval Service assigned the U.N.T.D. the status of tender to H.M.C.S. "Discovery," Stanley Park. University students who were accepted by the Naval Service were attested on Divisional Strength at H.M.C.S. "Discovery" and then drafted to the U.N.T.D. for training. Under this arrangement, members of the U.N.T.D. were R.C.N.V.R. ratings on leave to continue their University courses, and in receipt of Bounty Pay for those Training Parades they attended. Any member who left the University for any reason was immediately recalled to Active Service. Thus the status of the U.N.T.D. members was essentially different from that of the members in the corresponding Army and Air Force units on the campus.

Like other service units at University of British Columbia, the U.N.T.D. conformed to the pay assignment required by the

#### UNIVERSITY NAVAL TRAINING DIVISION

University and each officer and man received only five dollars training pay during the University Session.

The training syllabus was laid down by the Commanding Officer, Naval Division, Toronto, and was revised periodically as training progressed and conditions warranted. Training was given for six hours a week during the University Session and for two weeks during the summer at either a west coast or an east coast R.C.N. training establishment. Ratings were also given an opportunity to serve for a full summer on Active Service ships on Atlantic convoy. Eventually, the training programme was extended to cover four years of a normal University course.

# *The University of British Columbia*

## *Air Squadron*



PURSUING a policy of military preparedness, the Board of Governors agreed with the Department of National Defence for Air that a unit of the University Air Training Corps be established on the Campus. The unit, later to be known as No. 6 University Air Squadron, R.C.A.F., came into being June 28, 1943. Captain J. Allen Harris of the Canadian Officers Training Corps was appointed Commanding Officer, with the rank of Squadron Leader. He was assisted in the task of directing the unit by one regular air force officer and three officers chosen from the Faculty.

Originally only students who could meet aircrew medical standards were enlisted. Later, however, students who were unable to meet these rigorous physical standards were enrolled as technical personnel.

During the University session the unit trained for six hours per week in a wide variety of military subjects to prepare members for active service. Most members of the unit attended summer training camps at Vulcan, Macleod and Claresholm.

Twenty-eight members of the squadron who were graduates of 1944 enlisted for active service.

# *Contributions to Wartime Research*



## *The Faculty of Applied Science*

DURING THE WAR the Royal Canadian Navy and the National Research Council worked in close co-operation on the problems of ship protection arising from the use of magnetic and acoustic mines. For the West Coast the Research Council organized a small Vancouver Group under the direction of a member of the Applied Science staff of the University of British Columbia. The members of the Group, almost all of whom were science graduates of U.B.C., were appointed to the staff of the National Research Council.

This Vancouver Group, working with a corresponding group of Naval Officers, was responsible for the operation and maintenance of the Vancouver De-Haussing Open Ranges. These Ranges were laid in English Bay; the Recording Station was in Stanley Park. On these Ranges, hundreds of ships of many different kinds were tested, their magnetic signatures obtained and analysed, and recommendations made for the proper operation of their De-Gaussing equipment.

Other projects undertaken included the installation and operation of the Acoustics Range. Hydrophones were laid at the site of the De-Gaussing Shallow Range and the Sound Recorder located in the Stanley Park Station. The Range was used for obtaining acoustic records of minesweepers and other ships fitted with Acoustics equipment.

Extensive use was made of the Electrical Engineering Lab-

## RECORD OF SERVICE

oratories and Machine Shop of the University of British Columbia for the construction and testing of special apparatus.

During the war years nearly all members of the Staff of the Faculty of Applied Science were engaged in some form of war activity in the summer months. Some were granted leave of absence on a full-time or part-time basis while others were retained in a consulting capacity in addition to their university work.

One staff member was Consulting Geologist for the provincial Department of Mines and was also a member of the Strategic Minerals Board. Several of our geologists were retained by the government to act as consultants or to take charge of field parties in search of vitally needed minerals. Moreover, several of the engineers on the staff found opportunities for useful work with various manufacturing concerns in this province.

The Faculty was also closely concerned in the organization of the British Columbia War Metals Research Board which came into being in March, 1942, to provide research and consulting service for the metal fabricating industry in the Province, and to assist governmental agencies by providing analytical, testing, and other facilities necessary for the production of wartime supplies and equipment.

The Board was supported by the Provincial Departments of Mines and of Trade and Industry; by the Dominion Department of Mines and Resources; and by payments and contributions made by a large number of private companies in British Columbia. The Dean of the Applied Science Faculty was chairman of the Board. Various government departments, industry, and the University were represented on the Board.

The work of the Board was carried on in the laboratories of the Department of Mining and Metallurgy in the University, by a staff composed of members of the Department assisted by other University faculty members; by specialists whose services

were loaned by government departments; by industry; and by a small staff of technicians and university students. About two hundred projects were undertaken, some small, others extensive, but all directly related to the design or production of metal and mineral products needed in the war effort.

As an indirect result of the success of the operations of the War Metals Board, the British Columbia Government, in March, 1944, organized the British Columbia Research Council to extend similar services to fields other than metallurgy. On April 1, 1945, the War Metals Board was dissolved and the Staff and activities transferred to the B.C. Research Council, beginning, thus, the Division of Mining and Metallurgy of the Council, which, later, was expanded to become the Division of Engineering of the Council.



### *The Department of Bacteriology and Preventive Medicine*

DURING TWO wartime years one department member directed a full-time graduate assistant who investigated the *Clostridium welchii* (gas gangrene) toxins, under a grant from the Associate Committee on Medical Research of the National Research Council of Canada.

A second member was largely responsible for production of the first quantity of cholera vaccine to be prepared in North America, for the use of troops proceeding to certain areas overseas. He, in association with another member of this department, devised methods of assessing the immunizing potency of such vaccines, and was, throughout the war, a member of the Standing Committee on Nutrition of the British Columbia Division, Canadian Red Cross Society.



## RECORD OF SERVICE

A third member directed and carried out researches, during the entire war period, into various problems of bacterial food poisoning, under the auspices of the Associate Committee on Medical Research of the National Research Council, and Connaught Medical Research Laboratories. Some of these projects were undertaken at the request of the Emergency Public Health Laboratory Services of Great Britain. In addition, as Research Member in charge of the Western Division of Connaught Research Laboratories, this staff member secured appropriate strains of *V. cholerae* from various parts of the world early in the war, and subsequently directed the production of cholera vaccine therefrom. He also enquired into special hazards from plague and certain other exotic infections. Besides these duties, he also, as Director of the Division of Laboratories of the Provincial Department of Health, was responsible for the laboratory techniques and control of communicable infections in both civilian and military populations throughout the Province, and the laboratory aspects of the Red Cross Blood Donor Service for British Columbia were under his direction.

The department was represented on the following committees: Civilian Protection Committee of British Columbia; Epidemic Emergency Committee of British Columbia; Canadian Red Cross Society Blood Donor Service (Chairman, Laboratory Section; British Columbia Division); and the Committee on Bacteriological Warfare.



### *The Department of Biology and Botany*

MANY PHASES of the contribution of the members of the Department of Biology and Botany are, to date, of a nature which precludes public presentation. The reportable activities are such

## CONTRIBUTIONS TO WARTIME RESEARCH

that the joint contribution rather than the individual effort is what should be stressed in this summary. The following are but a few of several contributions the Department was able to make to the University's war work.

Physiological adjustments of aviation and of rescue devices to reduce and to alleviate physiological stress caused by acceleration pressures generally known as "blackout" were communicated to leaders in aviation medicine and research in Canada and in Britain.

Methods were devised to facilitate the use of marine plant products as agar, algin and carageen. These colloidal products were used during the war and since, as food stabilizers, as substitutes for textiles, as insulating materials and in many other ways where plastics of particular kinds were required. The major portion of the work was conducted under the National and British Columbia Research Councils.

This department also made a substantial contribution by training research students. Graduates served in major and minor posts with the medical and dental corps and in Biological Research Laboratories. Three graduates directed separate penicillin producing groups and another received the M.B.E. for respiration research.



### *The Department of Chemistry*

THE MAIN contribution made by this department was in the preparation of new explosives. About twenty-four compounds were submitted to the Government testing laboratories.

The Department also contributed studies on the physical and chemical properties of smokes and investigated the conditions under which they could best be produced and disseminated.

## RECORD OF SERVICE

Certain additional research projects were carried out under departmental supervision. Among these was an attempt to produce organo-metallic derivatives of cadmium on a scale larger than was possible by the existing methods. Another concerned methods of extracting uranium from pitchblend. The results obtained are not released as they have not been declassified, and the work is being continued under a special National Research Grant.

The Department also carried on extra-mural war research at the University for the Department of Chemical Warfare, as well as for the National Research Council and its various Committees. Students assisted by carrying on the work as part of the thesis requirements for Honours and Master's degrees. Such investigations included an attempt to improve carbon monoxide gas masks; the development of methods for the detection of new war gases; the creation of a new process for the production of nitric oxide, required for the preparation of new explosives; and the development of new flares for signalling purposes.



### *The Department of Forestry*

ONE MEMBER of the Department was granted leave of absence in order to increase the production of vitally-needed Sitka spruce for the manufacture of bombers and other essential aircraft. From March to June, 1942, he was Superintendent for a large spruce operation in the Queen Charlotte Islands. In June, 1942, a Crown Company was formed to correlate and increase all spruce production in British Columbia. This company controlled the production of spruce from the woods to the final product, including the allocation of aerograde spruce to the airplane manufacturers in Canada, the United States and the

United Kingdom. The same faculty member was production manager for this Crown Company until the fall of 1945, when he returned to the University.

A second member of the department was granted permission to give part-time assistance as Statistician to this Crown Company. This University of British Columbia representative compiled, in addition to his regular University duties, monthly, quarterly and annual reports of log and lumber production from January, 1943, until the fall of 1945.



### *The Department of Mathematics*

SEVERAL MEMBERS of the Department of Mathematics were instructors in the No. 2 Canadian Army Course at the University of British Columbia.

One member of the Department served in a civilian capacity as operations analyst with the United States 3rd Air Force in Florida and the United States 8th Air Force in England from August, 1944, to August, 1945.



### *The Department of Physics*

BECAUSE OF THE very nature of its work, the Department of Physics was privileged to add a great deal to the University's part in winning the war. The services of members of the staff were in great demand and many of them gave their time and efforts wholeheartedly, not only on the campus, but in many far-flung parts of the world.

The Head of the Department organized and directed a course

## RECORD OF SERVICE

for radio-technicians at the University of British Columbia. Over six hundred service personnel, with a maximum of one hundred and fifty at any one time, were given their elementary training for this new scientific development in warfare. He was also concerned with the Educational Services of the Canadian Legion, as described in the report of the Department of University Extension, and he served as co-director of the Numbers 1 and 2 Army Courses. Not the least of his efforts were directed towards the C.O.T.C. of which he was Commanding Officer during the entire war period. Besides these onerous duties, he accepted responsible positions with the National Research Council, B.C. Research Council, the Committee on Military Training of the National Conference of Canadian Universities, and with various Department of National Defence committees which dealt with the recruiting and training of military personnel.

When the housing problem of student veterans became acute, towards and after the end of the war, this staff member organized and directed the accommodation plans of the University, and also served as a Counsellor at the University Counselling office set up to deal with veterans' problems.

Another member of the Physics staff served, during the summer months of the war years, on important war projects. In the course of this work, he was attached at different times to the Radar Section, National Research Council; the War Metals Research Board; the Synthetic Rubber Research Project, University of Notre Dame; the National Research Council Committee on Rubber Research; and the United States Rocket Research Project. In the last year of the war this member directed various rubber research projects at the University of British Columbia.

One staff member was granted leave of absence from the Department from 1941 to 1945 in order to devote himself en-

## CONTRIBUTIONS TO WARTIME RESEARCH

tirely to war work. In the course of these four years he was research physicist on radar problems for the Allied services at the National Research Council. In this capacity he was in England serving the British Admiralty, was design and production engineer for a Crown Company manufacturing special radar equipment, and served as British Admiralty Technician Mission representative to the same company.

In the early spring of 1941, another University of B.C. physicist was called to a position in charge of optical design at Research Enterprises, Ltd., Leaside. In this capacity, he was responsible for the design of most types of military fire control instruments, including directors, dial sights, tank and trench periscopes, identification, sniping, sighting and stereo telescopes, binoculars, and range finders.

Near the conclusion of the war, he was granted an honorary commission at C.M.H.Q. London, to investigate German optical instruments. To do this work more effectively, he was loaned to the Scientific Advisory Section (S.I.A.S.) of G-2, SHAEF Main (Versailles and Frankfurt-am-Main). His duties at this headquarters included work on a comprehensive file of German scientists and advisory reports on the post-war treatment of German science. His field work included several trips to the Leitz and Hensoldt plants at Wetzlar, the Zeiss and Schott plants at Jena, and the Hensoldt plant at Munich.

Another member of the Department took part in planning and organizing the Radio Technicians Course. He instructed in the first session of this course. For three and a half years he worked in the Atomic Energy Project of the National Research Council, first at Montreal and later at Chalk River. He joined the group as Associate Research Physicist, Grade II, and was later promoted to Research Physicist and placed in charge of the Theoretical Physics Branch of the Project. He was a member of the Design Group responsible for the basic design of the

heavy water nuclear reactor at Chalk River and took part in a programme for training research workers and operating and design engineers.



### *The Department of University Extension*

THE DIRECTOR of the Extension Department served as chairman of the Canadian Legion Education Services for the Western Command for the duration of the war. This position entailed the preparation of correspondence courses and the holding of classes in the various army establishments in British Columbia and Alberta. These services were particularly appreciated at the more isolated coastal defence stations.

The Extension Department co-operated with the Canadian Legion Educational Services to provide both educational and recreational courses and material. The courses included not only vocational subjects such as mathematics, physics, and engineering, but also such cultural courses as music, art appreciation, English literature, and handicrafts. The Department also co-operated with the National Film Board in providing both technical and educational films for all military camps in the province.

In order to improve relations between management and labour, and consequently to increase production, the Extension Department in co-operation with the Federal Department of Labour offered a number of courses in personnel administration. It is of interest to note that before these courses were provided there were very few personnel departments in British Columbia's industrial organizations.

The Department also arranged for its own members and for members of the University to visit military camps and give lectures or take part in discussion groups.



***T**HE text of this booklet is set in Monotype Caslon Old Style types with headings in Garamond Italics. The type used on the cover and title page was designed by Jan van Krimpen for the Joh. Enschede en Zonen type foundry of Haarlem and is called Open Kapitalen.*