

The Bulletin of the
UNIVERSITY of MINNESOTA

The Biennial Report of the President
of the University of Minnesota
approved and adopted by
the Board of Regents
1948-1950

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THE BOARD OF REGENTS

	Term Expires
JAMES F. BELL, Minneapolis - - - - -	1951
DANIEL C. GAINNEY, Owatonna - - - - -	1955
RICHARD L. GRIGGS, Duluth - - - - -	1951
J. S. JONES, St. Paul - - - - -	1953
GEORGE W. LAWSON, St. Paul - - - - -	1951
ALBERT J. LOBB, Rochester - - - - -	1953
E. E. NOVAK, New Prague - - - - -	1955
A. J. OLSON, Renville - - - - -	1955
RAY J. QUINLIVAN, St. Cloud - - - - -	1951
*F. J. ROGSTAD, Detroit Lakes - - - - -	1949
*HERMAN F. SKYBERG, Fisher - - - - -	1955
FRED B. SNYDER, Minneapolis - - - - -	1953
SHELDON V. WOOD, Minneapolis - - - - -	1953

* The 1949 Legislature elected Herman F. Skyberg of Fisher to replace F. J. Rogstad of Detroit Lakes.

THE PRESIDENT'S REPORT

*To the Honorable Board of Regents
University of Minnesota*

GENTLEMEN: I have the honor to submit herewith a report covering all aspects of the operations of the University of Minnesota for the biennium ended June 30, 1950.

The pages that follow consist largely, as has been the custom, of departmental reports prepared by my colleagues. They provide data in considerable detail concerning a vast cooperative enterprise, perhaps the most significant in the State with the possible exception of the government of the State itself.

This report of the State's distinguished institution of higher education, of which I have had the privilege of serving as chief administrative officer during the past five years, should be of concern to every citizen, for in the final analysis, the University of Minnesota is the University of and for the people of this State. It is accordingly my hope that this document will be widely circulated, carefully read, and thoughtfully discussed.

Governor Acclaims University—Governor Luther Youngdahl, in his inaugural address in January, 1949, paid tribute to the University of Minnesota in these words: "Our state University is known throughout the nation and the world as one of the greatest institutions of higher education. It has become great because the people of Minnesota early recognized its worth and have been willing to pay for its continued growth. We cannot begin to appraise accurately its magnificent contribution in preparing young men and women for the responsibilities of better citizenship and service to their fellow men. Clearly, the state University has proved, and will continue to prove, that it is one of the most worthwhile investments made by the citizens of Minnesota. We must be sure that adequate finances are provided to carry on this work. We must look to salary needs in order to retain skilled teaching staffs and provide adequate buildings and the necessary equipment so that the University may continue as one of the great centers of learning in our nation."

It seems to me appropriate to include this statement by the Chief Executive of our State. It symbolizes what I am confident is the attitude of all the people of the State who send their children here and all whose lives and work are aided by its services.

Teaching, Research, and State-wide Service—The three-fold function of a state-supported university is to teach, to carry on research, and to render that service to individual citizens, to the schools, to the professions, to business, to agriculture, and to industry for which its staff and facilities are uniquely well equipped. The nature and importance of these services may not be completely comprehended or appreciated by every citizen, but none can read this volume without acquiring a better understanding of their magnitude and ramifications.

It is not easy to describe, without endless detail, the impressive activities in which the University has engaged and the work it has accomplished during the past biennium. To note that formal instruction was offered to 69,371 individuals in 1948-49 and to 71,941 in 1949-50 may fail to convey to all readers the extent to which the University is carrying out its teaching function. Added significance is given, however, when one realizes that only

approximately half of these students were enrolled in residence courses of collegiate grade, while the other half consisted of citizens obtaining refresher training in their various professions and businesses; others adding to their vocational or cultural backgrounds through evening classes or correspondence study; and still others studying in less than college-level courses, some of them short courses on the Minneapolis and St. Paul campuses and at the outlying branch stations.

An indication of the extent of the University's research activities may be derived from the fact that cash gifts for research received in 1948-49 totaled \$1,160,877.65, and for 1949-50, \$1,147,376.23. These funds came from the federal government, from foundations, from business and industry, and from individuals, as will be seen from the detailed individual listings of gifts which appear elsewhere in this report. These sums are in addition to state appropriations for research. And they do not give any indication of the substantial amounts of time and effort in research carried on by many faculty members on individual projects not supported by funds earmarked specifically for research.

The state-wide services that the University offers and provides to Minnesota and to its citizens are much more difficult to identify and evaluate than are the teaching and research activities. However, a few illustrations may assist in indicating the diverse nature of these manifold services. One can point, for example, to the fact that the record shows that in the year 1949 county agents averaged 12,746 individual contacts through group meetings, made 512 farm visits, and answered 2,325 personal calls or telephone inquiries. One of the services to the mining industry involves the study, examination, and the preparation of reports on tons of Minnesota ore. The Department of Geology and the Geological Survey answered hundreds of inquiries from individuals concerning such problems as ground water supplies, on the one hand, and the composition and nature of rock samples, on the other.

The Dight Institute for the Promotion of Human Genetics provided counsel, in a field gaining steadily in importance, to more than three hundred individuals during the biennium. The Hormel Institute, in addition to its research in such fields as fat and oil chemistry, swine diseases, and nutrition, continued its undeviating searches for findings that can be applied practically to the problems of agriculture and industry.

In quite another area, the University Gallery served the schools and teachers through exhibits and the loan of pictures and other art materials. The Museum of Natural History was visited during the biennium by more than 100,000 individuals. Of this total, approximately 11,000, in 349 organized groups, primarily school children, were given conducted tours under Museum guides. An additional total of nearly 78,000 individuals were in attendance at the lecture programs of the Museum, under whose auspices 481 lectures were presented during the biennium.

The staff in the College of Education participated during the biennium in field studies, centering on improved educational programs and physical facilities, for a score of Minnesota communities, and for two cities in other states. Other departments make similar and equally important contributions in the areas of their special competence. Not a day passes without technical or scholarly assistance being requested of and rendered by the University's scientists and scholars. Data in the reports that follow are indicative of the significance and magnitude of these state-wide services.

A Period of Achievement and Preparation—The biennium just ended

was characterized by great activity at the University. Teaching loads of faculty members have been heavy, particularly at the upper and graduate levels, where enrollments have been concentrating. New buildings have been planned and constructed. Other buildings must be provided if the University is to be prepared for the upsurge in enrollment which is certain to come within the next decade. The pressure to undertake research, especially from the federal government, has never been greater. And citizens individually and collectively are turning to their University in increasing numbers for technical assistance in solving day-to-day problems.

The departmental reports that follow in this volume afford documentation of the progress which has been made by the University. I shall not attempt to summarize all of the materials that they contain, but I do wish to select for presentation some of the significant events and undertakings that are indicative of the enormous range of activity that is to be found at the University.

The Duluth Branch—The Duluth Branch, which became a part of the University when the Duluth State Teachers College was integrated into the University organization by action of the 1947 Legislature, has been growing steadily in stature. The Duluth faculty has been re-ranked, an upgrading program has been launched, and salaries have in general been raised to make them comparable with those on the Twin Cities campuses.

The curriculum has undergone careful study and a program of curriculum improvement and development has been instituted to insure that Duluth standards achieve the same high levels maintained elsewhere in the University. Its calendar, also, now conforms in every respect with that of the rest of the University. The Branch is, in fact, now an integrated part of the total University pattern.

Additional land has been acquired at Duluth through gifts and purchases to provide an adequate new campus for the future. The physical plant has been carefully surveyed and a tentative building program has been outlined. As the first step in this building program, the Regents approved the erection of a much needed science building, initial funds for which were provided by the Legislature. The construction of this long overdue facility was planned in three phases and contracts for the first phase were awarded in 1948 so as to insure completion for the year 1949-50. Contracts for the two remaining sections of the building were awarded late in 1949, with completion scheduled for the year 1950-51.

Another indication of the extent to which the Duluth Branch has already become an integral part of the University was the establishment of an Air Force ROTC unit at Duluth in the fall of 1948. This unit, authorized by the Department of Defense at the request of the Board of Regents, makes it possible for male students at the Duluth Branch to have the same opportunity to earn officers' commissions as do students on the Minneapolis and St. Paul campuses. With such unsettled world conditions as we now face, this ROTC unit also provides the opportunity for young Minnesota men to prepare themselves for service to their country in the event that service is required.

Finally, it may be noted that the Board of Regents, on December 10, 1948, voted to provide scholarships for the Civil Service staff at Duluth under the same conditions as they are provided on the Twin Cities campuses. Six scholarships are now made available each academic year. In brief, it has been a period of encouraging progress and challenging opportunity at Duluth.

Law School Deanship—Maynard E. Pirsig, a professor in the Law

School, assumed the deanship of the Law School on July 1, 1948. He succeeded Everett Fraser who had headed the School with distinction for 28 years, prior to his retirement with the title of dean emeritus on June 30, 1948.

Dean Pirsig's appointment was made after careful consultation with the faculty, whose unanimous decision it was that he was the one individual best qualified to carry on the outstanding work begun by Dean Fraser.

Maynard E. Pirsig was born in Minnesota and received his education in the public schools of his native state. He earned both bachelor of arts and bachelor of laws degrees from the University of Minnesota. On January 1, 1926, following his graduation from the Law School, his service to the University began at the rank of instructor. He was promoted to an associate professorship in 1930 and to full professorial rank in 1933. His service to the University was interrupted between October 6, 1942, and January 3, 1943, when he served on an interim appointment as an associate justice of the Minnesota Supreme Court. His appointment to the deanship was confirmed by the Board of Regents on May 14, 1948.

The Board of Regents on November 19, 1949, on recommendation of the Committee on Honors, renamed the Law School building Fraser Hall. This lasting tribute was in recognition of the outstanding contributions to the field of legal education made by Dean Emeritus Fraser during a period of 31 years, the last 28 of which were in the deanship.

Institute of Technology Deanship—The deanship of the Institute of Technology, which had been vacant since the retirement of Dr. Samuel C. Lind on June 30, 1947, was filled early in the biennium with the appointment of Athelstan F. Spilhaus, director of research at New York University. Professor Spilhaus, a noted meteorologist and oceanographer, is the inventor of the bathythermograph, a device that measures the temperature and pressure of the ocean. He received a Bachelor's degree in mechanical engineering from the University of Cape Town, South Africa, in 1931, and a Master's degree in science at the Massachusetts Institute of Technology in 1935. Dean Spilhaus assumed his new post on January 1, 1949, relieving Dean Thomas A. H. Teeter who had served most capably as executive officer since Dean Lind's retirement.

The Institute of Technology, which includes the College of Engineering, the School of Chemistry, the School of Mines and Metallurgy, and the School of Architecture, is one of the most important units of the University. Much of its instructional and research program is closely related to Minnesota business and industry. It is thus gratifying to record that in the relatively short time since Dean Spilhaus assumed his new duties, his administrative ability, resourcefulness, and grasp of the problems involved have demonstrated the wisdom of the Regents in his selection.

Chemical Engineering Building—For the first time in its history the Department of Chemical Engineering has a flexible, adequate, and modern structure for the training of chemical engineers, the prosecution of research, and the rendering of service in the chemical engineering field to Minnesota industry. The new building, which cost \$1,300,000 including furniture and equipment, was made possible by a generous legislative appropriation.

Previously, the Department of Chemical Engineering had been housed on a single floor in the basement of the Chemistry Building. The old location limited and hampered large-scale operations and, what was more serious, constituted a hazardous condition. The very nature of the operations carried on in the department was an ever-present hazard that might well have

endangered hundreds of students in the classrooms and laboratories of the four chemistry divisions housed on the upper floors.

This suggests, too, the need for careful study of the larger problem of the University's chemical storehouse, which is also in the classroom and laboratory building. There is every reason to feel concern about this, and the desirability—the imperative need—for new means of storing the University's vast supply of chemical materials can scarcely be questioned.

Mechanical-Aeronautical Engineering Building—A much needed and long-overdue addition to the laboratories of the Institute of Technology, the new Mechanical-Aeronautical Engineering Building, was completed during the biennium at a cost of \$2,169,000. Here again the University recognizes the understanding attitude of the Legislature that provided construction funds for the purpose. Following its completion, the Department of Mechanical Engineering moved from its former and shabby quarters east of Northrop Auditorium and the condemned structure it formerly occupied was torn down. At the same time the Department of Aeronautical Engineering moved from the Armory, providing much needed space for the Army, Air Force, and Navy ROTC units housed there.

Nation's First Heart Hospital—During the biennium, construction was begun on the Variety Club Heart Hospital, the first such hospital in the United States. This unique facility is made possible through the unremitting and far-visioned efforts of the Variety Club of the Northwest. The new structure will provide offices, laboratories, research rooms, and patients' rooms for exclusive use in the study and treatment of cardiac diseases. The cost of the structure and equipment approximates \$1,400,000 and occupancy in the fall of 1950 seems assured.

Veterinary Science Building—Contracts were let and construction completed during the biennium for the Clinical Building, the first unit of the new School of Veterinary Medicine which was established in 1947. This new building, made possible by a legislative appropriation, cost \$710,000. It contains general and diagnosis laboratories, animal quarters, isolation wards, offices, and quarters for staff members.

The School of Veterinary Medicine has made excellent progress since its establishment. A competent teaching staff has been assembled, procedures for selecting potentially capable students have been established, and an excellent group of students drawn almost entirely from this state has been admitted. The first class will receive degrees in June, 1951.

Minnesota Cancer Detection Center—A service of great importance to the citizens of Minnesota is that of the new Cancer Detection Center. Its first report, covering the seven months' period, March 1 to September 30, 1948, revealed that more than half of the 957 Minnesota men and women examined had abnormalities requiring medical attention of some kind.

The Center is open to men and women of Minnesota in the age bracket in which cancer occurs most frequently, 45 and over. Although each person examined is asked to pay the nominal registration fee of \$5, the fee is waived if the patient is unable to meet the charge.

The Cancer Detection Center is a project of the College of Medical Sciences of the University. It is financed primarily by the Minnesota Division of the American Cancer Society, the National Cancer Institute of the United States Public Health Service, and the Malignant Disease Research Fund of the University.

Gift of Carillonic Bells—Carillonic bells, consisting of 25 English

bell notes and 61 Flemish bells, were dedicated on October 8, 1948. The bells were presented to the University by H. Rowatt Brown as a memorial to his late wife. The loudspeakers are on top of Northrop Memorial Auditorium, and the consoles and the control and amplifying equipment are housed in the same building.

The dedication program featured the playing of two of the nation's outstanding carillonners, Dr. Alexander McCurdy of the Curtis Institute of Music and Professor Arthur Bigelow, bellmaster of Princeton University. Since their installation, the bells have been set to ring the hours and the opening and closing of class periods. They are also played manually at various times each day and for special ceremonial occasions. This impressive gift adds a quality to campus life that is hard to describe, and yet the passing throngs of students undoubtedly receive impressions as the bells ring out that will last all their lives; and thus are built associations and memories that make the University a living institution.

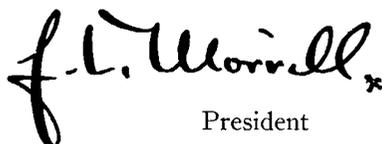
New Men's Dormitory—A new dormitory for men, Centennial Hall, was erected in the biennium at a cost of \$3,288,313.60. This new structure, normally housing 515 men, is located on the block immediately north of the only other Minneapolis Campus men's dormitory, Pioneer Hall, and fills an important need that the University has long felt because of the shortage of housing facilities for men students. The name of the building suggests that in 1951 the University will have completed its first hundred years of corporate existence. The celebration of the centennial is already in mind, and plans are being formulated by committees of the staff.

The Spirit of Change and Progress—The events and activities presented in the preceding paragraphs constitute only a few representative examples of what a university does, and what it can mean in the life of a people. A university, even these few examples should suggest, is not merely buildings and budget sheets and physical properties. A university is a living organism—men and women working together with common objectives. A university is people—members of the staff, the students, the alumni; yes, every citizen of the State. For whose life in Minnesota is not in one way or another touched by this University of Minnesota? It is in human terms and human accomplishments that the University must be thought of.

It is intended that the pages of this report should reveal the manner in which the University of Minnesota has functioned during a significant two-year period. It is hoped that the reader will gain some new appreciation of the University as a vital, living force and will acquire keener insight and understanding of the University as an institution constantly adapting itself to the changing needs of men and women in these changing times. It is hoped, too, that from these pages will emerge a clearer conception of the strivings of the University to achieve and impart that knowledge that makes for better living. The "spirit of change and progress" is not an idle, empty concept. It describes, rather, the dynamic power and impetus that permeate all that the University seeks to do as it works in the interests of the people of Minnesota who have so generously supported it over the years.

In Conclusion—I cannot close my introduction to this biennial report without some special words about my colleagues—administrative associates, the faculty, and the members of the civil service staff. It is they, through loyal and devoted service, who bring distinction to the University and make it what it is.

The section on Honors and Distinctions, which occupies nearly 40 pages of this report, testifies to the prestige and esteem in which these staff members are held beyond the campus. Here is indeed an enviable record, and one calculated to engender a justifiable feeling of pride! But even this noteworthy enumeration reveals only part of the contribution that these men and women are making to human progress and well-being. A larger part will be revealed only with the passing of time—in those distant years when today's students have become tomorrow's good citizens and leaders—leaders in the professions, in agriculture, in business, in industry, and in their home towns throughout this State of Minnesota and elsewhere. Even more will be revealed when the teaching and research of yesterday and today become transformed tomorrow into new inventions, better standards of living, a higher sense of civic responsibility, and a broader understanding of other peoples and other nations. It is to such ends that the staff members of the University of Minnesota are devoting themselves; it is to such ends that they aspire to make enduring contributions.

A handwritten signature in cursive script that reads "F. L. Merrill". The signature is written in dark ink and includes a small asterisk at the end.

President

Minneapolis, Minnesota
June 30, 1950

SIGNIFICANT EVENTS, ACTIVITIES, AND ACTIONS

1948-50

Mrs. George C. Christian and Dr. Donald Church Balfour Awarded "Builder of the Name" Medals—One of the highlights of the biennium was the Charter Day luncheon held on February 17, 1949, to honor Mrs. George Chase Christian for her generous contributions to the advancement of the study of the cause and treatment of cancer being carried on at the University of Minnesota. By her interest and support of the cancer research program at the University, she truly has become a partner in the crusade against this scourge of mankind.

Mrs. Christian's parents came to Minnesota from Denver, Colorado, soon after she was born. She received her education at the Judson Institute and Central High School in Minneapolis and at the Burnham School at Northampton, Massachusetts. At the Charter Day program, Mrs. Christian was also cited for her support and encouragement of cultural life in Minneapolis.

The "Builder of the Name" medal was also awarded to Dr. Donald Church Balfour on February 16, 1950, and again the occasion was the Charter Day program. Dr. Balfour was honored for his distinguished career as a surgeon, and as an adviser to governments.

Honorary Degrees Conferred at the June, 1949, Commencement—Three honorary degrees were conferred at the June, 1949, commencement; the honorary degree of doctor of science was conferred on Thomas Poe Cooper; the honorary degree of doctor of laws was conferred upon Edward Foote Waite and upon Gregg Manners Sinclair.

The citations for the honorary degrees were as follows:

THOMAS POE COOPER

Graduate of the University of Minnesota, and a former member of its staff, pioneer in agricultural education, Dean and Director of the College of Agriculture of the University of Kentucky, wise counsellor to thousands of farmers, one-time chief of the Bureau of Agricultural Economics of the United States Department of Agriculture, long-time leader and a past president of the Association of Land-Grant Colleges and Universities, elder statesman in the advancement of rural welfare—because of what you stand for in the progress of our national economy, and because of the invaluable services you have rendered to agencies of government created by the people you have inspired and guided, the Regents of the University of Minnesota, upon recommendation of the faculties, this eleventh day of June, nineteen hundred and forty-nine, confer upon you, Thomas Poe Cooper, the degree of Doctor of Science, *honoris causa*, with all the rights and privileges pertaining to that degree

GREGG MANNERS SINCLAIR

Born in the Dominion of Canada; graduate and loyal alumnus of the University of Minnesota; long-time teacher in Japan and faithful interpreter of Japan and America, each to the other; professor and president of the University of Hawaii; director and guiding genius of the Oriental Institute, now the School of Pacific and Asiatic Studies; builder of bridges of understanding between East and West—because of your insight into what makes a university great, and because of your untiring devotion to education as a basis for the communion of all men, the Regents of the University of Minnesota, upon recommendation of the faculties, this eleventh day of June, nineteen hundred and forty-nine, confer upon you, Gregg Manners Sinclair, the degree of Doctor of Laws, *honoris causa*, with all the rights and privileges pertaining to that degree

EDWARD FOOTE WAITE

Adopted son of Minnesota and distinguished citizen; one-time investigator of frauds, prosecutor, and police superintendent; then judge and molder of new laws and new methods of correction relating to children; scholar, humanitarian, and friend of youth, who, in our State of Minnesota, has pioneered in methods which have been followed by others—because of your deep and penetrating insight into human and social relationships, and especially because of your leadership and understanding in dealing with problems which develop at points of social tension, the Regents of the University of Minnesota, upon recommendation of the faculties, this eleventh day of June, nineteen hundred and forty-nine, confer upon you, Edward Foote Waite, the degree of Doctor of Laws, *honoris causa*, with all the rights and privileges pertaining to that degree

Three Alumni Awarded Medals—Outstanding Achievement Awards were awarded by the University of Minnesota to three distinguished alumni during the biennium.

President J. L. Morrill presented Outstanding Achievement Awards to Carl W. Painter and William Bushnell Stout, on June 10, 1949. A graduate of the University of Minnesota class of 1915, Mr. Stout is a distinguished inventor and engineer. Mr. Painter is a member and leader of the New York Bar, active in the affairs of the YMCA and the Parents' Institute. A student at the University of Minnesota in 1900-1902, Mr. Stout is a pioneer in airplane engineering, commercial monoplanes, metal planes, and passenger planes. He is past president of the Society of Automotive Engineers and the Institute of Aeronautical Sciences.

On May 19, 1950, President J. L. Morrill awarded the Outstanding Achievement Award to Harold E. Stassen, president of the University of Pennsylvania. In his presentation remarks, President Morrill said: "Tonight we honor an esteemed alumnus of this University, a foremost citizen and servant of our state, who has distinguished himself and thereby has brought distinction and prestige to his University."

Conference on Building a Program of General Education—March 21-23, 1949, a conference on Building a Program of General Education was held on the Minneapolis Campus. The conference sought to answer the question: What should be the next steps in experimentation and research in general education?

Completing seventeen years of work in general education, the University invited leaders in this field from throughout the country. Two hundred forty-one participants registered for the conference.

Work groups were established in seven areas—humanities, fine arts, social sciences, natural sciences, communications, courses in personal adjustment and out-of-class experiences such as student activities and counseling.

The keynote address was delivered by Earl J. McGrath, commissioner-designate, U.S. Office of Education.

The second day of the conference a luncheon was held to commemorate the pioneer work of the University's General College.

Committee on University Honors—On February 8, 1949, new procedures on University honors were adopted. On the recommendation and with the approval of the University Senate, President Morrill discontinued the separate committees on honorary degrees, University medals, and the naming of University buildings, and combined their functions under a new Committee on University Honors. Appointed to the committee were the following:

Professor William Anderson, *chairman*; Dean C. H. Bailey; Dean T. C. Blegen; Professor Frank H. MacDougall; Dr. Irvine McQuarrie, Dr. E. W. McDiarmid and Dr. M. M. Willey.

All members of the staff were invited to make recommendations to the committee. The following standards for recommendations were approved by the Regents:

Honorary degrees may be conferred upon those who have achieved distinction in scholarship or public service. To receive an honorary degree from the University of Minnesota one must be: (a) an author of some original work of such character as to leave no doubt as to his learning, his attainment, and his literary ability as a writer, and he must hold an honorable position in some university or college either in this country or abroad, or (b) a man of acknowledged eminence in art, literature or science, or in the professions, or in public service, who has contributed by his services to the advancement of art, literature, science, or public welfare.

The Conference on Religion in State Universities—This conference which was made possible by a \$2,500 grant from the Edward W. Hazen Foundation of New Haven, Connecticut, was held at the University on October 27-29, 1949. The conference was the first of its kind to be initiated by a state university. Subjects discussed were religion in the curriculum, religious activities, and religious counseling. The conference was attended by 60 delegates from 25 educational institutions throughout the nation and 15 major religious denominational boards.

Among the speakers were: Dr. Ordway Tead, editor of social and economic books for Harper and Brothers, New York; Dr. George N. Shuster, Hunter College, New York City; Professor Clarence P. Shedd, Yale University; Dr. Samuel McCrea Cavert, general secretary of the Federal Council of Churches of Christ in America; Professor James Luther Adams, Meadville Theological School, Chicago; the Reverend Edward Duncan, National Catholic Welfare Conference; and Rabbi Albert G. Minda, Minneapolis.

Nutritional Conference and "The Biology of Human Starvation"—Beginning June 1, 1950, a two-day conference on Residues of Nutritional Insult was held at the University of Minnesota. Some thirty conferees from U. S. and Canadian universities and

government agencies took part. At the conference the University of Minnesota Press announced the publication of *The Biology of Human Starvation*, by Dr. Ancel Keys and others in this field. This two-volume work is now widely hailed as the definitive study in the areas it covers.

The Sigma Xi Symposium—The seventeenth annual symposium of the Minnesota Chapter of the Society of Sigma Xi was held during the evenings of February 11 and February 18, 1949, in Northrop Auditorium. Sigma Xi, national scientific research society, was founded for the "encouragement of original investigation in science, pure and applied." It is a national honorary scientific organization.

This year the symposium was devoted to research in Minnesota resources, classified in two areas: research in Minnesota resources—research in Minnesota agriculture. Faculty members from the Department of Mines and Metallurgy participated, as did members of the faculty in agricultural sciences.

Foreign Students Visit a Minnesota Town—Forty University of Minnesota students from foreign countries, including India, Japan, and Finland, visited the town of Bertha, in Todd County, Minnesota, March 17, 18, and 19, 1950. The trip, sponsored by YMCA groups on the Minneapolis and St. Paul campuses of the University, in an effort to give these students a first-hand glimpse of life in a small U. S. community, was arranged in cooperation with a committee of Bertha citizens. Each student studied the aspects of town life which were of interest to him.

The foreign visitors were entertained at a series of dinners and receptions by a number of individuals and organizations.

Buildings and Facilities—On November 24, 1948, ground-breaking ceremonies for the new Variety Club Heart Hospital were held on the site of the new structure on River Road East. The hospital will be devoted to heart disease research and treatment.

On November 19, 1949, the Board of Regents participated in cornerstone laying ceremonies at the Variety Club Heart Hospital.

New names for the Law School, the Fieldhouse, and two buildings still under construction were voted by the Committee on Honors and approved by the Regents on November 19, 1949.

Accordingly the Law building will be renamed Fraser Hall in honor of Dean Emeritus Everett Fraser, who retired in 1948 after heading the Law School for 28 years. The Fieldhouse will be known as Williams Arena in memory of the late Dr. Henry L. Williams, head football coach at the University from 1900 to 1922.

On March 3, 1950, the formal dedication of Williams Arena was held between halves of the Minnesota-Wisconsin basketball game. A luncheon attended by 200 guests was held earlier the same day. Participating in the dedication were a number of well-known athletic figures, among them Harry Stuhldreher, athletic director at Wisconsin; Paul Brechler, athletic director, State University of Iowa; and Kenneth Wilson, commissioner, Western Conference.

The new animal and poultry husbandry building under construction on the St. Paul Campus was named Peters Hall in honor of the late Professor Walter H. Peters, member of the University faculty and later chief of the Division of Animal Husbandry at the University from 1918 to his death in 1949.

Cornerstone-laying ceremonies at Ford Hall, new social science classroom building on the Minneapolis Campus, were held on March 13, 1950. Speakers at the ceremonies were Vice President Malcolm M. Willey, Dean Theodore C. Blegen of the Graduate School, and Dean T. R. McConnell, dean of the College of Science, Literature, and the Arts. The building, named in honor of Guy Stanton Ford, sixth president of the University, was made possible by an appropriation of \$1,250,000 from the 1949 State Legislature.

A copper box containing University documents pertaining to the social sciences was placed in the cornerstone during the ceremonies.

The new classroom building under construction on the Minneapolis Campus across the mall from the Administration Building was named Johnston Hall in memory of the late John Black Johnston, dean of the College of Science, Literature, and the Arts from 1914 to 1937. Cornerstone-laying ceremonies for Johnston Hall were held on July 10, 1950. Academic Vice President Malcolm M. Willey presided. Addresses were given by Thomas A. H. Teeter, dean of the Summer Session and Russell M. Cooper, assistant dean of the Junior College.

A copper box containing University documents and two books by Dr. Johnston was sealed and placed in a niche in the southeast corner of the building.

General College Moves to Nicholson Hall—On June 26, 1950, President Morrill announced that all units of the General College would be moved from Westbrook Hall to

Nicholson Hall sometime in the fall. The move was made necessary by the expanded enrollment in the college since the war. Dean of the College, Horace T. Morse, said that the new quarters would improve the status as well as the physical situation of the college.

On November 16, 1949, the Administration Building on the St. Paul Campus was formally renamed Coffey Hall in honor of President Emeritus Walter Castella Coffey. Ceremonies were held in the St. Paul Campus auditorium.

On May 27, 1949, the Hormel Foundation turned over to the University additional laboratory space for the work of the University's Hormel Institute.

The Institute, formerly housed in part of a building on the Hormel estate in Austin, Minnesota, will now occupy the entire structure. At the ceremonies President Morrill accepted a scroll which read in part:

It is the wish of the Hormel Foundation that University scientists make full use of these facilities in the service of mankind.

The new facilities include a large laboratory, isolation units, animal quarters, a general office, a general utility room, a library, a conference room, and a storage area for large equipment.

McClure Gift for Medical Research—In 1949 the Medical School received a gift of approximately half a million dollars from the estate of Silas McClure, Minneapolis businessman, who died February 16, 1949, at the age of 83. Mr. McClure was the organizer of the Monarch Range Company. He came to Minneapolis in 1921 as president of the Electric Machinery Manufacturing Company.

His will directed that the assets received from the estate be used by the University in the promotion of medical research. Before his death, he had given the University grants in memory of his wife, Katherine Esgen McClure.

Expressing the University's gratitude for the gift, President J. L. Morrill said:

The very generous bequest provided by Mr. Silas McClure to the University of Minnesota for medical research is further evidence of the general acceptance of the high professional competence of University scientists. The University is profoundly grateful.

In commenting on Mr. McClure's gift to the Medical School, Dean Harold S. Diehl stated:

An unrestricted fund for medical research, such as Mr. McClure has made available, will be particularly valuable. It can be used for the purchase of needed scientific equipment or to provide the technical assistance and supplies necessary to explore new scientific ideas and develop new research programs. This is truly the pioneer work of scientific prospecting upon which medical progress must depend. Mr. McClure's generous bequest will be used to underwrite such prospecting in better health for the people, not only of Minnesota but of the world.

University Archives—In 1948, a Department of Archives was established at the University as a unit of the Library. Marian A. Huttner, principal librarian, was placed in charge as archivist. Great progress has been made in systematizing various collections of University papers and in arranging for other collections to be incorporated into the archives.

On November 25, 1949, Vice President Malcolm M. Willey wrote to deans and directors asking that they postpone destroying collections and departmental papers until the archivist was given an opportunity to examine them. He said that in years past it was probable that many significant collections of personal and departmental papers had, in the process of "housecleaning," been thrown away.

Changes in Scholarship Program—On February 10, 1950, the Regents approved the following modifications in the procedures for awarding scholarships to high school students:

1. *High School.* Students will file applications at their high schools.
2. *District.* Each of the eighteen districts of the Minnesota Alumni Association shall have a scholarship committee of eight members, five of whom shall represent the Alumni Association and three shall represent the public schools of the state. The alumni representatives shall be named by the Director of Alumni Relations and the educational representatives shall be named by the Executive Board of the Minnesota Council of School Executives.
3. *University.* The University committee which will have the responsibility of administering the Greater University Fund scholarships and the Merriam scholarships, and a final recommendation through the President to the Board of Regents of the recipients of these scholarship awards, shall be named by the academic vice president of the University and this committee shall include at least the following:
 - a. Dean of students
 - b. Dean of admissions and records
 - c. Chairman of the Senate Committee on Education
 - d. President of the Minnesota Council of School Executives
 - e. President of the Minnesota Association of Secondary School Principals
 - f. Three alumni representatives nominated by the president of the Minnesota Alumni Association
 The director of the Bureau of Student Loans and Scholarships shall serve as secretary of the committee.

The two scholarship programs mentioned above—the Minnesota Alumni Scholarship Fund (originally the Greater University Scholarship Program) and the Josephine L. Merriam Scholarship Fund—were originally established separately, with principles that were basically the same, but with details which differed in many respects. The difference primarily involved the division of the state into districts for the purposes of selection.

It became apparent that the use of different districts for the two programs caused confusion and increased the work of local authorities and local selection committees.

The modifications adopted by the Regents are calculated to simplify the administration of scholarships by having students under both programs selected by common machinery.

Group Hospitalization Amendment—On June 16, 1949, the Regents voted to approve the following change in the terms and conditions of the University of Minnesota Group Hospitalization Contract so as to make it applicable to

a. Retired members and their wives receiving retirement pensions from either the State Employees Retirement Association, from the Faculty Retirement Plan, or from the Federal Retirement System. The retired staff member shall have been a member in the University of Minnesota Group Hospitalization Service Plan for not less than five years or shall have been a member from September 16, 1938, until his retirement.

Sabbatical Leaves for County Agents—In October of 1948 the Regents approved clarification of the rules governing the granting of sabbatical leaves to county agents. County agents became eligible for such leaves by the Regents' action of April 18, 1941, under the same regulations which apply to other members of the faculty. The general regulations require, however, that the applicant must have served two years as an assistant professor. Since county agents normally hold the rank of instructor, the literal interpretation of this rule would bar many of them from sabbatical leave.

It was agreed that this was not the intent of the original action and that the condition of rank should not be applied in granting leaves to county agents.

Labor Negotiations—On December 9, 1949, the Board of Regents, having under consideration the Report of the Governor's Fact Finding Commission in the matter of Public Building Service Employees Union, Local 113, AFL, which report contained three groups of recommendations requiring action as follows:

1. Recommended civil service rule changes agreed upon in hearings.
2. Recommended civil service rule changes requiring further discussions between the Union and the University.
3. Recommended fourteen dollar per month across-the-board increase subject to certain legal considerations.

voted (1) to refer to the Civil Service Committee for consideration and public hearings those recommended civil service rule changes agreed upon in the course of the hearings; (2) to direct University representatives to continue discussions involving the recommended civil service rule changes that require further negotiations; (3) to instruct University representatives to advise the labor conciliator and the union that as a matter of sound public policy, regardless of legal implications, no across-the-board increase of fourteen dollars per month or of any amount should be made. The Regents directed that there be included in the minutes the following two major points upon which their position with regard to the across-the-board increase is based:

1. An across-the-board increase is inconsistent with a sound civil service plan because it destroys salary comparability within the plan as between the various classes and their related duties and responsibilities.

2. There exists between the Legislature and the University an understanding that University civil service salaries shall be comparable with those in the State civil service, as evidenced by the following proviso which appears in the University appropriation bill in the Session Laws of Minnesota for 1949, Chapter 743, Section 2, Item 1, and Section 3, Item 1:

"Provided, that from the above appropriation, all non-academic employees shall be paid a salary comparable to the salaries paid to state employees in the classified state civil service."

(4) to authorize proper University officers (a) to instruct University representatives to request the labor conciliator to seek a legal opinion on the proviso, (b) to request the labor conciliator to join with the University in such a request if he was unwilling to make the request himself, and, failing in both (a) and (b) to authorize the secretary to seek from the Attorney General an opinion.

Concern Over ROTC Enrollment—On November 22, 1949, President Morrill, concerned over the drop in ROTC enrollment over the past few years, issued the following statement:

I am gravely concerned about the University's obligation to the national defense in the area of reserve officer training conducted on our campus and at the Duluth Branch in cooperation with the army, navy and air force.

Voluntary student enrollment in the basic courses has fallen to a precarious low.

The Administrative Committee of the faculty senate has recognized the problem and has unanimously authorized the appointment of a special committee to study it and to recommend possible ways and means to recruit larger numbers of basic course students. This new committee, headed by Dean Henry Schmitz, will include student members.

Meantime, I have outlined the problem to both the student All-University Congress and the faculty senate, asking their interest and cooperation.

Among all the great land-grant state colleges and universities in the United States, the University of Minnesota is the only one which does not require basic training for all first and second-year men.

Our quotas in the advanced training units, leading to reserve officer commissions, cannot be filled—or, in my judgment, maintained—without increased basic course enrollments, either voluntary or required.

Except, therefore, as we can strengthen the basic course enrollments, it follows that the state of Minnesota cannot provide any proportionate share of the reserve officers required for an expanded army, navy, and air force in the event of a national emergency, or for the national guard on a strictly peacetime basis.

Minnesota thus must yield to all the other states priority in providing military leadership for the armed forces.

I cannot believe that the citizens of Minnesota want that, or will understand any failure by the University and its student-citizens to meet their obligations in this respect.

I am very hopeful that the new committee will be successful, with student and faculty assistance, in strengthening the military training program of the University which is required by federal law and which has helped to make possible the University's patriotic partnership in the defense of American freedom and democracy in two world wars.

Inter-Library Corporation—The Regents on November 6, 1948, voted to approve in principle the general plan and objectives of a Midwest Inter-Library Corporation and Center, and authorized the proper administrative officers to proceed in cooperation with other educational institutions in planning for the organization of the center.

The Tweed Memorial Art Collection—The most important single benefaction in the field of art ever presented the University of Minnesota is the collection of paintings and other arts given during the last biennium by Mrs. George P. Tweed of Duluth in memory of her late husband. Formal acceptance of this gift is planned for the fall of 1950.

Reorganization of Schools of Agriculture—The establishment of a new School of Agriculture at Waseca by the 1947 Legislature indicated the desirability of making a comprehensive study of the educational programs of the existing schools and the new school.

On January 2, 1948, President Morrill appointed a committee consisting of Dean Henry Schmitz, *chairman*, Professors Theodore H. Fenske, Ruth E. Eckert, Homer Smith, Douglas Marshall, and Dean H. T. Morse. Several members of this committee were deliberately selected because of their long experience and special competence in the field of secondary and vocational education and rural sociology.

The committee devoted almost two years to its assignment. It visited the several schools and made detailed studies concerning (a) students enrolled in the University agricultural school programs during 1947-48; (b) students who attended agricultural schools in prewar years; and (c) the activities and attitudes of parents and students currently enrolled in schools. All of the data thus obtained served as the basis of a preliminary report.

The preliminary report which was submitted in July, 1949, was discussed with the four superintendents of the several schools and the members of the committee. The committee later considered all the suggestions and proposals made at that meeting and then prepared its final report.

Some of the major recommendations made by the committee follow:

1. The University of Minnesota should continue to support its program of agricultural and home economics education on the noncollegiate level.

2. The University can most effectively meet its responsibilities in the field of secondary or non-collegiate agricultural and home economics education by developing a limited number of schools of agriculture. With the five schools now established or authorized, any probable increase in demand could be best provided for by expanding facilities and staff at the five schools.

3. The University should take steps to improve the educational programs at its schools of agriculture by (a) enlarging the scope of summer project work, (b) increasing the general education content of the program, (c) improving the quality of the teaching, and (d) by establishing student personnel programs.

4. The educational level and functions of the school programs should be more sharply defined by providing, in the immediate future, instruction on the senior high school level. For a number of years, the committee believes, it will be necessary for the outlying schools also to provide, as at present, instruction on the ninth grade level. The committee recommends that the St. Paul School continue its present entrance requirements (high school graduation or attainment of the seventeenth birthday).

5. The administration of the educational program of the Department of Agriculture, the committee believes, should be more closely coordinated by establishing in the College of Agriculture, Forestry, and Home Economics a position of Director of the University Agricultural Schools. This officer would be primarily responsible for coordinating the educational programs of the agricultural schools with those of the college, on the one hand, and with the vocational agricultural high schools on the other. The committee recommends that at each of the outlying schools the educational program be administered

by an assistant to the superintendent. This assistant should possess approximately the same qualifications as high school principals. This type of administration, the committee believes, will make it possible to develop in the Department of Agriculture a system of agricultural education rather than continuing to maintain a number of more or less independent and, to a considerable degree, unrelated educational programs in agriculture. It would also facilitate making available to the outlying schools the total educational resources of the University, such as student testing facilities, library facilities, counseling procedures, etc.

Changes in Names of Administrative Units—For some time administrative officers of the Department of Agriculture have contemplated the creation within the Department of some additional schools in the College of Agriculture, Forestry, and Home Economics. In a letter to President Morrill, April 12, 1949, Dean Clyde H. Bailey suggested that the Division of Forestry and the Division of Home Economics should be raised from the status of divisions to schools.

Pending the adoption of these proposals into the 1949-50 budget Dean Bailey requested that these divisions be renamed the School of Forestry and the School of Home Economics, respectively, and that the heads of these units be designated directors instead of chiefs.

On June 16, the Regents voted to approve the following changes in the names of administrative units:

(a) *Institute of Technology*: That the present College of Engineering and Architecture be renamed the College of Engineering, and that the School of Architecture be reconstituted as a separate administrative group within the Institute of Technology under the direction of a professor and head directly responsible to the dean of the Institute of Technology, and that within the School of Chemistry there be constituted a new Department of Chemical Engineering.

(b) *Department of Agriculture*: That the present Division of Forestry and the present Division of Home Economics be redesignated as the School of Forestry and the School of Home Economics, respectively, and that the present chiefs of these divisions be given the title of director.

University Acquires Earle Brown Farm—On December 9, 1949, the Regents voted unanimously to approve a resolution to accept from Mr. Earle Brown the generous gift of his Brooklyn Center Farm at Brooklyn Center, Minnesota. The farm, 750 acres, lying about a mile north of the Minneapolis city limits, will be the site of a building for short courses and a museum.

This farm, as the ancestral home of Earle Brown, and of his father and grandfather, symbolizes in its broad acres, and the use to which they have been put, a philosophy of work and life which in itself is a priceless heritage to future citizens of Minnesota.

On January 13, 1950, Vice President Middlebrook reported the receipt of the deed covering the Earle Brown farm. The same day the Regents voted to authorize President Morrill and Vice President Middlebrook to appoint a building committee for the preparation of preliminary plans for the structures which will house the short courses and museum contemplated in the Earle Brown gift.

Changes in Degree Requirements and Curricula—On February 10, 1950, the Regents voted to amend the action of the Board of Regents of June 4, 1919, authorizing the professional engineering degrees, by providing that:

1. Supervision of the professional engineering degree be transferred from the Graduate School to the Institute of Technology, and administered in conformity with the procedures outlined by the Institute faculty action of January 11, 1950, filed supplement to the minutes, page 5394.

2. The period of professional experience beyond the baccalaureate degree be increased from four years to eight years.

3. The residency requirement be deleted.

4. An acceptable thesis be presented and unanimously approved by the administering committee.

New Degrees—During the biennium the Regents approved the awarding of three new degrees:

The degree of master of social work (M.S.W.) to be granted to students who complete a graduate curriculum of two years, and a graduate certificate in social work to be granted to students who complete a curriculum of one year.

The degree of bachelor of science to be granted to those students in the School of Veterinary Medicine who have completed the requirements leading to the degree.

The degree of bachelor of industrial engineering to be granted upon the completion of a curriculum designed to accomplish the following objectives:

First, to give the student sufficient basic knowledge and practical background in production engineering and the control of manufacturing operations to qualify him upon graduation for subordinate responsibilities in methods engineering, plant layout, production control, quality control, work measurement and incentives, cost analysis, and similar functions with a minimum of in-plant training.

Second, to afford sufficiently broad training in industrial management to equip the graduate for future responsibilities in production management and higher administrative

and staff positions in production and engineering. In addition to comprehensive training in basic engineering and production principles and techniques, this latter objective requires an over-all perspective on the operation and control of industrial enterprises, and the ability to work effectively with others in an organization.

In addition to its technical content, the course will emphasize human factors, economic considerations, and the application of engineering analysis to production and management problems.

Regents Scholarships: Duluth Branch—On December 10, 1948, the Regents voted on the recommendation of the Civil Service Committee and the president to establish six Regents Scholarships per academic year for members of the Civil Service staff of the University of Minnesota, Duluth Branch, under the same conditions as cover Regents Scholarships available on the Twin Cities campuses.

UNIVERSITY PERSONNEL

CHANGES IN THE BOARD OF REGENTS

The 1949 Legislature re-elected to six-year terms expiring in February, 1955, three members of the Board of Regents whose terms expired in February, 1949. The three are: Daniel C. Gainey, Owatonna; E. E. Novak, New Prague; and A. J. Olson, Renville. As the fourth member of the Board to serve until February, 1955, the Legislature elected Herman F. Skyberg, Fisher, to replace F. J. Rogstad, Detroit Lakes, whose term expired in February, 1949.

RETIREMENTS FROM THE STAFF

Each year some members of the faculty reach the age of compulsory retirement, bringing to a close long periods of active association with the University. Recognition of this service is given by a "retirement certificate."

The following staff members, with their periods of service indicated in parentheses, retired during the biennium:

1948-49

- Anne Dudley Blitz, dean of women emeritus (1923-49).
Richard E. Scammon, distinguished professor emeritus, Graduate School (1911-49).
Elexious Thompson Bell, professor emeritus of pathology, Medical School (1910-49).
Walter M. Boothby, professor emeritus of experimental metabolism, Mayo Foundation (1917-49).
Oscar C. Burkhard, professor emeritus of German, College of Science, Literature, and the Arts (1901-49).
Benjamin J. Clawson, professor emeritus of pathology, Medical School (1921-49).
Arthur U. Desjardins, professor emeritus of radiology, Mayo Foundation (1925-49).
Harriet Goldstein, professor emeritus of home economics, Department of Agriculture (1911-49).
Ray R. Knight, clinical professor emeritus, School of Dentistry (1911-49).
Henry L. McClintock, professor emeritus, Law School (1924-49).
Walter H. Parker, professor emeritus of mining engineering, Institute of Technology (1919-49).
Frederick C. Rodda, clinical professor emeritus of pediatrics, Medical School (1913-49).
Charles Sheard, professor emeritus of experimental biophysics, Mayo Foundation (1925-49).
William P. Dunn, associate professor emeritus of English, College of Science, Literature, and the Arts (1919-49).
Boyd S. Gardner, associate professor emeritus of dental surgery, Mayo Foundation (1918-49).
Arthur J. Kittleson, associate professor emeritus—state leader 4-H club work, Agricultural Extension (1919-49). (Deceased on day of his retirement.)
Dorothy S. Kurtzman, assistant professor emeritus, School of Nursing (1919-49).
Lewis E. Longley, assistant professor emeritus of horticulture, Department of Agriculture (1929-49).
Anna von Helmholtz-Phelan, assistant professor emeritus of English, College of Science, Literature, and the Arts (1908-49).
Charles R. Drake, clinical instructor emeritus of medicine, Medical School (1920-49).
Edward M. Kane, instructor emeritus of history, General Extension Division (1928-49).
Henry N. Klein, clinical instructor emeritus of medicine, Medical School (1920-49).
Laura A. Matson, instructor emeritus, School of Agriculture (1924-49).
Margaret A. Scallon, instructor emeritus of English, College of Science, Literature, and the Arts (1929-49).

1949-50

- John R. DuPriest, professor emeritus of mechanical engineering, Institute of Technology (1927-50).
George B. Eusterman, professor emeritus of clinical medicine, Mayo Foundation (1915-50).
George E. Fahr, professor emeritus of medicine, Medical School (1921-50).
Donald N. Ferguson, professor emeritus of music, College of Science, Literature, and the Arts (1913-50).

- Robert W. French, professor emeritus of drawing and descriptive geometry, Institute of Technology (1910-50).
- Edwin M. Lambert, professor emeritus of mines and metallurgy, Institute of Technology (1909-50).
- William Lindsay, professor emeritus of music, College of Science, Literature, and the Arts (1921-50).
- James C. Masson, professor emeritus of surgery, Mayo Foundation (1918-50).
- Wylle B. McNeal, professor emeritus of home economics, Department of Agriculture (1923-50).
- Burton J. Robertson, professor emeritus of mechanical engineering, Institute of Technology (1918-50).
- Frank B. Rowley, professor emeritus of mechanical engineering, Institute of Technology (1907-50).
- Jerry E. Wodsedalek, professor emeritus of zoology, College of Science, Literature, and the Arts (1928-50).
- Charles N. Saltus, professor emeritus of language and literature, Duluth Branch (1932-50).
- Arthur H. Sanford, professor emeritus of bacteriology, Mayo Foundation (1915-50).
- Arthur C. Strachauer, professor emeritus of surgery, Medical School (1910-50).
- John L. Crenshaw, associate professor emeritus of surgery, Mayo Foundation (1918-50).
- Harry G. Irvine, clinical associate professor emeritus of medicine, Medical School (1909-50).
- Walter R. Myers, associate professor emeritus, School of Business Administration (1914-50).
- Clare L. Rotzel, associate professor emeritus of accounting, General Extension Division (1913-50).
- Roderick W. Siler, associate professor emeritus of mathematics and mechanics, Institute of Technology (1918-50).
- Eva L. Blair, assistant professor emeritus of agricultural extension, Department of Agriculture (1923-49).
- Marie M. Guinotte, assistant professor emeritus of Romance languages, College of Science, Literature, and the Arts (1918-50).
- Johanna T. Hognason, assistant professor emeritus, School of Agriculture (1919-50).
- Clarence O. Maland, clinical assistant professor emeritus of obstetrics and gynecology, Medical School (1914-50).
- Milo E. Todd, assistant professor emeritus of electrical engineering, Institute of Technology (1920-50).
- Arthur G. Tyler, assistant professor emeritus of agricultural engineering, Department of Agriculture (1918-50).
- Albert Anderson, instructor emeritus, West Central School and Station (1911-50).
- Thurston W. Weum, clinical instructor emeritus of obstetrics and gynecology, Medical School (1918-50).

CHANGES IN THE FACULTIES

RESIGNATIONS, 1948-49

- Myron M. Weaver, assistant dean, Medical School; and associate professor, School of Public Health; effective June 30, 1949, to accept the deanship of the University of British Columbia Medical School.
- G. Lester Anderson, professor, College of Education, effective June 15, 1949, to accept the deanship of teacher education at the College of the City of New York.
- Alburey Castell, professor of philosophy, College of Science, Literature, and the Arts, effective June 15, 1949, to accept a position at the University of Oregon.
- Anne F. Fenlason, professor of sociology, College of Science, Literature, and the Arts, effective June 15, 1949, due to ill-health.
- Halvor O. Halvorson, professor of bacteriology, Medical School, effective June 15, 1949, to accept the headship of the Department of Bacteriology at the University of Illinois.
- John L. Heller, professor and chairman, Department of Classics, College of Science, Literature, and the Arts, effective June 15, 1949, to accept a position at the University of Illinois.
- Captain Walter C. Holt, professor of naval science and tactics, effective June 17, 1949.
- Clifford Kirkpatrick, professor of sociology, College of Science, Literature, and the Arts, effective June 15, 1949, to accept the chairmanship of Department of Sociology at Indiana University

- Dimitri Mitropoulos, professor of music, College of Science, Literature, and the Arts, effective June 15, 1949, to become associate director of the New York Philharmonic Orchestra.
- Ralph O. Nafziger, professor and director of the research division, School of Journalism, effective June 15, 1949, to accept a position at the University of Wisconsin.
- George H. Freeman, professorial lecturer in psychiatry and neurology, Medical School, effective October 1, 1948, to accept the superintendency of a Montana state hospital.
- Joe R. Brown, clinical associate professor of neurology, Medical School, effective June 30, 1949, to accept a position at the Mayo Clinic, Rochester, Minnesota.
- Frances Dunning, associate professor of home economics, Department of Agriculture, effective June 30, 1949, on account of ill-health.
- Lester O. Gilmore, associate professor of dairy husbandry, Department of Agriculture, effective October 15, 1948, to accept a position at Ohio State University.
- Horton C. Hinshaw, associate professor of medicine, Mayo Foundation, effective March 31, 1949, to accept a position at Stanford University.
- Helen M. Starr, associate professor of physical education for women, effective June 15, 1949, to accept a position with the Minneapolis Board of Education.
- Ralph V. Backstrom, assistant professor—extension economist in marketing, Agricultural Extension, effective May 31, 1949, to do agricultural development work for the Great Northern Railway Company.
- Harlan P. Banks, assistant professor of botany, College of Science, Literature, and the Arts, effective June 15, 1949, to accept a position at Cornell University.
- Saul Bellow, assistant professor of general studies, College of Science, Literature, and the Arts, effective June 15, 1949, to remain in Paris and continue his writing.
- James W. Braithwaite, assistant professor of aeronautical engineering, Institute of Technology, effective June 15, 1949, to work on his doctorate at California Institute of Technology.
- Harry A. Cumming, clinical assistant professor of medicine, Medical School, effective June 30, 1949, to establish his practice in Phoenix, Arizona.
- Lois A. Day, assistant professor of obstetrics and gynecology, Mayo Foundation, effective April 1, 1949, for further training and later to enter private practice.
- Edward D. DeLamater, assistant professor of bacteriology, Mayo Foundation, effective September 30, 1948.
- Carmen L. Delliquadri, assistant professor, North Central School and Station, effective June 30, 1949, to attend Cornell University to finish his doctorate.
- Vetta Goldstein, assistant professor of home economics, Department of Agriculture, effective June 15, 1949, to move to California.
- Harrison G. Gough, assistant professor of psychology, College of Science, Literature, and the Arts, effective June 15, 1949, to accept a position at the University of California, Berkeley.
- Palmer A. Graver, assistant professor of professional education, Duluth Branch, effective June 15, 1949, to accept a position at the University of Arkansas.
- Philip H. Heersema, assistant professor of neurology, Mayo Foundation, effective December 31, 1948, to enter private practice.
- Ambrose J. Hertzog, assistant professor of pathology, Medical School, effective September 20, 1948, to accept a position as pathologist at the Touro Infirmary, New Orleans, Louisiana.
- Graham B. Hovey, assistant professor of journalism, College of Science, Literature, and the Arts, effective June 15, 1949, to accept a position at the University of Wisconsin.
- Donald M. Johnson, assistant professor of professional education, Duluth Branch, effective June 15, 1949.
- Glen J. Johnson, assistant professor—district supervisor 4-H club work, Agricultural Extension, effective November 27, 1948, to accept employment in the insurance field.
- Stanley B. Kearl, assistant professor of fine and applied arts, Duluth Branch, effective June 15, 1949, to study in Europe.
- Lt. Roger J. Koch, assistant professor of naval science and tactics, effective June 30, 1949.
- Marie A. Linck, assistant professor of fine and applied arts, Duluth Branch, effective June 15, 1949, to be married.
- Walter D. Loban, assistant professor of general studies, College of Science, Literature, and the Arts, effective June 15, 1949, to accept a position at the University of California, Berkeley.
- Axel P. Lund, clinical assistant professor, School of Dentistry, effective December 15, 1948.

- William F. McLimans, assistant professor of bacteriology, Medical School, effective June 15, 1949, to work for the United States Public Health Service in Hamilton, Montana.
- William E. Mussman, Jr., assistant professor, Law School, effective June 15, 1949, to enter private law practice.
- Frank Oppenheimer, assistant professor of physics, College of Science, Literature, and the Arts, effective June 15, 1949.
- Kenneth L. Osterud, assistant professor of zoology, College of Science, Literature, and the Arts, effective June 15, 1949, to accept a position at the University of Washington, Seattle.
- Ransom R. Patrick, assistant professor of art, College of Science, Literature, and the Arts, effective June 15, 1949, to accept the chairmanship of the Department of Art at Cleveland College, Cleveland, Ohio.
- Margaret L. Randall, assistant professor, School of Nursing, effective March 18, 1949, to be married.
- Herbert M. Stauffer, assistant professor of radiology and roentgenologist, Medical School, effective June 30, 1949, to accept a position at Temple University, Philadelphia, Pennsylvania.
- Captain Harland E. Troy, assistant professor of naval science, effective June 13, 1949.

RESIGNATIONS, 1949-50

- Raymond C. Gibson, provost, Duluth Branch, effective June 30, 1950, to join the Education Division, Inter-American Affairs Institute, for service in Peru.
- Colonel Richard A. Ericson, professor of military science and tactics, effective September 2, 1949.
- Frank G. McCormick, professor and director, Department of Physical Education and Athletics, effective July 31, 1950, to devote full time to his own private business interests.
- Horace E. Read, professor of law, effective June 15, 1950, to accept the deanship of the Law School, Dalhousie University, Halifax, Nova Scotia.
- Joseph F. Shellman, professor, School of Dentistry, effective October 15, 1949, to accept a position at Creighton University, Omaha, Nebraska.
- Albert M. Snell, professor of medicine, Mayo Foundation, effective December 31, 1949, to locate at Palo Alto, California.
- Lewis W. Thom, clinical professor, School of Dentistry, effective June 16, 1950.
- John M. Adams, associate professor of pediatrics, Medical School, effective June 30, 1950, to accept a position as professor of pediatrics, University of California at Los Angeles.
- Eric R. Bentley, associate professor of English, College of Science, Literature, and the Arts, effective June 15, 1950, to continue his work as a theater director in Rome, Italy.
- Charles T. Duncan, associate professor of journalism, College of Science, Literature, and the Arts, effective June 15, 1950, to accept a position at the University of Oregon.
- Jackson K. Ehlert, associate professor of music, Duluth Branch, effective June 15, 1950, to accept a position as dean of fine arts, Ithaca College, Ithaca, New York.
- George D. Estes, clinical associate professor, School of Dentistry, effective June 15, 1950.
- John V. Irwin, associate professor of speech, College of Science, Literature, and the Arts, effective June 15, 1950, to become director, Speech Clinic, University of Wisconsin.
- Marie Lien, associate professor of art education, College of Education, effective December 15, 1949, for personal reasons.
- Everett E. MacGibbon, clinical associate professor, School of Dentistry, effective June 15, 1950.
- David MacMillan, associate professor, Department of Physical Education and Athletics, effective June 15, 1950, to accept position as coach for the Tri-City professional basketball team.
- Andreas G. Papandreou, associate professor, School of Business Administration, effective June 15, 1950, to accept a position at Northwestern University, Evanston, Illinois.
- Rhodes Robertson, associate professor of architecture, Institute of Technology, effective June 15, 1950, to devote his time to travel, study, and personal affairs.
- Alice Leahy Shea, associate professor of social work, College of Science, Literature, and the Arts, effective June 15, 1950, to take charge of the Southern California area for Dr. Terman's study of "A Thousand Gifted Children."
- Carl F. Sierk, associate professor of animal husbandry, Department of Agriculture, effective May 12, 1950, to accept a position as assistant coordinator of beef cattle research, Bureau of Animal Industry, U. S. Department of Agriculture.

- Lucy A. Studley, associate professor of home economics, Department of Agriculture, effective June 30, 1950, on account of ill-health.
- Harold G. Worman, clinical associate professor, School of Dentistry, effective May 5, 1950, to accept a position with the Veterans Administration.
- Cyril G. Allen, assistant professor of history, General Extension Division, effective June 15, 1950, to accept a position at Mankato State Teachers College.
- James F. Bosma, assistant professor of pediatrics, Medical School, effective September 30, 1949, to accept the headship, Department of Pediatrics, University of Utah Medical School.
- Robert A. Bottomley, assistant professor of agricultural biochemistry, Department of Agriculture, effective September 21, 1949, to accept a position as director of research for Weston Company, Ltd., Australia.
- Walter A. Carley, clinical assistant professor of psychiatry and neurology, Medical School, effective June 30, 1950, to devote all his time to private practice.
- William S. Chalgren, assistant professor of psychiatry and neurology, Medical School, effective June 30, 1950.
- Ralph O. Christensen, clinical assistant professor, School of Dentistry, effective June 15, 1950, to devote all of his time to private practice.
- Charles E. Cutts, assistant professor of civil engineering, Institute of Technology, effective June 15, 1950, to accept a position at the University of Florida.
- Alfred J. deGrazia, assistant professor political science, College of Science, Literature, and the Arts, effective June 15, 1950 to accept a position at Brown University, Providence, Rhode Island.
- Hendrik DeKruif, assistant professor of bacteriology and immunology, Medical School, effective June 15, 1950, to enter private practice at Fergus Falls, Minnesota.
- Leroy D. Hedgecock, assistant professor of speech and senior speech clinician, College of Science, Literature, and the Arts, effective August 31, 1949.
- Clarence E. Hermann, clinical assistant professor, School of Dentistry, effective June 15, 1950.
- John R. Immer, assistant professor, School of Business Administration, effective June 15, 1950, to carry on graduate work following a trip to Europe.
- Evrel A. Larson, assistant professor of medicine and director of the Blood Bank, Medical School, effective July 15, 1949, to establish a private practice in Bellingham, Washington.
- Paul J. Moore, assistant professor and assistant state 4-H leader, Agricultural Extension, effective December 5, 1949, to accept a position as state 4-H club leader, Agricultural Extension Service, Montana State College, Bozeman, Montana.
- Stanley W. Olson, assistant director, Mayo Foundation, and instructor in medicine, effective March 31, 1950, to accept the deanship, Medical School, University of Illinois.
- Marguerita L. Paulsen, assistant professor, School of Home Economics, effective June 15, 1950, to be married.
- Edith M. Peterson, assistant professor of physical education and health, Duluth Branch, effective June 15, 1950.
- Roger M. Reinecke, assistant professor of physiology, Medical School, effective June 15, 1950, to accept a position at the University of Puerto Rico.
- Richard M. Stephenson, assistant professor of chemical engineering, Institute of Technology, effective June 15, 1950, to do research work at Oak Ridge, Tennessee.
- Albert R. Tegge, assistant professor of mechanical engineering, Institute of Technology, effective June 15, 1950, to go into industrial work.
- Alberta B. Wilson, assistant professor of public health, Medical School, effective June 15, 1950, to become chief, Bureau of Public Health Nursing, Department of Health, Pittsburgh, Pennsylvania.
- Sidney H. Zbarsky, assistant professor, School of Dentistry, effective September 15, 1949, to accept a position at the University of British Columbia.

APPOINTMENTS. 1948-49

Professors

- Athelstan F. Spilhaus as dean and professor, Institute of Technology.
B.S. (M.E.) 1931, D.Sc. (Engr.) 1948, University of Cape Town, Africa; M.S. (Aero.Eng.) 1933, Massachusetts Institute of Technology.
- Jan O. M. Broek as professor and chairman, Department of Geography.
Ph.D. 1932, University of Utrecht.

James W. Gray as professor of English.

B.A. 1920, University of Minnesota; Litt.D. 1939, Hamline University.

Thomas D. Speidel as professor and chairman, Division of Orthodontia, School of Dentistry.

D.D.S. 1930, M.S. 1932, State University of Iowa.

Jerome T. Syvertson as professor and head, Department of Bacteriology.

B.A. 1927, B.S. 1928, University of North Dakota; M.D. 1931, Harvard University School of Medicine.

Frank H. Wood as visiting professor of German.

B.A. 1924, Hamilton College; M.A. 1926, Ph.D. 1932, Columbia University.

Associate Professors

Annie Laurie Baker as associate professor and director of social service, University of Minnesota Hospitals.

B.A. 1926, University of Minnesota; M.A. 1931, University of Chicago.

John N. Campbell as associate professor of veterinary medicine.

Degree of Veterinary Science and Bachelor of Veterinary Science in 1915, University of Toronto.

Osborne B. Cowles as associate professor of physical education for men.

B.A. 1922, Carleton College.

Raymond W. Darland as associate professor of science and mathematics, Duluth Branch.

B.S. 1933, M.S. 1936, Fort Hayes, Kansas, State College; Ph.D. 1947, University of Nebraska.

Samuel S. Goldich as associate professor of geology and mineralogy.

B.A. 1929, Ph.D. 1936, University of Minnesota; M.A. 1930, Syracuse University.

Henry J. Griffiths as associate professor of veterinary medicine.

B.S.A. 1932, M.Sc. 1935, Ph.D. 1939, McGill University; D.V.M. 1943, Iowa State College.

Marshall C. Hervey as associate professor of dairy husbandry.

B.S. 1935, M.S. 1936, Ph.D. 1938, Ohio State University.

Harry C. Johnson as associate professor of professional education, Duluth Branch.

B.S. 1930, M.A. 1933, Ph.D. 1943, University of Minnesota.

David F. Mitchell as associate professor of dentistry.

B.S. 1940, D.D.S. 1942, University of Illinois.

Kenneth N. Ogle as associate professor of biophysics, Mayo Foundation.

B.A. 1925, Colorado College; M.A. 1927, Ph.D. 1928, Dartmouth College.

Howard P. Rome as associate professor of psychiatry, Mayo Foundation.

B.A. 1931, University of Pennsylvania; M.D. 1935, Temple University.

Mulford Q. Sibley as associate professor of political science.

B.A. 1933, Central Teachers College (Edmond, Oklahoma); M.A. 1934, University of Oklahoma; Ph.D. 1938, University of Minnesota.

Dorothy F. Simmons as associate professor—state home demonstration leader, Agricultural Extension.

B.S. 1931, M.S. 1939, Iowa State College.

Chester W. Wood as director of student personnel and associate professor, Duluth Branch.

B.S. 1927, Huron College; M.A. 1936, State University of Iowa; Ed.D. 1947, Stanford University.

E. William Ziebarth as associate professor and chairman, Department of Speech.

B.S. 1933, Ph.M. 1934, University of Wisconsin; Ph.D. 1948, University of Minnesota.

Assistant Professors

Wayne J. Anderson as assistant professor in home life orientation, General College.

B.A. 1934, M.A. 1937, University of Utah.

James C. Barnes as assistant professor of electrical engineering.

B.S. 1928, M.S. (E.E.) 1934, University of Minnesota.

James R. Beer as assistant professor of entomology and economic zoology.

B.S. 1940, M.S. 1941, State College of Washington; Ph.D. 1949, University of Wisconsin.

Warren A. Bennett as assistant professor of pathology, Mayo Foundation.

B.S. 1934, University of South Dakota; M.D. 1938, Northwestern University; M.S. 1943, University of Minnesota.

Reginald C. Bickford as assistant professor of physiology, Mayo Foundation.

B.A. 1933, St. Catharine's College (Cambridge, England); M.B. 1936, M.R.C.P. 1940, University College Hospital (London, England).

- Robert A. Bottomley as assistant professor of agricultural biochemistry.
B.S. 1934, M.S. 1941, University of Melbourne, Australia.
- Donald W. Calhoun as assistant professor of general studies.
B.A. 1937, Erskine College (Due West, South Carolina); M.A. 1938, Furman University; Ph.D. 1950, University of Chicago.
- Emmett Davidson as assistant professor of social studies, Duluth Branch.
B.A. 1923, College of Emporia (Kansas); M.A. 1930, University of Arkansas; Ph.D. 1948, University of Missouri.
- Alfred J. de Grazia as assistant professor of political science.
B.A. 1939, Ph.D. 1948, University of Chicago.
- Harold A. Delp as assistant professor of education.
B.S. 1933, M.S. 1934, University of Florida; Ph.D. 1948, University of Nebraska.
- Frank E. DiGangi as assistant professor of pharmacy.
B.S. 1940, Rutgers University; M.S. 1942, Western Reserve University.
- David V. Erdman as assistant professor of English.
B.A. 1933, Carleton College; M.A. 1935, Ph.D. 1936, Princeton University.
- Bernard R. Gelbaum as assistant professor of mathematics.
B.A. 1943, Columbia University; M.A. 1947, Ph.D. 1948, Princeton University.
- Hershel R. Giles as assistant professor of physical education for men.
B.A. 1935, Centre College (Danville, Ky.); M.A. 1940, University of Kentucky.
- Neal Gross as assistant professor of sociology.
Ph.B. 1941, Marquette University; M.S. 1942, Ph.D. 1946, Iowa State College.
- Leroy D. Hedgecock as assistant professor of speech and senior speech clinician.
B.S. 1936, Washington University (St. Louis); M.A. 1939, Colorado State College of Education.
- Allan J. Hill, Jr., as clinical assistant professor of pediatrics.
B.S. 1937, M.D. 1940, University of Minnesota.
- John Hospers as assistant professor of philosophy.
B.A. 1939, Central College (Pella, Iowa); M.A. 1941, State University of Iowa; Ph.D. 1944, Columbia University.
- Cyril J. Hoyt as assistant professor and associate director, Bureau of Educational Research and Field Studies, and examination consultant, Bureau of Institutional Research.
B.S. 1928, M.A. 1937, Ph.D. 1944, University of Minnesota.
- Thomas B. Irving as assistant professor of Romance languages.
B.A. 1937, University of Toronto; M. es L. 1938, University of Montreal; Ph.D. 1940, Princeton University.
- Stanley B. Kearl as assistant professor of fine and applied arts, Duluth Branch.
B.F.A. 1941, M.F.A. 1942, Yale University; Ph.D. 1949, State University of Iowa.
- Thomas H. King as assistant professor of plant pathology and botany.
B.S. 1934, North Dakota State College; M.S. 1939, Ph.D. 1946, University of Minnesota.
- Harry W. Kitts as assistant professor of agricultural education.
B.S. 1936, M.S. 1939, Ph.D. 1948, Cornell University.
- Wilbur L. Layton as assistant professor of psychology and assistant director, Student Counseling Bureau
B.S. 1943, Iowa State College; M.A. 1947, Ohio State University.
- Leon M. Liddell as assistant professor of law and law librarian.
B.A. 1937, LL.B. 1937, University of Texas; B.L.S. 1946, University of Chicago.
- Frank D. Mann as assistant professor of clinical pathology, Mayo Foundation.
B.A. 1937, M.S. 1938, M.D. 1942, Ph.D. 1942, University of Minnesota.
- Don A. Martindale as assistant professor of sociology.
B.A. 1939, M.A. 1940, Ph.D. 1946, University of Wisconsin.
- William A. McDonald as assistant professor of classics.
B.A. 1935, M.A. 1936, University of Toronto; Ph.D. 1939, Johns Hopkins University.
- Norman C. Nagle as assistant professor of architecture.
B.S. 1941, University of Michigan; M. Architecture and Urban Planning, 1947, Cranbrook Academy of Art.
- Benjamin N. Nelson as assistant professor of general studies.
B.A. 1931, College of the City of New York; M.A. 1933, Ph.D. 1944, Columbia University.

- Evar D. Nering as assistant professor of mathematics.
B.A. 1942, M.A. (Math.) 1943, Indiana University; M.A. (Math.) 1946, Princeton University.
- Edward P. Ney as assistant professor of physics.
B. Physics, 1942, University of Minnesota; Ph.D. 1946, University of Virginia.
- Georgia G. Nobles as assistant professor of nursing.
B.S. in Nursing Education 1947, University of Minnesota.
- Ivan Nylander as assistant professor of language and literature, Duluth Branch.
B.S. 1928, M.A. 1933, University of Minnesota.
- Theodore C. Papermaster as clinical assistant professor of pediatrics.
B.A. 1937, M.D. 1939, University of Minnesota.
- Moses Passer as assistant professor of science and mathematics, Duluth Branch.
B.S. 1945, University of Rochester, New York; Ph.D. 1948, Cornell University.
- Ransom R. Patrick as assistant professor of art.
B.A. 1944, University of Washington; M.F.A. 1947, Princeton University.
- George W. Preckshot as assistant professor of chemical engineering.
B.S. 1940, University of Illinois; M.S. 1941, Ph.D. 1948, University of Michigan.
- Merrill P. Rassweiler as assistant professor of physical science, General College.
B.S. 1930, Beloit College; M.S. 1932, Ph.D. 1937, University of Illinois.
- Kurt Reichert as assistant professor of psychiatry and neurology and psychiatric social worker.
B.A. 1940, Carleton College; M.A. 1946, University of Chicago.
- Eugene F. Sechafer as assistant professor of journalism.
B.A. 1943, University of Wisconsin; M.B.A. 1947, Northwestern University.
- Werner Simon as clinical assistant professor of psychiatry and neurology.
M.D. 1937, University of Berne, Switzerland.
- Spencer M. Smith, Jr., as assistant professor of business administration.
B.A. 1941, M.A. 1942, State University of Iowa.
- Robert F. Spencer as assistant professor of anthropology.
B.A. 1937, Ph.D. 1946, University of California; M.A. 1940, University of New Mexico.
- Gus Turbeville as assistant professor of social studies, Duluth Branch.
B.A. 1944, Vanderbilt University; M.A. 1946, Louisiana State University; Ph.D. 1948, Michigan State College.
- George A. Warp as assistant professor of political science.
B.A. 1935, Adelbert College, Western Reserve University; LL.B. 1938, Western Reserve University; M.A. 1944, Columbia University.
- Samuel Weiner as assistant professor of science and mathematics, Duluth Branch.
B.S. 1930, University of Chicago; Ph.D. 1936, University of Wisconsin.
- John E. Wertz as assistant professor of physical chemistry.
B.S. (Chem.Eng.) 1937, M.S. 1938, University of Denver; Ph.D. 1948, University of Chicago.
- Richard B. Whittington as assistant professor of civil engineering.
B.S. 1931, M.S. 1933, University of Manchester (England).
- Alberta B. Wilson as assistant professor of public health.
B.S. 1937, Temple University; M.S. 1943, University of Pennsylvania.
- Marjorie U. Wilson as assistant professor of physical education for women.
B.E. 1937, Northern Illinois State Teachers College; M.A. 1943, Ph.D. 1945, State University of Iowa.
- Sidney H. Zbarsky as assistant professor of dentistry.
B.A. 1940, University of Saskatchewan; M.A. 1942, Ph.D. 1946, University of Toronto.

APPOINTMENTS, 1949-50

Professors

- David A. Boyd, Jr., as professor of psychiatry, Mayo Foundation.
B.A. 1926, M.S. 1939, University of Michigan; M.D. 1930, Jefferson Medical College.
- James R. Dawson, Jr., as professor and head, Department of Pathology.
B.A. 1928, M.D. 1931, Vanderbilt University.
- Norman J. DeWitt as professor and chairman, Department of Classics.
B.A. 1930, M.A. 1933, University of Toronto; Ph.D. 1938, Johns Hopkins University.

Major Walter H. Grierson as professor of air science and tactics.

B.A. 1939, Carleton College.

Colonel Clarence H. Schabacker as professor of military science and tactics.

B.S. 1920, U.S. Military Academy.

Captain Cornelius M. Sullivan as professor of naval science.

B.S. 1925, U.S. Naval Academy.

Dimitri T. Tselos as professor of art.

Ph.B. 1926, M.A. 1928, University of Chicago; M.A. 1929, M.F.A. 1931, Ph.D. 1933, Princeton University.

Aldert van der Ziel as professor of electrical engineering.

B.A. 1930, M.A. 1933, Ph.D. 1934, University of Groningen (The Netherlands).

Lee S. Whitson as professor of mechanical engineering.

B.M.E. 1935, M.S. (M.E.) 1937, University of Minnesota.

Associate Professors

Robert A. Merrill as associate professor of veterinary medicine.

D.V.M. 1926, Iowa State College.

Arnold M. Rose as associate professor of sociology.

B.A. (Sociology) 1938, B.A. (Economics) 1939, M.A. 1940, Ph.D. 1941 (Sociology), University of Chicago.

Arthur E. Schneider as associate professor of forestry.

B.S. 1931, University of Minnesota; M.A. 1939, American University (Washington, D. C.)

Miriam G. Scholl as associate professor of home economics and manager of the agricultural cafeteria and dining hall.

B.S. 1931, University of Washington; M.A. 1939, D.Ed. 1949, Columbia University.

Nelson T. Spratt, Jr., as associate professor of zoology.

B.A. 1936, Emory University; Ph.D. 1940, University of Rochester, New York.

Charles E. Swanson as associate professor of journalism.

B.A. 1941, San Diego State College; M.A. 1946, Ph.D. 1948, State University of Iowa.

John G. Turnbull as associate professor of business administration.

B.A. 1938, Denison University; Ph.D. 1947, Massachusetts Institute of Technology.

Dennis W. Watson as associate professor of bacteriology and immunology.

B.S.A. 1934, University of Toronto; M.Sc. 1937, Dalhousie University; Ph.D. 1941, University of Wisconsin.

Wallace F. White as associate professor of pharmacy.

B.S. 1930, Butler University; M.S. 1932, State University of Iowa; Ph.D. 1949, Yale University

Frank H. Wood as associate professor and chairman, Department of German (served as visiting associate professor in 1948-49).

B.A. 1924, Hamilton College; M.A. 1926, Ph.D. 1932, Columbia University.

Assistant Professors

Cyril G. Allen as assistant professor of history, General Extension Division.

B.S. 1941, Winona State Teachers College; M.A. 1946, University of Minnesota.

Joseph T. Anderson as assistant professor in the laboratory of physiological hygiene, School of Public Health.

B.S. (Chem.Eng.) 1930, M.S. 1932, Ph.D. 1947, University of Rochester, New York.

Kenneth M. Anderson as assistant professor of law.

B.A. 1942, Coe College.

H. Milton Berg as clinical assistant professor of radiology and physical medicine.

B.S. 1923, M.D. 1925, University of Minnesota.

Morgan Blum as assistant professor of English.

B.A. 1935, Tulane University; M.A. 1936, Louisiana State University.

Richard G. Bond as assistant professor of public health and public health engineer, Students' Health Service.

B.S. 1938, University of New Hampshire; M.S. 1940, State University of Iowa; M.P.H. 1948, University of Minnesota.

John R. Borchert as assistant professor of geography.

B.A. 1941, DePauw University; M.A. 1946, Ph.D. 1949, University of Wisconsin.

Louis O. Coxe as assistant professor of English.

B.A. 1940, Princeton University.

- William J. Cromartie as assistant professor of bacteriology and immunology and hospital bacteriologist, University of Minnesota Hospitals.
M.D. 1937, Emory University.
- R. Jane Dyer as assistant professor of social work.
B.S. 1938, University of Utah; M.A. 1944, University of Chicago.
- Dorothy L. Ericson as assistant professor of physical education for women.
B.S. 1933, University of Wisconsin; M.A. 1947, Ed.D. 1948, Teachers College, Columbia University.
- Ned A. Flanders as assistant professor of education and Laboratory for Research in Social Relations.
B.A. 1940, University of California; B.S. 1944, Oregon State College; M.A. 1947, Ph.D. 1949, University of Chicago.
- Ellen A. Frogner as assistant professor of English, Duluth Branch.
B.S. 1927, M.A. 1933, Ph.D. 1938, University of Minnesota.
- Harold Goldstein as assistant professor of professional education, Duluth Branch.
B.S. 1942, University of Maryland; B.S.L.S. 1947, M.A. 1948, Ed.D. 1949, Teachers College, Columbia University.
- Carl V. Goossen as assistant professor of education and principal, University Elementary School.
B.S. 1946, Winona State Teachers College; M.A. 1947, Ph.D. 1949, University of Minnesota.
- Margaret F. Grainger as assistant professor of nursing.
B.A. 1927, Butler University; M.A. 1941, Teachers College, Columbia University.
- Robert L. Heller as assistant professor of geology, Duluth Branch.
B.S. 1942, Iowa State College; M.A. 1943, Ph.D. 1950, University of Missouri.
- Betty R. Horenstein as assistant professor of professional education, Duluth Branch.
B.A. 1945, M.S. 1947, Ph.D. 1949, Brown University.
- Karl R. Johanssen as assistant professor of bacteriology and immunology.
B.S. 1942, M.S. in Vet. Sci. 1946, Ph.D. in Agricultural Bacteriology 1948, University of Wisconsin.
- Harold E. Jones as assistant professor-extension specialist, Agricultural Extension.
B.S. 1930, Kansas State College; M.S. 1942, Purdue University.
- William H. Kelly as assistant professor of anthropology.
B.A. 1936, University of Arizona; M.A. 1940, Ph.D. 1942, Harvard University.
- H. Douglas Lamb as assistant professor of psychiatry and neurology and mental hygienist, Students' Health Service.
L.M.S.S.A. 1937, University of London; L.M. 1939, Coombe Maternity Hospital, Dublin, Ireland.
- Frank M. Lassman as assistant professor of speech and senior speech clinician.
B.A. 1941, Brooklyn College; M.A. 1942, State University of Iowa; Ph.D. 1949, University of Southern California (Los Angeles).
- Helen A. Ludwig as assistant professor of home economics.
B.S. 1923, M.A. 1943, University of Minnesota.
- Leo Marx as assistant professor of English.
B.S. 1941, Harvard College; Ph.D. 1950, Harvard University.
- William Matalamaki as assistant professor, North Central School and Station.
B.S. 1942, University of Minnesota.
- Richard B. Mather as assistant professor of linguistics and comparative philology.
B.A. 1935, B.Theol. 1939, Princeton University; Ph.D. 1949, University of California.
- David A. McConnaughey as assistant professor of English, Duluth Branch.
B.A. 1941, M.A. 1947, Ph.D. 1949, Cornell University.
- Myron G. Messenheimer as assistant professor of psychiatry and mental hygienist, Students' Health Service.
B.A. 1931, M.A. 1932, M.D. 1939, University of Kansas.
- Cecil H. Meyers as assistant professor of social studies, Duluth Branch.
B.A. 1947, M.A. 1948, Ph.D. 1949, State University of Iowa.
- Harold M. Mooney as assistant professor of mines and metallurgy.
B.S. 1943, Harvard College; M.S. 1948, Ph.D. 1950, California Institute of Technology.
- John E. Nafe as assistant professor of physics.
B.S. 1938, University of Michigan; M.S. 1940, Washington University (St. Louis); Ph.D. 1948, Columbia University.

- Bruce C. Netschert as assistant professor of social studies, Duluth Branch.
B.A. 1941, Ph.D. 1949, Cornell University.
- Justus Ohage as clinical assistant professor of surgery.
M.D. 1910, University of Minnesota.
- Frederick M. Owens, Jr., as clinical assistant professor of surgery.
B.A. 1935, Princeton University; M.D. 1939, University of Chicago.
- David G. Pugh as assistant professor of radiology, Mayo Foundation.
B.S. 1930, M.D. 1932, Indiana University.
- Major Ashton H. Pully as assistant professor of military science and tactics.
B.S. (Mech. Eng.) 1935, Virginia Polytechnic Institute.
- Joseph F. Rarick as assistant professor of law.
B.A. 1943, J.D. 1948, University of Illinois.
- James A. Richards, Jr., as assistant professor of science and mathematics, Duluth Branch.
B.A. 1938, Oberlin College; Ph.D. 1942, Duke University.
- William C. Rogers as assistant professor of political science, College of Science, Literature, and the Arts; and director, State Organization Service, General Extension Division.
B.A. 1940, M.A. 1941, Ph.D. 1943, University of Chicago.
- Ephraim Rosen as assistant professor of psychology.
B.S. 1934, College of the City of New York; M.A. 1942, Ph.D. 1950, University of California.
- William A. Rosenthal as assistant professor of English, Duluth Branch.
B.S. 1936, M.A. 1946, Ph.D. 1949, Northwestern University.
- Wallace A. Russell as assistant professor of psychology.
B.S. 1943, M.A. 1947, University of New Hampshire; Ph.D. 1949, State University of Iowa.
- John A. Stovel as assistant professor of business administration.
B.A. 1936, M.A. 1941, McGill University; M.A. 1943, Ph.D. 1948, Harvard University.
- Walter K. Vivrett as assistant professor of architecture.
B.S. 1947, University of Illinois; M.Arch. 1948, Massachusetts Institute of Technology.
- Alvin F. Weber as assistant professor of veterinary medicine.
D.V.M. 1944, Iowa State College; B.A. 1946, M.S. 1946, Ph.D. 1949, University of Wisconsin.
- Benjamin Willerman as assistant professor and senior student counselor, Student Counseling Bureau.
B.S. 1939, University of Chicago; Ph.D. 1949, Massachusetts Institute of Technology.
- John R. Winckler as assistant professor of physics.
B.S. 1942, Rutgers University; Ph.D. 1946, Princeton University.
- Julius F. Wolff, Jr., as assistant professor of social studies, Duluth Branch.
B.A. 1940, University of Notre Dame; M.A. 1947, Ph.D. 1949, University of Minnesota.
- Lieutenant Colonel August R. Wood as assistant professor of military science and tactics.
B.S. (M.E.) 1932, University of California.

PROMOTIONS AND TRANSFERS, 1948-49

Professor to Dean

Maynard E. Pirsig (Law School)

Assistant Professor and Administrative Assistant to Assistant Dean and Assistant Professor

Roger B. Page (College of Science, Literature, and the Arts—administration)

Associate Professor of Physical Education to Director of Alumni Relations and Professor

Edwin L. Haislet

Associate Professor to Professor

Axel B. Algren (Institute of Technology—mechanical engineering)

G. Lester Anderson (College of Education)

Jacob A. Bargaen (Mayo Foundation)

Nelson W. Barker (Mayo Foundation)

John D. Camp (Mayo Foundation)

Asher N. Christensen (College of Science, Literature, and the Arts—political science)

Clyde M. Christensen (College of Agriculture, Forestry, and Home Economics—plant pathology and botany)

Joseph O. Culbertson (College of Agriculture, Forestry, and Home Economics—agronomy and plant genetics)

- A. Orville Dahl (College of Science, Literature, and the Arts—botany)
 Harry A. Doeringsfeld (Institute of Technology—mathematics and mechanics)
 Reuel Fenstermacher (College of Agriculture, Forestry, and Home Economics—
 veterinary medicine)
 Fred A. Figi (Mayo Foundation)
 Ruth Harrington (College of Medical Sciences—School of Nursing)
 Alfred L. Harvey (College of Agriculture, Forestry, and Home Economics—animal
 husbandry)
 Dale B. Harris (Institute of Child Welfare)
 Allan Hemingway (Department of Agriculture—School of Veterinary Medicine)
 Evron M. Kirkpatrick (College of Science, Literature, and the Arts—political science)
 Philip W. Manson (College of Agriculture, Forestry, and Home Economics—agri-
 cultural engineering)
 Harold L. Mason (Mayo Foundation)
 Forrest E. Miller (Institute of Technology—mathematics and mechanics)
 Howard D. Myers (Institute of Technology—drawing and descriptive geometry)
 Benjamin S. Pomeroy (College of Agriculture, Forestry, and Home Economics—
 veterinary medicine)
 Raymond G. Price (College of Education)
 James T. Priestley (Mayo Foundation)
 Burtrum C. Shiele (College of Medical Sciences—psychiatry)
 John C. Weaver (College of Science, Literature, and the Arts—geography)
 Henry L. Williams, Jr. (Mayo Foundation)
 Joseph A. Wise (Institute of Technology—civil engineering)
- Clinical Associate Professor to Clinical Professor*
- E. Mendelsohn Jones (College of Medical Sciences—surgery)
 Carl W. Laymon (College of Medical Sciences—dermatology)
 Hyman S. Lippman (College of Medical Sciences—psychiatry and neurology)
- Associate Scientist to Associate Professor*
- Lloyd A. Wilford (College of Science, Literature, and the Arts—anthropology)
- Assistant Professor to Associate Professor*
- Richard C. Adams (Mayo Foundation)
 John M. Berkman (Mayo Foundation)
 Roy O. Bridgford (Department of Agriculture—West Central School and Station)
 Alex E. Brown (Mayo Foundation)
 Allan H. Brown (College of Science, Literature, and the Arts—botany)
 Thomas W. Chamberlin (Duluth Branch—social studies)
 James A. Cuneo (College of Science, Literature, and the Arts—Romance languages)
 Allen W. Edson (Department of Agriculture—West Central School and Station)
 Henry J. Ehlers (Duluth Branch—social studies)
 Selmer A. Engene (College of Agriculture, Forestry, and Home Economics—agri-
 cultural economics)
 Henry L. Hansen (College of Agriculture, Forestry, and Home Economics—forestry)
 Philip S. Jordan (Department of Agriculture—West Central School and Station)
 Robert J. Keller (Bureau of Institutional Research)
 Blanche Kendall (College of Science, Literature, and the Arts—music)
 Miles S. Kersten (Institute of Technology—civil engineering)
 Thomas R. Klingel (Institute of Technology—civil engineering)
 Werner Levi (College of Science, Literature, and the Arts—political science)
 Rodney C. Loehr (College of Science, Literature, and the Arts—history)
 Douglas G. Marshall (College of Science, Literature, and the Arts—sociology)
 Robert C. McClure (Law School)
 Paul E. Meehl (College of Science, Literature, and the Arts—psychology)
 Thomas D. O'Brien (Institute of Technology—inorganic chemistry)
 Clarence Osell (Physical Education and Athletics)
 Louis E. Prickman (Mayo Foundation)
 John F. Ripken (Institute of Technology—hydraulic laboratory)
 James C. Sanderson (Institute of Technology—mathematics and mechanics)
 Roderick W. Siler (Institute of Technology—mathematics and mechanics)
 Edward C. Stafne (Mayo Foundation)
 Clyde Stephens (College of Science, Literature, and the Arts—music)
 Minard W. Stout (College of Education—University High School)
 Theodor W. Thomas (Institute of Technology—civil engineering)
 Harry M. Weber (Mayo Foundation)

Clinical Assistant Professor to Clinical Associate Professor

John J. Boehrer (College of Medical Sciences—medicine)
 Joe R. Brown (College of Medical Sciences—psychiatry and neurology)
 S. Alan Challman (College of Medical Sciences—psychiatry and neurology)
 Alexander G. Dumas (College of Medical Sciences—psychiatry and neurology)
 Gordon R. Kamman (College of Medical Sciences—psychiatry and neurology)
 Robert L. Meller (College of Medical Sciences—psychiatry and neurology)
 Samuel Nesbitt (College of Medical Sciences—medicine)
 Thomas A. Peppard (College of Medical Sciences—medicine)
 Charles E. Rea (College of Medical Sciences—surgery)
 Sherwood R. Steadman (School of Dentistry)
 Marvin Sukov (College of Medical Sciences—psychiatry and neurology)

Instructor to Associate Professor

Joseph C. Olson, Jr. (College of Agriculture, Forestry, and Home Economics—dairy husbandry)

Research Fellow to Associate Professor

John N. Cummings (College of Agriculture, Forestry, and Home Economics—animal husbandry)
 Carl F. Sierk (College of Agriculture, Forestry, and Home Economics—animal husbandry)

Lecturer to Assistant Professor

Arthur Naftalin (College of Science, Literature, and the Arts—political science)

Instructor to Assistant Professor

Raymond Aune (Department of Agriculture—agricultural extension)
 Steve S. Barich (Institute of Technology—drawing and descriptive geometry)
 Walter L. Beneditz (Department of Agriculture—agricultural extension)
 James F. Bosma (Kellogg Foundation for Postgraduate Medical Education)
 Carleton B. Chapman (College of Medical Sciences—physiological hygiene)
 Mark B. Coventry (Mayo Foundation)
 Elizabeth M. Cranston (College of Medical Sciences—pharmacology)
 Oswald A. Daellenbach (Department of Agriculture—agricultural extension)
 Albert M. Fulton (General Extension Division—speech)
 Earl E. Gambill (Mayo Foundation)
 Harrison G. Gough (College of Science, Literature, and the Arts—psychology)
 Ross E. Graves (College of Science, Literature, and the Arts—mathematics)
 Laurence F. Greene (Mayo Foundation)
 Philip H. Heersema (Mayo Foundation)
 Paul L. Holmer (College of Science, Literature, and the Arts—philosophy)
 Giles A. Koelsche (Mayo Foundation)
 Howard F. Nelson (College of Education)
 Donald R. Nichols (Mayo Foundation)
 Gerald B. Ownbey (College of Science, Literature, and the Arts—botany)
 Emmett L. Pinnell (College of Agriculture, Forestry, and Home Economics—agronomy and plant genetics)
 Alfred R. Pray (Institute of Technology—inorganic chemistry)
 Raymond D. Pruitt (Mayo Foundation)
 Clarence O. Quie (Department of Agriculture—agricultural extension)
 Margaret L. Randall (College of Medical Sciences—School of Nursing)
 Victor T. Sander (Department of Agriculture—agricultural extension)
 Jay H. Sautter (College of Agriculture, Forestry, and Home Economics—veterinary medicine)
 Dale R. Smith (Department of Agriculture—agricultural extension)
 Lucian A. Smith (Mayo Foundation)
 Wilfred O. Stout (General College)
 Donald C. Swanson (College of Science, Literature, and the Arts—classics)
 Evelyn N. Thorson (Department of Agriculture—West Central School and Station)
 Donald Torbert (College of Science, Literature, and the Arts—art)
 Herman J. Vossen (Department of Agriculture—agricultural extension)

Instructor to Clinical Assistant Professor

Lyle A. French (College of Medical Sciences—surgery)

Clinical Instructor to Clinical Assistant Professor

Archibald E. Cardle (College of Medical Sciences—medicine)
 Carleton B. Chapman (College of Medical Sciences—medicine)

- Wendell H. Hall (College of Medical Sciences—medicine)
 William H. Hollinshead (College of Medical Sciences—medicine)
 Lawrence W. McIver (School of Dentistry)
 William Schofield, Jr. (College of Medical Sciences—psychiatry and neurology)
 George M. Tangen (College of Medical Sciences—otolaryngology)
 Robert R. Tracht (College of Medical Sciences—University of Minnesota Hospitals
 Out-Patient Department)
 J. Allen Wilson (College of Medical Sciences—medicine)
- Research Fellow to Assistant Professor*
 Robert A. Huseby (College of Medical Sciences—cancer research)
- Director to Assistant Professor and Director*
 Paul R. Wendt (Audio-Visual Education Service and College of Education)
- County Agricultural Agent—Instructor to Assistant Professor*
 LeVerne W. Wegener (Department of Agriculture—School of Agriculture)
- Instructor to Research Associate*
 William E. Martin (Institute of Child Welfare)

PROMOTIONS AND TRANSFERS, 1949-50

- Professor to Associate Director and Professor*
 Kendall B. Corbin (Mayo Foundation)
- Professor to Professor and Chief*
 Evan F. Ferrin (College of Agriculture, Forestry, and Home Economics—animal
 husbandry)
- Professor to Professor and Assistant Dean*
 Stanley V. Kinyon (Law School)
- Associate Professor and Associate Director to Professor and Director*
 John C. Kidneigh (College of Science, Literature, and the Arts—social work)
- Clinical Instructor to Assistant Dean and Assistant Professor*
 Howard L. Horns (College of Medical Sciences—medicine)
- Associate Professor to Professor*
- Hervey H. Barber (Institute of Technology—inorganic chemistry)
 Ralph F. Berdie (College of Science, Literature, and the Arts—psychology and direc-
 tor, Student Counseling Bureau)
 Paul M. Burson (Department of Agriculture—agricultural extension)
 John N. Campbell (College of Agriculture, Forestry, and Home Economics—veteri-
 nary medicine)
 Charles L. Critchfield (College of Science, Literature, and the Arts—physics)
 Allen W. Edson (Department of Agriculture—West Central School and Station)
 Samuel S. Goldich (College of Science, Literature, and the Arts—geology and
 mineralogy)
 Raymond L. Grismer (College of Science, Literature, and the Arts—Romance lan-
 guages)
 Thor W. Gullickson (College of Agriculture, Forestry, and Home Economics—dairy
 husbandry)
 Louis S. Heilig (Institute of Technology—mining and metallurgy)
 Tom B. Jones (College of Science, Literature, and the Arts—history)
 John E. King (Duluth Branch)
 Nathan Lifson (College of Medical Sciences—physiology)
 William H. Marshall (College of Agriculture, Forestry, and Home Economics—
 entomology and economic zoology)
 James S. McCartney (College of Medical Sciences—pathology)
 William R. McEwen (Duluth Branch—science and mathematics)
 Ralph G. Nichols (College of Agriculture, Forestry, and Home Economics—rhetoric)
 Charles K. Otis (College of Agriculture, Forestry, and Home Economics—agricul-
 tural engineering)
 A. Glenn Richards (College of Agriculture, Forestry, and Home Economics—ento-
 mology and economic zoology)
 Ernest H. Rinke (College of Agriculture, Forestry, and Home Economics—agronomy
 and plant genetics)
 Otto H. Schmitt (College of Science, Literature, and the Arts—zoology)
 Clifford N. Wall (College of Science, Literature, and the Arts—physics)

Lemen J. Wells (College of Medical Sciences—anatomy)
 Harold N. G. Wright (College of Medical Sciences—pharmacology)
 E. William Ziebarth (College of Science, Literature, and the Arts—speech)

Clinical Associate Professor to Clinical Professor

Richard V. Ebert (College of Medical Sciences—medicine)

Clinical Associate Professor to Clinical Professor

Orwood J. Campbell (College of Medical Sciences—surgery)
 Reuben A. Johnson (College of Medical Sciences—medicine)
 Thomas J. Kinsella (College of Medical Sciences—surgery)
 Miland E. Knapp (College of Medical Sciences—physical medicine)
 N. Logan Leven (College of Medical Sciences—surgery)
 Stanley R. Maxeiner (College of Medical Sciences—surgery)

Clinical Instructor to Professorial Lecturer

Burton P. Grimes (College of Medical Sciences—psychiatry and neurology)

Assistant Professor to Associate Professor

LeRoy T. Anderson (Institute of Technology—electrical engineering)
 Francis S. Appel (General College—literature and writing)
 William C. Bell (College of Science, Literature, and the Arts—geology and mineralogy)
 George M. Briggs (College of Agriculture, Forestry, and Home Economics—poultry husbandry)
 James I. Brown (College of Agriculture, Forestry, and Home Economics—rhetoric)
 Josef Brozek (College of Medical Sciences—physiological hygiene)
 Edwin S. Cieslak (General College—biological science)
 John W. Clark (College of Science, Literature, and the Arts—English)
 Kenneth E. Clark (College of Science, Literature, and the Arts—psychology)
 Rex W. Cox (College of Agriculture, Forestry, and Home Economics—agricultural economics)
 Charles T. Duncan (College of Science, Literature, and the Arts—journalism)
 Roxana R. Ford (College of Education—home economics education)
 Richard G. Guilford (College of Science, Literature, and the Arts—social work)
 Albert C. Heine (Department of Agriculture—West Central School and Station)
 Frederick W. Hoffbauer (College of Medical Sciences—medicine)
 William S. Howell (College of Science, Literature, and the Arts—speech)
 John V. Irwin (College of Science, Literature, and the Arts—speech)
 James D. Kelly (Physical Education and Athletics)
 Milton F. Kernkamp (College of Agriculture, Forestry, and Home Economics—plant pathology and botany)
 Frederic J. Kottke (College of Medical Sciences—physical medicine)
 William Kubicek (College of Medical Sciences—physical medicine)
 Jean W. Lambert (College of Agriculture, Forestry, and Home Economics—agronomy and plant genetics)
 John M. MacGregor (College of Agriculture, Forestry, and Home Economics—soils)
 William A. McDonald (College of Science, Literature, and the Arts—classics)
 Charles H. McLaughlin (College of Science, Literature, and the Arts—political science)
 Warren G. Meyer (College of Education)
 Edward P. Ney (College of Science, Literature, and the Arts—physics)
 Eugene P. Pfeider (Institute of Technology—mining and metallurgy)
 Glenn I. Prickett (Department of Agriculture—agricultural extension)
 Jay H. Sautter (College of Agriculture, Forestry, and Home Economics—veterinary medicine)
 Alois R. Schmid (College of Agriculture, Forestry, and Home Economics—agronomy and plant genetics)
 Lyndell B. Scott (College of Science, Literature, and the Arts—social work)
 Robert N. Shoffner (College of Agriculture, Forestry, and Home Economics—poultry husbandry)
 Richard O. Sielaff (Duluth Branch—social studies)
 Olaf C. Soine (Department of Agriculture—Northwest School and Station)
 Frederick Swain, Jr. (College of Science, Literature, and the Arts—geology and mineralogy)
 Henry L. Taylor (College of Medical Sciences—physiological hygiene)
 Niels Thorpe (Physical Education and Athletics)

Paul R. Wendt (Audio-Visual Education and College of Education)
 John T. Wheeler (School of Business Administration)
 W. Lane Williams (College of Medical Sciences—anatomy)
 Marjorie U. Wilson (Physical Education for Women)
 Douglas H. Yock (School of Dentistry)

Clinical Assistant Professor to Clinical Associate Professor

John F. Briggs (College of Medical Sciences—medicine)
 Ejvind P. K. Fenger (College of Medical Sciences—medicine)
 Allan Hill, Jr. (College of Medical Sciences—pediatrics)
 Carl O. Rice (College of Medical Sciences—surgery)
 David Siperstein (College of Medical Sciences—pediatrics)
 Herman J. Wolff (College of Medical Sciences—medicine)

Lecturer to Associate Professor

Lyle J. Hay (College of Medical Sciences—surgery)
 Maude L. Lindquist (Duluth Branch—social studies)

Instructor to Associate Professor

Alvin F. Sellers (College of Agriculture, Forestry, and Home Economics—veterinary medicine)

Agricultural Agent—Instructor to Associate Professor

Leonard L. Harkness (Department of Agriculture—agricultural extension)

Associate Professor to Research Associate

Nordahl I. Onstad (Institute of Technology—electrical engineering)

Assistant Professor to Assistant Professor and Assistant Dean

Huntington Miller (General Extension Division)

Lecturer to Assistant Professor

Graham B. Hovey (College of Science, Literature, and the Arts—journalism)
 Stanley Schachter (College of Science, Literature, and the Arts—psychology)

Instructor to Assistant Professor

Donald Beatty (College of Science, Literature, and the Arts—history)
 Orville A. Becklund (Institute of Technology—electrical engineering)
 Emma M. Birkmaier (College of Education—University High School)
 John Bowditch (College of Science, Literature, and the Arts—history)
 Ernest B. Brown, Jr. (College of Medical Sciences—physiology)
 William S. Chalgren (College of Medical Sciences—neurology)
 Hendrik DeKruif (College of Medical Sciences—bacteriology)
 Guy Desgranges (College of Science, Literature, and the Arts—Romance languages)
 John Dettmann (Duluth Branch—social studies)
 Gertrude Esteros (College of Agriculture, Forestry, and Home Economics—home economics)
 Arnold M. Flikke (College of Agriculture, Forestry, and Home Economics—agricultural engineering)
 Kathleen S. Flom (Department of Agriculture—agricultural extension)
 Donald W. Freeman (College of Medical Sciences—obstetrics and gynecology)
 Watson B. Fulks (Institute of Technology—mathematics and mechanics)
 Thomas Ige (Duluth Branch—social studies)
 John L. Imhoff (Institute of Technology—industrial engineering)
 Gerald Hill (General College—general arts)
 Johanna Hognason (Department of Agriculture—School of Agriculture)
 Roy G. Holly (College of Medical Sciences—obstetrics and gynecology)
 Donovan A. Johnson (College of Education—University High School)
 Harry W. Johnson (Duluth Branch—professional education)
 Thelma Johnson (Duluth Branch—professional education)
 Robert M. L. Lindquist (Institute of Technology—mechanical engineering)
 Walter Loban (College of Science, Literature, and the Arts—general studies)
 Arthur Madden (Institute of Technology—chemical engineering)
 Osgood T. Magnusson (Department of Agriculture—agricultural extension)
 Mary Malcolm (College of Science, Literature, and the Arts—music)
 Gerald R. McKay (Department of Agriculture—agricultural extension)
 Earl E. Melby (Institute of Technology—mechanical engineering)
 Malcolm H. Myers (College of Science, Literature, and the Arts—art)
 Marguerite L. Paulsen (College of Agriculture, Forestry, and Home Economics—home economics)

- Edith M. Peterson (Duluth Branch—physical education)
 Robert A. Phillips (College of Agriculture, Forestry, and Home Economics—horticulture)
 Frank Polansky (Institute of Technology—mathematics and mechanics)
 Herman Ramras (College of Science, Literature, and the Arts—German)
 Marvin A. Sandgren (Institute of Technology—mechanical engineering)
 Lloyd Stein (Physical Education and Athletics)
 George Svendsen (Physical Education and Athletics)
 Florence Tenney (Physical Education for Women)
 Esther Y. Trammell (College of Agriculture, Forestry, and Home Economics—home economics)
 Gordon Voss (Duluth Branch—professional education)
 Gina Wangness (College of Science, Literature, and the Arts—German)
 Ward M. Wells (Duluth Branch—physical education)
 Dorothy Whitmore (College of Science, Literature, and the Arts—social work)
 Harold Wilson (College of Science, Literature, and the Arts—journalism)
 John R. Wolff (Institute of Technology—mechanical engineering)
- Clinical Instructor to Clinical Assistant Professor*
 William C. Bernstein (College of Medical Sciences—proctology)
 Ralph O. Christensen (School of Dentistry)
 Leo C. Culligan (College of Medical Sciences—surgery)
 Henry O. Einan (School of Dentistry)
 D. Greth Gardiner (College of Medical Sciences—surgery)
 Frederick W. Noble (School of Dentistry)
 William P. Sadler (College of Medical Sciences—obstetrics and gynecology)
- Clinical Instructor to Assistant Professor*
 Forrest H. Adams (College of Medical Sciences—pediatrics)

LEAVES OF ABSENCE, 1948-49

- T. Raymond McConnell, dean and professor, College of Science, Literature, and the Arts, sabbatical leave for the fall quarter, 1948-49, to study developments in higher education in English universities under a grant from the Carnegie Foundation and attend the second session of the General Conference on Higher Education of UNESCO in Holland.
- William L. Nunn, director, Department of University Relations, leave with salary, December 3-19, 1948, to serve as consultant on war plans to the Assistant Secretary of the Navy.
- Burton Paulu, manager, Station KUOM, sabbatical leave from August 2, 1948 to June 16, 1949, to work for Doctor's degree at New York University.
- Richard T. Arnold, professor of chemistry, sabbatical leave for 1948-49, for study and research in the Hochschule in Zurich, Switzerland, and in the Radiation laboratory at Berkeley, California.
- Francis M. Boddy, professor, School of Business Administration, sabbatical leave for 1948-49, to enter the U. S. Navy Russian School at Anacostia, D. C., for a concentrated course in the Russian language and upon the completion of this course to work on Russian materials in Washington, D. C., and at universities having special facilities and materials on Russian economics.
- Walter M. Boothby, professor of experimental metabolism, Mayo Foundation, leave without salary August 1, 1948 to June 30, 1949, for travel in Sweden.
- Raymond W. Brink, professor and chairman, Department of Mathematics, sabbatical leave for the spring quarter, 1948-49, for study and travel in France.
- Leo J. Brueckner, professor of education, leave without salary for the spring quarter 1948-49, to serve as visiting specialist for the War Department in Germany.
- Ralph D. Casey, professor and director, School of Journalism, sabbatical leave for the winter quarter, 1948-49, to work on a volume on contemporary newspaper problems and to complete a volume on political party propaganda.
- Harold C. Deutsch, professor of history, leave without salary for the fall quarter, 1948-49, to join the staff of the National War College in Washington, D. C., and to assemble material for a book on World War II.
- Ruth E. Eckert, professor and coordinator, College of Education, sabbatical leave for the spring quarter, 1948-49, to develop comprehensive study guides for courses in higher education and to write several journal articles summarizing research studies.

- Anne F. Fenlason, professor of social work, leave with salary for spring quarter, 1948-49, on account of illness.
- William F. Geddes, professor and chief, Division of Agricultural Biochemistry, leave with salary, September 16 to December 31, 1948, on account of illness.
- Ruth Harrington, professor and assistant director, School of Nursing, leave with salary, April 1 to September 16, 1949, on account of illness.
- Roy C. Jones, professor of architecture and advisory architect to the Board of Regents, leave with half salary, July 15 to September 15, 1948, on account of illness.
- G. Tremaine McDowell, professor of English, leave with salary for fall and winter quarters, 1948-49, on account of illness.
- Ernest S. Osgood, professor of history, sabbatical leave for 1948-49, to complete a work on a history of the American West.
- Walter T. Pattison, professor of Romance languages, leave without salary for 1948-49, to serve as visiting professor at the University of Wisconsin.
- William E. Petersen, professor of dairy husbandry, leave without salary, November 1 to December 31, 1948, to meet with dairy research workers in New Zealand, and to address various groups of dairy farmers in that country.
- Arthur J. Schwantes, professor and chief, Division of Agricultural Engineering, leave for 75 per cent time without salary and 25 per cent time with salary, October 1 to December 31, 1948, for half time without salary, January 1 to June 30, 1949, to do certain experimental work for the Ford Motor Company, the results of which will be needed when testifying as an expert witness in the forthcoming court case of H. G. Ferguson, Inc., vs. Ford Motor Company.
- Elvin C. Stakman, professor and chief, Division of Plant Pathology and Botany, leave with salary, November 20 to December 20, 1948, to join a party appointed by the National Academy of Sciences at the request of General MacArthur to study and report upon the rehabilitation and revitalization of Japanese education and science.
- David H. Willson, professor of history, sabbatical leave for 1948-49, to complete a book on a biography of James I. King of England and Scotland, time to be spent in Minneapolis and in the libraries in the East.
- Eric R. Bentley, associate professor of English, leave without salary for 1948-49, to accept a Guggenheim fellowship.
- William Dankers, associate professor-extension economist in marketing, Agricultural Extension Division, leave without salary, June 16 to August 31, 1949, to serve in the Export Food and Agricultural project in Wuerttemberg-Baden area in Germany (U. S. Zone).
- Monica K. Doyle, associate professor of social work, sabbatical leave for the spring quarter, 1948-49, to write a history of the School of Social Work at the University of Minnesota.
- William P. Dunn, associate professor of English, leave with salary, November 16 to December 15, 1948 and for the winter quarter, 1948-49, and with salary 12 per cent time, spring quarter, 1948-49, on account of illness.
- Margaret Filson, associate professor and director of nursing services, University of Minnesota Hospitals, leave without salary, October 16, 1948 to January 15, 1949, to serve as consultant for the Veterans Administration.
- Lester O. Gilmore, associate professor of dairy husbandry, leave for 50 per cent time without salary, May 1, 1948 to June 30, 1949, for research in dairy cattle breeding on a cooperative appointment with the Bureau of Dairy Industry, U. S. Department of Agriculture.
- David Glick, associate professor of physiological chemistry, leave with salary, May 1 to June 15, 1949, to accept a Commonwealth Fund travel fellowship to visit the Carlsberg laboratories in Copenhagen and the Carolina laboratories in Stockholm, to observe some of the newer techniques in histochemistry and cytochemistry.
- Gladstone B. Heisig, associate professor of inorganic chemistry, sabbatical leave for 1948-49 to study and do research in the laboratory of Dr. F. Feigl in the Laboratorio da Producao Mineral at Rio de Janeiro, Brazil.
- Ernest H. Henrikson, associate professor of speech and assistant director of the Speech Clinic, leave without salary June 16-30, 1949, to teach in the summer session of the University of Utah.
- Adelaide M. Johnson, clinical associate professor of psychiatry and neurology, leave without salary, January 1 to March 31, 1949, for personal reasons.
- Philip S. Jordan, associate professor, West Central School and Station, leave with salary, November 1 to December 4, 1948, and January 17 to March 31, 1949, on account of illness.

- Arthur J. Kittleson, associate professor—state leader 4-H Club in agricultural extension, leave with salary March 1 to June 30, 1949, on account of illness.
- Emilio C. LeFort, associate professor of Romance languages, sabbatical leave for 1948-49, to study in Latin America.
- Marie Lien, associate professor of art education, sabbatical leave for the winter and spring quarters of 1948-49, to complete research already started in art in all phases of American life; to collect materials to be used for teaching; and to study and write. Time to be spent at Columbia University.
- Clarence B. Lindquist, associate professor of science and mathematics, Duluth Branch, leave with salary March 7-19, 1949, to attend a training program for instructors at Great Lakes, Illinois.
- Helen M. Starr, associate professor of physical education for women, leave for 10 per cent time without salary for 1948-49, to assist the Minneapolis Board of Education in their health education program.
- Eugene Stolarik, associate professor of aeronautical engineering, leave with salary, September 16 to October 6, 1948, to attend the international engineering exhibition in London and visit educational centers in England and on the continent.
- Richard L. Varco, associate professor of surgery, continuation of leave without salary for 33 per cent time for 1948-49, to serve at the Veterans Hospital.
- Cornelia D. Williams, associate professor and counselor, General College, leave with salary, October 18-26, 1948, to serve on temporary selection and assignment duties for the Marine Corps; and without salary, June 16-30, 1949, to teach a course in pre-college counseling at New York University.
- Newell R. Ziegler, associate professor of bacteriology, leave without salary for 1948-49, on account of illness.
- Saul Bellow, assistant professor of general studies, leave without salary for 1948-49, to accept a Guggenheim fellowship.
- James I. Brown, assistant professor of rhetoric, Department of Agriculture, sabbatical leave for 1948-49, to study at the University of Colorado.
- Albert J. Burroughs, assistant professor of entomology and economic zoology, leave without salary, May 1, 1949 to July 15, 1950, for research on B-encephalitis for the U. S. Army, time to be spent in Japan.
- Mabel L. Culkin, assistant professor of language and literature, Duluth Branch, leave with salary, September 16 to November 15, 1948, and without salary, December 1-31, 1948, on account of illness.
- Ralph W. Dawson, assistant professor of zoology, sabbatical leave, spring quarter, 1948-49, to continue the collection and study of the genus *Serica* and to work in the various departments of entomology and zoology on material and local collections of those departments in the southwestern states.
- Louise T. Dossdall, assistant professor of plant pathology and botany, leave with salary, September 16 to December 31, 1948, on account of illness.
- Jackson K. Ehlert, assistant professor of fine and applied arts, Duluth Branch, sabbatical leave for 1948-49, to work on Doctor's degree at University of Texas.
- David V. Erdman, assistant professor of English, leave without salary, fall quarter, 1948-49, to finish up some work he had started as a Guggenheim fellow.
- Edmund B. Flink, assistant professor of medicine, sabbatical leave from September 1, 1948 to August 31, 1949, for study at the Harvard Medical School, the Peter Bent Brigham Hospital, and the Massachusetts General Hospital in Boston.
- Albert M. Fulton, assistant professor of speech, General Extension Division, leave without salary, July 1 to August 31, 1948, for a special consulting project with the Hudson Bay Company of Canada.
- Lewis B. Hessler, assistant professor of English, sabbatical leave, winter and spring quarters, 1948-49, to carry on a research project, "The Influence of Horace on English Light Verse," time to be spent at Albuquerque, New Mexico.
- Leonard S. Laws, assistant professor of mathematics and mechanics, sabbatical leave for 1948-49, to make a special study of college level teaching methods and to work on Doctor's degree at Michigan State College.
- Esther P. McKowen, assistant professor—district supervisor of home demonstration work, Agricultural Extension Division, leave without salary, July 1 to August 31, 1948, on account of illness.
- James B. McNulty, assistant professor—extension economist in farm management, Agricultural Extension Division, leave with salary, October 27 to November 30, 1948, on account of illness.

- Franz Montgomery, assistant professor of English, leave without salary for 1948-49, to accept an appointment as University Officer of the Military District of Hesse in Occupied Germany.
- Athelene H. Scheid, assistant professor-extension specialist in clothing, Agricultural Extension Division, leave without salary, May 9 to June 30, 1949, to care for her mother while ill.
- Bernard E. Youngquist, assistant professor, West Central School and Station, leave without salary, August 14, 1948 to June 30, 1949, for graduate work at the University of Minnesota.

LEAVES OF ABSENCE, 1949-50

- Howard L. Horns, assistant dean and assistant professor of medicine, Medical School, leave without salary, July 1 to December 31, 1949, to serve as director of the Radioisotope unit of the Minneapolis Veterans Hospital.
- John E. Anderson, director and professor, Institute of Child Welfare, leave without salary, July 1 to August 15, 1949, to accept a position as visiting professor at the University of California at Los Angeles, for the 1949 summer session.
- Ernst C. Abbe, professor of botany, sabbatical leave for fall quarter, 1949-50, to complete for publication two major research projects involving study at Harvard University.
- Clara B. Arny, professor of home economics education, leave without salary, winter and spring quarters, 1949-50, to revise a book entitled "Evaluation and Investigation in Home Economics."
- Bryng Bryngelson, professor of speech and director, Speech and Hearing Clinic, leave without salary, January 16 to June 15, 1950, to take charge of the speech clinic at the University of Florida.
- Ralph D. Casey, professor and director, School of Journalism, sabbatical leave for the spring quarter, 1949-50, to complete writing a book on contemporary newspaper problems.
- Jonas J. Christensen, professor and acting chief, Division of Plant Pathology and Botany, leave with salary, March 1 to April 30, 1950, and without salary, June 1-30, 1950, to analyze and evaluate the disease problem in production and storage of food crops in Japan for the United States government.
- Strathmore R. B. Cooke, professor of mines and metallurgy, leave with salary, September 16 to October 15, 1949, to visit parents who are in ill health in New Zealand.
- Richard M. Elliott, professor and chairman, Department of Psychology, sabbatical leave, spring quarter, 1949-50, for professional reading, with visits to a number of universities in the United States.
- Herbert Heaton, professor of history, sabbatical leave, winter and spring quarters, 1949-50, to visit Australia for the study of recent economic developments and to complete research work on Anglo-American trade 1770-1850 by examination of materials in Great Britain.
- Clifford Kirkpatrick, professor of sociology, sabbatical leave, 1949-50, to investigate recent sociological literature and to complete a book on the "Social Psychology of Family Relationships."
- August C. Krey, professor and chairman, Department of History, leave with salary, December 16, 1949 to February 15, 1950, on account of illness.
- John H. Kuhlmann, professor of electrical engineering, leave without salary, January 1 to December 31, 1950, to serve as visiting professor at University of Sao Paulo, Brazil.
- Howard P. Longstaff, professor of psychology, leave without salary, fall quarter, 1949-50, to teach psychology of advertising and psychology of personnel at the University of Washington.
- Frank H. MacDougall, professor and chief, Division of Physical Chemistry, leave with salary, winter quarter, 1949-50, on account of illness.
- Paul E. Miller, professor and director, Agricultural Extension Division, leave without salary, February 16 to May 15, 1950, to serve on a three-man commission from the United States to survey the agricultural education in the Marshall Plan countries.
- Lowry Nelson, professor of rural sociology, leave without salary, spring quarter, 1949-50, to accept a visiting professorship in sociology at the University of Utah.
- William M. Sandstrom, professor of agricultural biochemistry, leave with salary, November 21 to December 31, 1949, and from April 17 to May 15, 1950, on account of illness.
- Dora V. Smith, professor of education, leave for 50 per cent time without salary, spring quarter, 1949-50, to work on the Carnegie Report and to edit the manuscript for volume one of the Commission on Vocational and Higher Education.

- John T. Tate, research professor of physics, leave with salary, winter and spring quarters, 1949-50, on account of illness.
- Edgar B. Wesley, professor of education, sabbatical leave, 1949-50, to prepare a report on "Social Studies in Newspapers."
- C. Gilbert Wrenn, professor of education, leave with salary, March 16 to April 30, 1950, on account of illness.
- Eric R. Bentley, associate professor of English, continuation of leave without salary, 1949-50, to do research work in Europe.
- Ralph F. Berdie, associate professor of psychology and director, Student Counseling Bureau, leave without salary, August 8-26, 1949, to teach at Harvard University.
- William H. Dankers, associate professor-extension economist in marketing, Agricultural Extension Division, continuation of leave without salary, September 1, 1949 to October 31, 1950, to continue to serve in Germany.
- Robert M. Douglass, associate professor-state leader program planning and coordination, Agricultural Extension Division, military leave with salary, July 11-23, 1949.
- Monica K. Doyle, associate professor of sociology, full-time leave with half salary, 1949-50, on account of illness.
- Elizabeth Jackson, associate professor of English, sabbatical leave for 1949-50, to finish a book of essays on contemporary poetry and prepare for publication some miscellaneous articles.
- Milton F. Kernkamp, associate professor of plant pathology and botany, military leave with salary, July 11-22, 1949.
- Marie Lien, associate professor of art education, continuation of sabbatical leave, fall quarter, 1949-50, to conduct research in Scandinavian institutions and educational organizations in Stockholm, Sweden and Oslo, Norway.
- William J. Micheels, associate professor of industrial education, full-time leave with 17 per cent salary, fall quarter, 1949-50, to serve as visiting expert for training of a demonstration school staff in Bavaria under the auspices of the War Department.
- William E. Morris, associate professor-extension animal husbandman, Agricultural Extension Division, leave with salary, November 11, 1949 to January 31, 1950, on account of injury.
- Joseph C. Olson, Jr., associate professor of dairy husbandry, military leave with salary, July 9-24, 1949.
- Dorothea F. Radusch, clinical associate professor, School of Dentistry, leave without salary, September 16 to October 15, 1949, for vacation.
- Lyndell Scott, associate professor of sociology, leave without salary, 1949-50, for work on Doctor's degree at the University of Chicago.
- Roderick W. Siler, associate professor of mathematics and mechanics, leave with salary, winter quarter, 1949-50.
- Lucy A. Studley, associate professor of home economics, leave with salary, May 16 to June 15, 1950, on account of illness.
- Alice F. Tyler, associate professor of history, sabbatical leave, spring quarter, 1949-50, for rest and travel.
- Richard L. Varco, associate professor of surgery, continuation of leave for 33 per cent time without salary, 1949-50, to continue to serve at Veterans Hospital.
- Newell R. Ziegler, associate professor of bacteriology, continuation of leave without salary, September 15 to December 31, 1949, on account of illness.
- W. Donald Beatty, assistant professor of history, leave without salary, 1949-50, to accept a Henry L. and Grace Doherty Foundation, Inc., traveling fellowship in Chile.
- Albert J. Burroughs, assistant professor of entomology and economic zoology [see 1948-49 leaves].
- Ralph W. Dawson, assistant professor of zoology, sabbatical leave, spring quarter, 1949-50, to continue the collection and study of the genus *Serica* and to work in the various departments of entomology and zoology on material and local collections of those departments in the southwestern states.
- Margaret F. Grainger, assistant professor, School of Nursing, leave without salary, August 1 to September 4, 1949, for personal reasons.
- Wayne H. Hanson, Houston county agricultural agent-assistant professor, Agricultural Extension Division, sabbatical leave, November 8, 1949 to March 16, 1950, to finish work on Master's degree.
- J. Francis Hartmann, assistant professor of anatomy, leave with salary, winter quarter, 1949-50, to be spent at Massachusetts Institute of Technology for work in the technique of the electron microscope.

- Thomas H. King, assistant professor of plant pathology, military leave with salary, July 11-22, 1949.
- Franz J. Montgomery, assistant professor of English, continuation of leave without salary, 1949-50, for a federal civil service appointment in Germany.
- Mary Turpie, assistant professor of English, leave with salary, October 5 to December 15, 1949, on account of illness.
- Eves E. Whitfield, assistant professor-extension specialist in clothing, Agricultural Extension Division, leave with salary, July 14 to August 31, 1949, and without salary, September 1 to October 5, 1949, on account of illness.

DEATHS

With deep regret and a profound sense of personal loss the following deaths are recorded during the biennium:

- Carlotta M. Brown, instructor emeritus of home economics, July 19, 1948.
- Jennings C. Litzenberg, professor emeritus of obstetrics and gynecology, August 15, 1948.
- Andrew B. Rivers, associate professor of medicine, Mayo Foundation, October 3, 1948.
- Alfred F. Hoff, clinical associate professor of medicine, October 9, 1948.
- William H. Emmons, professor emeritus of geology and mineralogy, November 5, 1948.
- Alphonse E. Walch, clinical assistant professor of medicine, November 14, 1948.
- Adolph Ringoen, professor of zoology, January 13, 1949.
- Harry F. Bayard, clinical instructor in surgery, January 13, 1949.
- Kenneth T. Setre, instructor, School of Business Administration, January 23, 1949.
- William A. Plummer, associate professor of medicine, Mayo Foundation, March 22, 1949.
- Peder L. Johnsrud, assistant professor, School of Agriculture, April 5, 1949.
- Walter C. Popp, assistant professor of radiology, Mayo Foundation, June 4, 1949.
- Nellie Gorgas, lecturer, School of Public Health, June 4, 1949.
- Lillian Cohen, associate professor emeritus of chemistry, June 5, 1949.
- James Sterling Gilfillan, professor emeritus of medicine, June 13, 1949.
- Carl Oscar Flagstad, clinical professor, School of Dentistry, June 16, 1949.
- Charles A. Mann, professor and chief, Division of Chemical Engineering, June 25, 1949.
- Edward E. Nicholson, dean of student affairs emeritus, June 28, 1949.
- Arthur J. Kittelson, associate professor emeritus—state leader 4-H club work, Agricultural Extension Division, July 1, 1949.
- William H. von der Weyer, clinical instructor in surgery, July 26, 1949.
- Walter H. Peters, professor and chief, Division of Animal Husbandry, August 8, 1949.
- Walter E. Camp, clinical assistant professor of ophthalmology and otolaryngology, September 5, 1949.
- C. Anderson Aldrich, professor of pediatrics, Mayo Foundation, September 6, 1949.
- Norman R. Schneidman, clinical instructor in medicine, September 16, 1949.
- Isaac W. Geiger, associate professor emeritus of chemistry, September 24, 1949.
- George R. Dunn, clinical assistant professor of surgery, December 11, 1949.
- John C. McKinley, professor emeritus of neuropsychiatry, January 3, 1950.
- William H. Richards, assistant professor emeritus of mechanical engineering, January 14, 1950.
- Edward G. Cheyney, professor emeritus of forestry, January 21, 1950.
- Wilbur H. Cherry, professor of law, February 21, 1950.
- Frederic B. Garver, professor of economics, February 22, 1950.
- James K. Anderson, clinical associate professor of surgery, March 28, 1950.
- Everett K. Geer, clinical assistant professor of medicine, May 5, 1950.
- John T. Tate, research professor of physics, May 27, 1950.
- Duma C. Arnold, clinical instructor in obstetrics and gynecology, June 12, 1950.
- John P. Schneider, clinical associate professor emeritus of medicine, June 15, 1950.
- Monica Keating Doyle, associate professor of social work, June 17, 1950.
- Archibald E. Cardle, clinical assistant professor of medicine, June 23, 1950.

HONORS AND DISTINCTIONS

Administration—Walter C. Coffey, president emeritus, was elected chairman, Board of Trustees, Hamline University, 1949.

Guy S. Ford, president emeritus, was elected president, 1949, and senator-at-large, 1949, Phi Beta Kappa Council.

James Lewis Morrill was awarded the honorary degree, L.H.D., by Muhlenberg College, 1949; and the honorary degree, LL.D., by Carleton College, 1950. He served as general chairman, Governor's State-wide Conference on Youth, 1948; chairman, National Advisory Committee on the Study of Social Work Education, 1948—; member, Minnesota State Art Society, 1948—; member, Board of Trustees, the Minneapolis Foundation, 1949-50; member, Cleveland Conference, 1949—; member, Education Committee, United Negro College Fund, Incorporated, 1949—; member, Board of Trustees, Ames Library of South Asia, 1949—; member, Executive Committee, National Association of State Universities, 1949-50; member, Editorial Advisory Board, *Journal of Higher Education*, 1949—; member, State Campaign Committee, Minnesota Division, American Cancer Society, 1949-50; member, College of Electors, Hall of Fame, New York University, 1949—; member, Board of Trustees, Minnesota Medical Foundation, 1949—; honorary chairman, Boys' State Committee, the American Legion, Department of Minnesota, 1949-50; member, State Commission on Vocational and Higher Education, 1949—; member, National Commission on Accrediting, 1950; chairman, American Council on Education, 1950; member, Advisory Council of the National Fund for Medical Education, 1950; general chairman, Minneapolis Armed Forces Day Committee, 1950; honorary chairman, Second Governor's State Conference on Youth, 1950. He was made honorary life member, University of Minnesota Alumni Association, 1949.

Academic Administration—Malcolm M. Willey served as a member, Commission on Higher Education, and member, Board of Review, North Central Association of Colleges and Secondary Schools; member, Committee on Organization for Research and Advisory Committee, Public Library Inquiry, both of the Social Science Research Council. He was elected to the Board of Directors, Social Science Research Council in January, 1950. He was appointed to membership on the Committee on Human Resources of the Conference Board of the Associated Research Councils, and is a member of one of six Scientific Advisory Committees under the National Selective Service System. Since March, 1950, he has served on the Committee on Faculty Research Fellowships, Social Science Research Council. He is contributing editor, *Long Island Forum*.

Office of the Dean of Students—Henry E. Allen served as a member, Governor's Interracial Commission; as Board member, Minneapolis Church Federation; and as a member, Executive Committee, Minneapolis Round Table of Christians and Jews.

Ralph F. Berdie was elected to Phi Delta Kappa, 1950. He served as a member, Research Committee, American College Personnel Association, 1948-50; as executive secretary, Minnesota Psychological Association, 1948-50; and was consultant on selection problems for the Twin City Investment and Security Business, 1949-50.

B. James Borreson was a member of the subcommittee, Committee on Student Personnel Work, American Council on Education, 1948-50; and was a panel member of the Governor's Youth Conference.

Viola May Brandon was elected honorary member of Mortar Board, University of Minnesota.

Ernest H. Henrikson was elected president, Minnesota Speech Clinicians Association for 1949-50; and was elected executive vice-president, American Speech and Hearing Association, 1950. He served on the Committee on Constitutional Revision, American Speech and Hearing Association, and on the Committee for Evaluation of Speech Psychologists, State Civil Service Board. He was assistant editor, *Journal of Speech and Hearing Disorders*, 1948-50.

Vivian H. Hewer served as treasurer, Minnesota Psychological Association, 1948-50. She was elected Diplomat, American Board of Examiners in Professional Psychology, 1950.

Walter O. Jewell served as university delegate, Governor's Second State Conference on Youth, and was a member, Publicity and Promotions Committee for the *Personnel-O-Gram* (monthly newsletter), American College Personnel Association.

Theron A. Johnson served with the Education Branch, U. S. Military Government in Germany, 1948-50. He was appointed chairman, International Relations Committee, American College Personnel Association, 1950.

John E. Kinsala was co-editor of the *Minnesota Counselor*, 1948-49.

Frank M. Lassman served as a member of the Evaluating Committee in Speech Pathology, State Civil Service Board; as a member, Committee to Study Aid for the Pre-school Deaf Child, Hennepin County Welfare Agencies, 1950-51.

Wilbur Layton was elected to Phi Delta Kappa in 1949. He served on the Minnesota State Civil Service Examining Board, 1950.

Forrest G. Moore served as a member, Board of Directors, National Association of Foreign Student Advisers, 1948-50; and as a member of its Executive Committee in 1949-50. He was a member of the subcommittee, Committee on Student Personnel Work for the American Council on Education, which was responsible for editing the brochure on "Counseling Foreign Students, 1948-50."

Paul H. Ptacek was a member of the Committee for the Evaluation of Speech Pathologists, State Civil Service Board.

George B. Risty served as consultant for the Tozer Foundation, Inc., 1948-50. He was a member of the Sears Roebuck Scholarship Committee, 1948-50.

Martin L. Snoke was elected vice-president of Eta Chapter, Phi Delta Kappa, 1949-50.

A. W. Tamminen was co-editor of *Minnesota Counselor*, 1948-50. He was elected to membership in Phi Delta Kappa, 1949.

Edmund G. Williamson served as chairman, Committee on Student Personnel Work, American Council on Education; chairman, Naval Scientific Personnel Advisory Committee, 1948-50; member, Committee on Accreditation of Service Experiences, 1948-49; and chairman, Committee on High School and College Relations, Association of Minnesota Colleges, 1948-50. He was the educator member, Minnesota State NROTC Committee, and a member, Committee on Intraprofessional Relationships, American Psychological Association, 1949-50.

David B. Wine served as co-editor of *Minnesota Counselor*, 1948-49. He was elected to Psi Chi, 1950.

University of Minnesota Press—Margaret S. Harding served as a member of the National Commission on Children and Youth. She was elected vice-president and member of the Executive Board, Association of American University Presses, 1950.

Jane E. McCarthy was the recipient of an award of the American Institute of Graphic Arts for the design of the *American Quarterly*. She was a consultant on printing for the State Board of Health.

University Library—Errett W. McDiarmid served as a member, Executive Board, 1949-50, and as president, 1948-49, American Library Association; and as member, Advisory Committee, Association of Research Libraries, 1948-50.

Harold G. Russell served as chairman, Committee on New Reference Materials, Association of College and Research Libraries, 1948-50.

Raymond H. Shove served as chairman, Serials Committee, American Library Association, 1948-50; and as member, Committee on the Reproduction of War Issues of Periodicals, Association of Research Libraries, 1948-50.

Wesley Simonton was a member, Special Committee on Personnel, Division of Cataloging and Classification, American Library Association, 1949-50. He was elected vice-president (president-elect), Twin City Catalogers' Round Table, 1949-50.

Edward B. Stanford was named chairman, Board on Personnel Administration, 1948-50; and served as a member of the Council, American Library Association, 1948-50.

Alumni Relations—Edwin L. Haislet served as consultant and chairman, Resolutions Committee, Governor's Youth Conference; member, Physical Education Committee, North Central Area Council, YMCA; member, State Sponsoring Committee, Minnesota Hi-Y Youth and Government Program; member, Honorary Recreation Consultant Team, Division of Public Institutions, State of Minnesota; and chairman, Governor's Advisory Committee on Recreation.

Coffman Memorial Union—G. Ray Higgins served as regional adviser for Minnesota, North Dakota, South Dakota, and Manitoba, National Association of College Unions, and was chairman of the regional meeting, Association of College Unions.

Hans Hopf was a member, Executive Committee, Central U. S. Ski Association.

Concerts and Lectures—James S. Lombard served as executive secretary, International Platform Association, and was named a member of the Advisory Council, White House Conference on Youth.

Museum of Natural History—Walter J. Breckenridge served as chairman, State Bird Commission, 1949-50; as second vice-president, 1948-49 and as first vice-president, 1950, Wilson Ornithological Club (national). He was invited by the National Audubon Society to give a series of 43 popular lectures through central and western United States, 1948-49 and 1949-50. He aided in the preparation of the civil service examination for ornithologists, U. S. Public Health Service.

Harvey L. Gunderson served as vice-chairman, State Bird Commission, 1949-50. He was elected president, Minnesota Ornithologists' Union for 1949-50, and was regional editor on ornithological reports for the U. S. Fish and Wildlife Service and the National Audubon Society, 1948-50.

Donald K. Lewis served as secretary to the Minnesota Academy of Science, 1949-50; and was editor of the *Proceedings*, Minnesota Academy of Science, Volumes 13, 14, and 15.

Dwain W. Warner was editor of *The Flicker*, 1948-50, a publication of the Minnesota Ornithologists' Union. He was a member, Research Grant Committee, and Library Committee, Wilson Ornithological Club. He aided in the preparation of the examination for game wardens, Minnesota Civil Service Commission; and in the preparation of the civil service examination for ornithologists, U. S. Public Health Service.

Admissions and Records—Ellsworth M. Gerritz served as president, Eta Chapter, Phi Delta Kappa, 1948-49.

Clara H. Koenig served as president, Upper Mid-West Regional Association of Collegiate Registrars and Admissions Officers, 1950; and was secretary, Alpha of Minnesota Phi Beta Kappa, 1950.

True E. Pettengill served as chairman, Committee on Special Projects, and as member, Executive Committee, Upper Midwest Association of Collegiate Registrars; and as member, Committee on Validation of Diplomas, American Association of Collegiate Registrars and Admissions Officers.

University Relations—William L. Nunn served as director of all (public relations) seminar groups held at the annual meeting of the American College Public Relations Association, University of Michigan, June, 1950; was elected director-at-large, American College Public Relations Association, 1950; was elected to membership in Public Relations Society of America; was elected for three-year term as director, Family and Children's Service of Minneapolis, 1950; and was named chairman, committee of the City of Minneapolis to examine, interview, and score applicants for the position of chief of the Minneapolis Fire Department and recommend to the City Council the name of the applicant to be appointed.

Business Administration—Laurence R. Lunden was elected secretary, 1948-50, and vice-president, 1950, Central Association of College and University Business Officers. He was a member of the Governor's Advisory Committee on Investment of State Trust Funds, 1950; a member of the Committee on Commerce and Utilities, Efficiency in Government Commission, 1950; and served as chairman of the joint committee of business officers, Association of Land-Grant Colleges and Universities and the National Association of State Universities, 1948-50.

William T. Middlebrook was named chairman, Committee on Relations with the Federal Government, Inter-Association of Business Officers. He was named vice-chairman, Board of Directors, and a member, Executive Committee, Midwest Inter-Library Corporation.

Hedwin C. Anderson was elected vice-president, College and University Personnel Association, 1950.

College of Science, Literature, and the Arts—Ernst C. Abbe was editor, *Plant Science Series*, Prentice-Hall Co. He was elected president, Minnesota Chapter of Sigma Xi, 1948-49; and was a charter member, Arctic Institute of North America. He was awarded a research grant by Rockefeller Foundation, 1947-49.

Harold B. Allen served as a member, Editorial Advisory Board, *American Speech*, 1948-50.

William Anderson served as a member, Governor's Advisory Committee on Constitutional Revision; member, Advisory Committee, U. S. Census Bureau, Division of Governments; member, Advisory Committee, Public Administration Clearing House; and member, Council, National Municipal League.

H. Harvard Arnason served as a member, Board of Governors, Minnesota State Art Society; member, Board of Directors, Walker Art Center, 1950; and President, Mid-western College Art Association, 1949-50.

Bernard P. Arnest was elected president, Twin Cities Chapter, National Artists Equity Association.

Francis B. Barton was awarded *Palmes Académiques* (Officier d'Académie), 1949 and *Légion d'Honneur* (Chevalier), 1950, by the French Government.

W. Donald Beatty was recipient of a Doherty Fellowship for a year's study in Latin America, 1949-50.

W. Charles Bell served as secretary-elect, 1949-50, Sigma Xi.

Glen G. Blanche was elected a member, American Academy of Political and Social Science, 1949.

Raymond W. Brink was elected secretary, Section A, Mathematics, American Association for the Advancement of Science; and served on the Joint Committee on Places of Meeting, American Mathematical Society and Mathematical Association of America, 1949-50.

May Brodbeck was advisory editor, *Philosophical Studies*. She was selected to give an address at the national meeting, American Philosophical Association, 1949.

Jan O. M. Broek served as a member, Advisory Editorial Board, *The Far Eastern Quarterly*, 1950; member, Subcommittee on Political Geography, Committee on Centennial Studies, 1949, and member, Committee on Honors, 1950, Association of American Geographers; and member, Editorial Board, (Dutch) *Journal of Economic and Social Geography*, since 1947.

Allan H. Brown was recipient of a Rockefeller Foundation research grant for radioactive research, 1948-50.

Huntington Brown served as president, Board of Trustees, Northrop Collegiate School for Girls, 1948-49.

J. William Buchta was elected president, American Association of Physics Teachers. He served as a member, Pre-Doctoral Fellowship Board, National Research Council; editor, *Reviews of Modern Physics*; and assistant editor, *Physical Review*.

Albert L. Burroughs was selected by the U. S. Army to study the mosquito-transmitted Japanese summer encephalitis in Japan, 1949-50. He was the recipient of a U. S. Public Health Service research grant for the study of Western equine encephalitis in Minnesota, 1948.

Alfred L. Burt was elected fellow, Royal Historical Society. He was elected president, Canadian Historical Association, and served as a member, Canadian-United States Committee on Education.

Robert H. Cameron served on Board of Governors, Mathematical Association of America, 1950.

Theodore Caplow was awarded a Fulbright Visiting Lectureship in Sociology, University of Bordeaux, France, 1950.

Ralph D. Casey served as a member, Technical Needs Commission, UNESCO, meeting in Paris, August, 1948; and member, American Council on Education for Journalism.

F. Stuart Chapin was named to the Advisory Editorial Board, *International Journal of Opinion and Attitude Research* (Mexico).

Mitchell V. Charnley served as chairman, National Council on Radio Journalism, 1948-49; and as a member, Board of Directors, Northwest Radio News Association, 1950.

Asher N. Christensen served as a member, Advisory Committee on Exchange of Students with Latin America, U. S. State Department; member, Regional Interviewing Committee for Interchange of Teachers between United States and Foreign Countries, U. S. Office of Education; member, Committee for American Graduate Schools, Denmark; member, Latin American Committee, and Committee on the Introductory Course, American Political Science Association; and editor, Government Section, *Handbook of Latin-American Studies*, sponsored by American Council of Learned Societies.

Kenneth E. Clark was a member, Executive Council, Minnesota Psychological Association.

Russell M. Cooper served as a member, Commission on Research and Service, 1948-50, and chairman, Committee on Liberal Arts Education, 1948-50, North Central Association of Colleges and Secondary Schools; secretary, Conference on Preparation of College Teachers, U. S. Office of Education and the American Council on Education, 1949; and member, Committee on Intermediate Examinations, College Entrance Examination Board, 1949-50.

William S. Cooper was named fellow, Arctic Institute of North America.

Charles L. Critchfield was consultant to Los Alamos Laboratory, and served as University of Minnesota representative on the Council of Participating Institutions, Argonne National Laboratory.

A. Orville Dahl served as a member, Pollen Committee, American Academy of Allergy. He was recipient of a research grant for embryo culture, *St. Paul Dispatch*.

Harold C. Deutsch was named director of studies at National War College, fall semester, 1948. He served as a member, Conference Board, Associated Research Council; member, editorial board, *Journal of Modern History*, since 1948; member, advisory board, Phi Alpha Theta, honorary history fraternity.

Norman J. DeWitt served as editor, *The Classical Journal*, 1948-50. He was named member, Executive Committee, American Classical League, 1950; and consultant, Coronet Instructional Films, 1950.

Monroe D. Donsker served as consultant, research staff, Institute for Numerical Analysis, National Bureau of Standards, 1949.

Allen Downs was recipient of a research grant for a film on design, June, 1950. His work was exhibited in Albright Art Gallery, fall, 1949; Walker Art Center, winter, 1949. He had work published in U. S. Camera Magazine, 1949; and in American Photography, January and April, 1950.

Charles T. Duncan was elected national treasurer, Kappa Tau Alpha, 1950.

Dorothy T. Dyer served as a member, Governor's Youth Conference Panel, 1949-50; member, Board of Directors, National Council on Family Relations, 1950; chairman, National Committee on Education for Marriage and Family Life in the Colleges, 1950; consultant for a Pilot Study, St. Paul schools; member, Committee on Education, Council of Human Relations, St. Paul, 1950; secretary, Minnesota State Council on Family Life, 1950.

Jane Dyer was a member, Case Work Practice Committee, American Association of Medical Social Workers, 1948-50.

Samuel Eddy was named fisheries research consultant to North Dakota Department of Game and Fish, 1948-49; and consultant for Reserve Mining Company and Minnesota Department of Conservation on study of location of taconite plant on Lake Superior, 1948. He was elected to James Millikin University Chapter of Phi Kappa Phi, 1949. He served as external examiner for Department of Zoology, University of Manitoba, 1949.

Lorenz E. A. Eitner was recipient of the Jacobus Fellowship, Princeton University, 1948-49; Belgian-American Foundation (Hoover Commission) Fellowship, 1949; and of the Spears Fund research grant, Princeton University, 1949-50.

Richard M. Elliott served as a member, Committee on Academic Freedom and Civil Liberties, American Psychological Association; and member, Hennepin County Community Chest and Council.

Edwin Emery was winner of the Sigma Delta Chi Award for Research in Journalism, 1949.

David V. Erdman was elected a member, Advisory and Nominating Committee, English IX (Wordsworth and His Contemporaries), The Modern Language Association of America, 1949; served on Bibliography Committee, 1948-50, as "reviewer-specialist" for Blake and Byron items in the annual selective and critical bibliography of the Romantic Movement, published by *Philological Quarterly*; and served as occasional editorial consultant for publications of the Modern Language Association and the University of Chicago Press.

Herbert Feigl was elected fellow of the American Association for the Advancement of Science, 1948. He served as a member, Board of Trustees, Institute for the Unity of Science, 1949, American Academy of the Arts and Sciences; as co-editor, *Philosophical Studies*; associate editor *Philosophy of Science* and *International Encyclopedia of Unified Science*. He participated by invitation in a symposium in the *Revue Internationale de Philosophie*, Bruxelles, Belgium, January, 1950.

Donald N. Ferguson was elected to Phi Beta Kappa, 1949.

Jacques A. Fermaud served as a member, National Executive Council, American Association of Teachers of French; member, Société des Professeurs Français en Amérique; member, National Federation of Modern Language Teacher Associations; member, French Folklore Society; member, Committee on International Cultural Cooperation, Modern Language Association of America; and membre correspondant, Société d'Etude du XVIIe Siècle (Paris). He was awarded Palmes Académiques (Officier d'Académie), 1948 by the French Government. He served as Consular Agent for France.

George D. Freier was elected to Sigma Xi.

Albert W. Frenkel was awarded the Lalor Research Fellowship at Woods Hole Marine Biological Station, 1949; and was the recipient of a Rockefeller research grant, 1948-50.

Earl R. George was winner of the composer's prize, offered by the National Federation of Music Clubs, 1950.

J. Edward Gerald was elected vice-president, American Association of Teachers of Journalism, 1949. He was the winner of the Sigma Delta Chi Award for Research in Journalism, 1948; and served as director, Minneapolis *Star* Public Affairs program, 1949.

Kenneth L. Graham was elected president, Minnesota Association of Teachers of Speech, 1948-50. He was a member, Language Arts Curriculum Planning Committee,

1949-50, Minnesota State Board of Education; Executive Committee, 1949-50, American Educational Theatre Association's National Children's Theatre; Executive Committee, 1948-50, Central States Speech Association; and chairman, Local Planning Committee, Sixth Annual Children's Theatre Conference, University of Minnesota, 1950.

Neal Gross was awarded a postdoctoral fellowship, Social Science Research Council, 1948. He served as consultant, St. Paul Council of Arts, 1950.

John W. Gruner was elected president, Mineralogical Society of America, 1948-49; and vice-president, Geological Society of America, 1949-50. He served as councilor, Mineralogical Society of America, 1949-50; director of project for Atomic Energy Commission, 1949-50; and director of project for U. S. Army Signal Corps Laboratories, 1948-50.

Richard G. Guilford served as consultant, Minnesota State Civil Service Board; the State Merit System of Minnesota, Division of Social Welfare; and the Minneapolis Civil Service Commission, 1948-50; vice-chairman, Midwest Regional Conference, Child Welfare League of America, 1949-50; member, Governor's Advisory Council on Youth, State of Minnesota, 1948-50; and first vice-president, Minnesota State Conference of Social Work, 1950.

Marguerite Guinotte was awarded the Palmes Académiques by the French Government, 1950.

Alrik Gustafson was elected foreign member to Vetenskaps societeten i Lund (The New Society of Letters at Lund, Sweden), 1948; to corporate membership in the American National Theatre and Academy, 1949; and associate editor of *Symposium*, a journal devoted to modern foreign languages and literatures. He represented American academic and theatrical life as guest of Strindbergsällskapet and Svenska Institutet för kulturellt utbyte med utlandet on the occasion of the Centennial of Strindberg's birth, Stockholm, January, 1949. During the past few years he has served as officer and member of various committees in the Scandinavian section, Modern Language Association of America. He was awarded the so-called "Pioneer Medal" by Gustaf V, King of Sweden, in connection with the centenary celebration of Swedish immigration to America, 1949.

Clifford I. Haga served as adviser and editor for Voluntary Naval Reserve Research Unit 9-6, 1950.

Agnes Hansen was elected national treasurer, Sigma Delta Epsilon, 1949-50.

Herbert Heaton was elected president, Economic History Association, 1948-50; secretary, Committee on Research in Economic History, Social Science Research Council, 1948-50; and secretary, Committee on Research on Economic History, Incorporated, 1950.

Ernest H. Henrikson served as a member of Committee on Constitutional Revision, Speech and Hearing Association of America, 1949-50; assistant editor, *Journal of Speech and Hearing Disorders*, 1948-50; executive vice-president, Speech and Hearing Association of America, 1950.

William T. Heron was assistant editor, *Journal of Comparative and Physiological Psychology*.

Edward L. Hill was managing editor, *American Physical Society*, and editor, *Physical Review*; and was associate editor, *American Journal of Physics*, 1948-50.

Paul L. Holmer was a member, Central Committee of National Council on Religion in Higher Education, 1949-50; and was elected secretary, Swenson-Kierkegaard Memorial Committee, 1949-50 (which gives annual scholarship for study of Kierkegaard). He was asked to read a paper at the Western Division of the American Philosophical Association, May, 1950; and also at the National Council on Religion in Higher Education, meeting at Allegheny College, August, 1950.

Theodore Hornberger served as a member, College Section Committee, National Council of Teachers of English, 1948-50.

John Hospers served as advising editor, *Philosophical Studies*.

Tom Bard Jones was elected secretary-treasurer, Minnesota Society, Archeological Institute of America.

Philip D. Jordan served as director, History of Public Health in Minnesota, under grant from Mayo Properties Foundation; as research associate, Minnesota Historical Society; as consultant, St. Paul Public Library; as director, National Conference Folklore for Youth; and as director, American Folk Arts Foundation, Incorporated.

Gerhard K. Kalisch was appointed a member, Committee on Scholarships, Mathematical Association of America.

George R. Keepin, Jr., served as consultant to Los Alamos Scientific Laboratory. He held Atomic Energy Commission post-doctoral fellowship at Radiation Laboratory, University of California, Berkeley.

Blanche C. Kendall was national program counselor and yearbook chairman, Sigma Alpha Iota, professional music fraternity. She was elected secretary-treasurer, Minnesota Music Teachers' Association.

John C. Kidneigh served as a member, Membership Committee, American Association of Social Workers, 1948-49; consultant, State Department of Public Welfare, State of Louisiana, 1949; specialist, social work administration, National Conference for Psychiatric Social Work, 1949; consultant on examinations of social work positions, Minnesota State Civil Service Board, 1948-50; national president, American Association of Schools of Social Work, 1949-50; vice-president, International Committee on Schools of Social Work, International Conference of Social Work, 1950; and chairman, Administration Section, National Conference of Social Work, 1950.

Gisela Konopka served as specialist on group work, National Conference of Psychiatric Social Work, 1949; member, Governor's Advisory Committee on Youth in Minnesota, 1948-50; chairman, National Committee on Group Work and Group Therapy, American Association of Group Workers, 1950; and was assigned as expert on youth activities, Public Health and Welfare Branch, U. S. High Commissioner in Germany, summer, 1950.

Ruth H. Koontz was a member, Governor's Youth Conference, 1950; and member, Board of Directors, Hennepin County Tuberculosis Association, 1950.

Marion Kreiner was a member, Committee for International Social Work, Twin City Chapter, American Association of Social Workers. She was the recipient of the "outstanding women" award of the Sisterhood of Temple Israel, 1948.

August C. Krey served as a member of the Council, American Historical Association; vice-president, Minnesota State Historical Society; director, American Folk Arts Foundation, Inc.; member of the Advisory Committee, Forest Products History Foundation; and associate editor, *Journal of Higher Education*.

Haym Kruglak served as a science consultant, Department of Education, State of Minnesota.

Donald B. Lawrence was a member, Juneau Ice Field Research project of the American Geographical Society, 1949, 1950; consultant, U. S. Air Force, 1949; botanical editor, *Ecology*; chairman, Committee on Ecological Life Histories, Ecological Society of America, 1948-49; chairman, Subcommittee on Ecology as Related to Glacier Studies, American Geophysical Union Committee on Glaciers; member, Committee on Admission to Membership, Minnesota Chapter of Sigma Xi, 1950; member of Mazama Research Committee; member, Subcommittee on Glaciers of the Southern Cascades, American Geophysical Union; charter member, Arctic Institute of North America, 1948; fellow, American Geographical Society, 1950; and member, British Glaciological Society, 1950. He was the recipient of the Mazama Hardesty Fund research grant; the Arctic Institute of North America research grant, 1950; and the American Philosophical Society research grant, 1950.

David L. Levine was elected vice-president, Minnesota Adoption Council, 1948-49; regional chairman and member, National Committee of Case Record Exhibit, Child Welfare League of America, 1949-50; vice-chairman, Twin Cities Vocational Guidance Committee, 1950; and chairman, Foster Care Committee, Minneapolis Council of Social Agencies, 1949-50.

Jerome Liebling had three photographs purchased for the permanent collection of Museum of Modern Art, New York, 1949. He exhibited 50 photographs at the Walker Art Center, 1950.

Benjamin E. Lippincott was appointed consultant, Volunteer Air Reserve Training Program, Headquarters, U. S. Air Force, Washington, D. C., February, 1950, and Headquarters, Continental Air Command, Mitchell Field, Long Island, May, 1950. He was director of training, U. S. Air Force Volunteer Reserve, Minnesota Area, 1949-50. He served as a member, Franklin D. Roosevelt Award Committee, American Political Science Association, 1948; and member, Program Committee, American Political Science Association, 1950.

Rodney C. Loehr served as director, Forest Products History Foundation, and as president, Agricultural History Society.

Howard P. Longstaff was named chairman, Committee on Sub-doctoral Degrees, American Psychological Association.

Clarence C. Ludwig served as a member, Governor's Advisory Committees on Waters and Youth; member, State Committee on Water and Sewage Certification; member, Executive Committee, Minnesota Safety Council; member, Fire Prevention Conference; member, National Committee on Governmental Accounting; and member, Convention Committee, American Municipal Association.

Willem J. Luyten was elected a member, Century Association, New York.

Richard B. Mather was a member of a national group to revise the transliteration of Chinese for general and scientific purposes.

Tremaine McDowell served as a member, 1948-50, and chairman, 1950, Committee on American Civilization, American Council of Learned Societies.

David J. Merrell was elected to Sigma Xi, 1949.

Dwight E. Minnich was appointed trustee, Mount Desert Island Biological Laboratory, Salsbury Cove, Maine; director, Minnesota League for Planned Parenthood; and was elected president, Minnesota Human Genetics League. He served as a member, Executive Committee, American Society of Zoologists; and was the representative of the American Society of Zoologists in the Council of the American Association for the Advancement of Science.

Samuel Holt Monk served as editorial adviser, *College English*, 1948-50; was elected a member, Advisory Council, Department of English, Princeton University, 1950; elected foundation member, Phi Beta Kappa, Southwestern (Memphis) chapter, 1949.

Franz Montgomery was a member, Federal Civil Service (Department of the Army), 1948-49, serving first as chief of the Higher Education Branch, later as deputy chief of the Division of Education and Cultural Relations, Office of Military Government for Hesse, Wiesbaden, Germany; and was guest professor of English, Philosophical Faculty, University of Marburg, May-July, 1949.

Kyle R. Morris was elected director, Minnesota State Art Society, 1948.

Verval J. Mueller was named chairman, Subcommittee on Medical Social Case Records, Practice Committee, American Association of Medical Social Workers, 1949-50; and chairman, Committee on Admissions to Schools of Social Work, American Association of Schools of Social Work, 1949-50.

Ralph O. Nafziger served as a member, Accrediting Committee, American Council on Education for Journalism.

Lowry Nelson was a member, President's Commission on Water Resources Policy; member, Committee on Agricultural Policy, National Planning Association; and member, Committee on the Yearbook of Rural Education, National Society for the Study of Education. He was recipient of a grant from the American Philosophical Society for a re-study of two Utah farm villages.

Edward P. Ney was recipient of a special research grant, Cosmic Ray Research, ONR (with others). He was invited to present papers before the American Academy for the Advancement of Science and the American Physical Society.

Alfred O. C. Nier was named chairman, Panel on Physics, Section on Biophysics Committee on Growth; and member, Subcommittee on Nuclear Constants, Committee on Nuclear Science, National Research Council; consultant to Atomic Energy Commission through Kellogg Corporation, New York; and scientific investigator on research contract with Office of Naval Research. He was elected to the National Academy of Science. He was the recipient of a research grant from Hawaiian Sugar Growers Plantation; and of a research grant from U. S. Public Health Service (with others).

Elizabeth Nissen was elected national vice-president, American Association of Teachers of Italian, 1949.

Paul M. Oberg served as executive secretary-treasurer, Minnesota Public School Music League, 1948-50; member, Graduate Commission, National Association of Schools of Music, 1948-50; and member, Board of Directors, Minnesota Music Educators' Association, 1948-50. He was elected president, Minnesota Music Teachers' Association, 1948.

John M. H. Olmsted was elected chairman, Minnesota Section, Mathematical Association of America, 1950.

Ernest S. Osgood served as expert witness for the Federal Government, May, 1950, before the Indian Claims Commission.

Raymond R. Parker was elected vice-president, Artists Equity Association. He was the recipient of awards in 1948 and 1949, Minneapolis Institute of Art "Local Artists Exhibition"; first award, 1949, St. Paul Gallery and School of Art "Twin Cities Annual" exhibit; first award, "Centennial Minnesota." The Dayton Company, Sponsor: first and second awards, Walker Art Center "Second Biennial Exhibition"; and honorable mention award, Minneapolis Women's Club, "Spring Salon," 1950. He exhibited paintings as follows: Rochester Art Center—6 paintings exhibited, 1949; The Museum of Modern Art in the "New Talent Exhibition," New York; Metropolitan Museum of Art, New York, in the "American Painting Today—1950" exhibition.

Donald G. Paterson served as editor, *Journal of Applied Psychology*; and as member, Board of Trustees, Minneapolis Vocational Guidance Association, Incorporated.

Walter T. Pattison served as co-chairman, Committee on Photographic Reproductions, Modern Language Association, 1949.

Ruby B. Pernel served as specialist, consultant, and demonstration director, Camp Anchorage, summer, 1949; and as specialist and social work consultant, Camp Bluebird, 1950, experimental camps of the Jewish Board of Guardians, New York.

J. Lucille Poor was named chairman, Case Work Committee, State Conference of Social Work, 1949; member, Education and Professional Standards Committee, American Association of Social Workers, 1949; member, Board of Directors, 1949-50, and chairman, 1950, Proceedings Editing Committee, State Conference of Social Work.

Harold S. Quigley served as a member, Advisory Group on Far Eastern Policy, Department of State, 1949; member, Governmental Affairs Service, Incorporated, since April 15, 1950; president, Far Eastern Association, 1950; and member, Board of Directors, Association of American Rhodes Scholars.

Reginald Robson was awarded a fellowship of the Royal Statistical Society, 1949.

John Rood served as national director, Artists Equity Association, and president, Minnesota Sculpture Group.

Arnold M. Rose served on Education and Special Programs Committees, Mayor's Council on Human Relations, 1950. He was elected Minnesota state representative on the Executive Committee, Midwest Sociological Society, 1950; and was contributing editor, *International Journal of Opinion and Attitude Research*.

H. Etta Saloshin served as consultant, volunteer program in mental hospitals, National Unitarian Service Committee Regional Conference, Chicago, 1950; consultant on adjunctive therapies, Menninger Foundation, Topeka, Kansas, 1950; national representative, Committee on Social Work in State Hospitals, American Association of Group Workers and the American Association of Social Workers, 1950; and member, Committee on Group Work and Group Therapy, National Association of Group Workers.

Otto H. Schmitt received the Presidential Certificate of Merit for OSRD work. He was elected a member of the Corporation, Marine Biological Laboratory; was appointed consultant, Food and Drug Committee; and was a member, Evaluation Committee of Handbook on Biological Data, National Research Council. He received research grants from the U. S. Public Health Service and from the Office of Naval Research.

George M. Schwartz was geologist for United States Geological Survey completing work in Arizona started in 1944 as war project; chairman, Governor's Committee to Coordinate the Topographic Mapping Program of the State of Minnesota, 1948-49; and chairman, State Mapping Advisory Board, 1949.

Wilfrid S. Sellars was co-editor, *Philosophical Studies*. He participated by invitation in Rockefeller Conference on Semantics, Monterey, California, August, 1950.

Lloyd M. Short was a member, Minnesota Efficiency in Government Commission, 1949-50; chairman, Advisory Committee on Social Science Personnel, U. S. Civil Service Commission; member, Board of Trustees, Center on Education and Social Security, American Council on Education; liaison officer, U. S. Civil Service Commission; member, Joint Committee on Training for Government Service, Association of Land-Grant Colleges and Universities and Department of Agriculture; and member, Executive Committee, American Political Science Association, 1950.

H. Burr Steinbach served as managing editor, *Biological Bulletin*; member, Advisory Committee, Fulbright Awards in Biology (NRC); member, Governing Board, American Institute of Biological Science; member, secretary, Executive Committee, trustee and acting secretary, Board of Trustees, and member, Physiology Staff, Marine Biological Laboratory; member, Advisory Committee on Biology, Office of Naval Research; member, Macy Conference on Nerve Impulse; and member, Panel of Appraisers, Handbook of Biological Data.

George M. Stephenson was elected as honorary member of Phi Beta Kappa, Zeta of Illinois, at Augustana College, Rock Island, Illinois, 1950.

F. M. Swain received the President's Award, American Association of Petroleum Geologists for contribution to petroleum geology, 1949.

Charles E. Swanson was a member, Council on Research in Journalism.

Ganna Syro-Boyarsky was official examiner in the Japanese language for the War Department.

George A. Thiel served as a member, Governor's Advisory Committee on Water, and chairman, Subcommittee on Ground Water; chairman, Committee on Education of American Geological Institute; and member, Cooperative Committee on Science Teaching, American Association for the Advancement of Science.

David W. Thompson served on Advisory Council, American Educational Theatre Association, 1949. He was editor, *AETA News*, 1949, and assistant editor, *Educational Theatre Journal*, 1950, American Educational Theatre Association.

Miles A. Tinker served as cooperating editor, *Journal of Educational Psychology*; and chairman, Subcommittee of the Committee on Research, Illuminating Engineering Society.

Edmund B. Tucker was elected to Sigma Xi, 1950.

Alice F. Tyler served as a member, Committee for Making Graduate Record Examinations in History, National Testing Bureau.

Joseph Valasek was named to the Board of Electors, Sigma Xi.

George B. Vold was elected president, Midwest Sociology Society, 1949-50.

Wilson D. Wallis was elected president, Minnesota Society of the Archeological Institute of America, 1949.

George A. Warp served as a member, Municipal Law Section, Committees on Tort Liability and on Organization of Municipal Law Offices, and member, Committee on Far Eastern Law, International and Comparative Law Section, American Bar Association. He participated in a Symposium on Business Problems, sponsored by E. I. du Pont de Nemours and Company, June, 1950.

Robert Penn Warren received the honorary degree, Litt.D., from the University of Kentucky, 1949.

John C. Weaver served as research consultant, Midwest Barley Improvement Association, 1948-50; consultant, Committee on Geophysics and Geography, Research and Development Board, National Military Establishment, 1948-50; and member, Committee on Geography Advisory to the Office of Naval Research, National Research Council, 1948-50. He was elected member, Council, 1949, member, Executive Committee of the Council, 1949, and chairman, Publications Committee, 1950, Association of American Geographers. He was a member, Publications Committee, International Geographical Union, 1949-50.

Frank M. Whiting was elected executive secretary, Region Six, American National Theatre and Academy, 1950. He served as a member, Advisory Council, American Educational Theatre Conference, 1950; and chairman of the following committees for AETA in preparation for National Theatre Assembly: Committee on Touring; Committee on AETA'S Relationship to Professional Theatre. He was chairman, Sectional Meeting on Children's Theatre, AETA Convention, New York, 1950.

John H. Williams served as member, Editorial Board, *Review of Scientific Instruments*; member, Committee on Neutron Standards and Measurements, National Research Council; consultant for Los Alamos Laboratory, U. S. Atomic Energy Commission, Oak Ridge Office of U. S. Atomic Energy Commission; director, Linear Accelerator Project, U.S.A.E.C. Research Contract; and scientific investigator, Research Contract, Office of Naval Research. He was invited to lecture to the International Conference on Nuclear Physics, Oxford, England, 1950.

David H. Willson was the recipient of a Guggenheim Memorial Foundation Fellowship, 1949.

Anne Winslow was named chairman, Twin City Chapter, American Association of Social Workers, and was elected delegate to the National Conference, American Association of Social Workers, 1949-50.

Herbert E. Wright, Jr., was the recipient of a research grant from the Geological Society of America, 1950.

John B. Wolf served as a member, Hazen Hyde \$1,000 prize committee for work on French history. He participated in a Conference on France, Institute for Advanced Studies, Princeton, 1950.

E. William Ziebarth was a member, Editorial Board, Speech Monographs (radio research editor). He served as director, Minnesota Radio Council; chairman, Radio Education Advisory Committee, St. Paul Board of Education; member, Radio Education Committee, Minneapolis Public Schools; member, Mass Media Committee, National Society for the Study of Communication; and member, Regional Crusade for Freedom Committee.

Institute of Technology—John D. Akerman served as a member, Aviation Committee, Minneapolis Chamber of Commerce; and member, Governor Youngdahl's Airport Evaluation Committee, 1950.

Axel B. Algren served as chairman, Guide Committee, 1949-50; chairman, Technical Advisory Committee on Panel Heating, 1949-50; member, Technical Advisory Committee on Heat Flow, 1948-50; Panel Heating Controls, 1949-50; member, Executive

Committee on Research, 1948-50; all of the American Society of Heating and Ventilating Engineers. He was consultant, Minnesota Department of Health, 1948-50; and member, Education Committee, Minnesota Association of Professional Engineers, 1949-50.

Neal R. Amundson served as a member, Local Sections Committee, American Institute of Chemical Engineers; and member, Program Committee, Local Section, American Chemical Society.

Richard T. Arnold was the winner of the American Chemical Society Award in Pure Chemistry, 1949. He served as a member, National Research Council; and was elected president, Minnesota Chapter, Phi Beta Kappa, 1949-50. He was awarded a Guggenheim Fellowship for study in Zurich, Switzerland and Berkeley, California, 1948-49.

Orville A. Becklund was vice-chairman, 1949-50, and chairman, 1950, Twin Cities Section, Institute of Radio Engineers.

Gust Bitsianes served on a Government Research Project, NEPA Division, Fairchild Engine and Airplane Corporation, Oak Ridge, Tennessee.

Roland H. Bond served as a member, Program Committee, "Short Course for Engineering Educators," American Society of Electrical Engineers. He served as faculty adviser to Tau Beta Pi.

John V. Borry served as a member, Mechanical Review Board, Minnesota Department of Health, 1949-50.

Robert C. Brasted was appointed consultant, Operations Research Office, The Johns Hopkins University, under contract with Research and Development Group, Logistics Division, Department of the Army; and was named referee, Publications Board, *Journal of the American Chemical Society*. He was a member, Professional Status Committee, American Chemical Society.

Brooks Cavin was elected treasurer, St. Paul Chapter, American Institute of Architects.

Robert Cerny was elected executive secretary, Minneapolis Civic Center Development Association; and chairman, Program Committee, North Central States District Regional Conference, AIA, 1949.

Strathmore R. B. Cooke served as chairman, Education Committee, Minerals Beneficiation Division; member, Executive Committee, Mineral Industry Education, AIME; member, Conservation Committee, Minneapolis Chamber of Commerce; and member, Board of Directors, Minnesota Natural History Society.

Bryce L. Crawford, Jr., was associate editor, *Journal of Chemical Physics*, 1950; chairman, Navy Advisory Committee on solid propellents; member, Advisory Committee of the Chemistry Branch of ONR. He received the Presidential Certificate of Merit, 1948.

Alfred E. Cronk was named vice-chairman, Aeronautical Division, American Society for Engineering Education, 1950.

Fred W. DeMoney served as University Branch delegate, North Central Area Council, YMCA; and as a member, World Service Committee, Minneapolis, YMCA.

Raymond M. Dodson was named chairman, Membership Committee, Minnesota Section of American Chemical Society. He was awarded the Abbott research grant and a Research Corporation grant.

Ralph L. Dowdell was metallurgical representative on Accrediting Committee, Engineering Council for Professional Development, Region III of United States; and was supervisor, Government Research Project, NEPA Division, Fairchild Engine and Airplane Corporation, Oak Ridge, Tennessee.

Coleman D. Fitz served as a member, Research and Development Flight, Army Air Force Reserve, 1950; and member, Committee on Short Course Preparation for Civil Defense, State Civil Defense Personnel, 1950.

Carl Graffunder served as a member, Advisory Committee on Farm House Design, Farm Housing Administration.

Newman A. Hall served as a member, Subcommittee on Combustion, NACA, 1950; and editor, ASEE news bulletin, *Heat Power News and Views*, 1949-50. He was elected to honorary membership in Tau Beta Pi (engineering), 1950.

Louis S. Heilig was an ore estimator for the Minnesota Tax Commission.

Gladstone B. Heisig served as examiner for chemists, State Civil Service. He was presented to the Brazilian Academy of Science, Rio de Janeiro.

Fulton Holtby served as a member, Education Committee, Society of Plastic Engineers, 1949-50.

Henry S. Jerabek served on the National Membership Committee of the Institute of Metals, 1949-50.

Loyal A. Johnson served as chairman, Subcommittee on Water, State of Minnesota Governor's Advisory Committee on Conservation; and on Executive Committee, University of Minnesota, Institute of Technology Alumni; and was appointed member, Committee on Precipitation, Section of Hydrology, American Geophysical Union.

Otto H. Johnson was editor, *Minnesota Chemist*, Minnesota Section, American Chemical Society.

Robert T. Jones was elected president, Minneapolis Planning Commission.

Roy C. Jones was elected president, National Architectural Accrediting Board. He served as a member, Commission for the Survey of Education and Registration, American Institute of Architects.

Richard C. Jordan received the "Outstanding Publications Award" of American Society of Refrigerating Engineers, 1949. He served as chairman, Technical Advisory Committee on Heat Pumps, 1949-50, American Society of Heating and Ventilating Engineers; chairman, Program Committee, 1949, chairman, Finance Committee, 1950, chairman, Standards Committee, 1948, member, Executive Committee, 1949-50, director and member, Council, 1948-50, and national treasurer, 1950, ASRE. He was area representative for Engineering Council for Professional Development, 1948-49, in ASRE. He served as a member, Board of Abstractors for *Refrigeration Abstracts*, 1948-50; member, Technical Advisory Committee on Cooling Loads, 1949, ASHVE; and coordinator, Snow, Ice, and Permafrost Research Program, U. S. Army, Corps of Engineers, 1949-50. He was recipient of a research grant, American Society of Heating and Ventilating Engineers.

Thomas L. Joseph served as chairman, Division of Mineral Engineering, 1948-50, member, Engineering College Research Council, 1949-50, and chairman, Blast Furnace, Coke Oven, and Raw Materials Committee, 1948-49, American Institute of Mechanical Engineering. He was a member, Minnesota-North Dakota Resources Commission, 1948-50.

Emory N. Kemler served as a member, Executive Committee, Petroleum Division, 1949-50, and advisory member, Education Committee, 1949-50, ASME; member, Engineering Subcommittee on Tubular Goods, 1949-50, and chairman, Subcommittee on Speed Reducers, American Petroleum Institute, 1948-50.

Miles S. Kersten served as secretary, Minnesota Chapter, American Society for Engineering Education.

Thomas R. Klingel was elected secretary, Northwestern Section, American Society of Civil Engineers, 1949-50.

C. Frederick Koelsch was a member, Board of Editors, *Journal of Organic Chemistry*. He served as director Carbide and Carbon Chemical Corporation Fellowship in Organic Chemistry; and director, Monsanto Chemical Company Fellowship in Organic Chemistry.

Izaak M. Kolthoff served as director of research on the emulsion polymerization project at the University of Minnesota, sponsored by the Office of Rubber Reserve of the Reconstruction Finance Corporation. He served as vice-president, Section on Analytical Chemistry, International Union of Pure and Applied Chemistry; as chairman, Commission on Physico-Chemical Data, International Union of Pure and Applied Chemistry; as chairman, Committee on Analytical Chemistry, National Research Council; member, Advisory Committee on the International Union of Pure and Applied Chemistry, National Research Council; as associate editor, *Journal of the American Chemical Society*; and on the Board of Editors, *Analytical Chemistry*. He was elected to honorary membership in the Finnish Chemical Society; and as honorary foreign correspondent of the Royal Netherlands Academy of Sciences. Dr. Kolthoff was the recipient of the 1949 Charles Nichols Award, and of the 1950 Fisher Award in Analytical Chemistry given by the American Chemical Society. He lectured before the Nordisk Congress of Chemists in Helsinki, Finland, in August, 1950; and in Yugoslavia in 1949. He was granted research funds, U. S. Public Health Service; and funds for Procter and Gamble Company fellowship, and Bristol-Myers Company fellowship.

Walter M. Lauer served on the ONR Organic Research Panel; and as faculty adviser, Student Affiliate, American Chemical Society; and was associate editor, *Journal of the American Chemical Society*.

Adolph O. Lee served as a member, Board of Directors, Minnesota Federation of Engineering Societies, 1950.

Robert S. Livingston received Army and Navy Certificates of Appreciation, 1948.

Clarence E. Lund was named chairman, Home Freezers Standards Committee, American Society of Refrigerating Engineers, 1948-50. He was recipient of special research grants from: Insulation Board Institute; National Paint, Varnish, and Lacquer Association; Weatherstrip Research Institute; and Minnesota and Ontario Paper Company.

William B. F. Mackay was a member, Executive Committee, Northwest Chapter, American Society for Metals.

John M. MacKenzie served as member, Editorial Subcommittee of Education Committee, 1948-50, member, Research Committee, 1950, and member, Bulletin Editorial Committee, 1948, Association of Operative Millers.

Arthur J. Madden, Jr., was elected to Sigma Xi.

Frederick M. Mann was recipient of the first award created by the Minnesota Society, American Institute of Architects for achievement in architecture.

Allan E. Martin served on the Government Research Project for NEPA Division, Fairchild Engine and Airplane Corporation, Oak Ridge, Tennessee.

Harlan E. McClure served as chairman, Committee to Rewrite State Registration Examination for Architects; secretary, Minneapolis Chapter, American Institute of Architects; chairman, Education Committee, Minneapolis Chapter, American Institute of Architects; member, Committee on Junior Colleges, and member, Program Committee, Association of Collegiate Schools of Architecture. He won third prize in a national architectural contest sponsored by *Architectural Forum*.

Edward J. Meehan served as associate director of research on the emulsion polymerization project at the University of Minnesota sponsored by the Office of Rubber Reserve of the Reconstruction Finance Corporation.

Ralph E. Montonna was recipient of research grant, du Pont Rayon Corporation.

William E. Parham served as faculty adviser, Alpha Chi Sigma; and faculty adviser, Phi Lambda Upsilon.

Eugene P. Pfeider served as an ore estimator for the Minnesota Tax Commission.

Orrin W. Potter was elected secretary, 1948-49, and chairman, 1950, Division of Engineering Drawing, American Society for Engineering Education.

Lloyd H. Reyerson had conferred upon him by King Haakon of Norway on May 13, 1950, the Royal Order of St. Olav; the Norwegian Consulate conferred it in Minneapolis on July 16, 1950. He was elected to the Executive Committee, Colloid Division, American Chemical Society, 1949-50; and was named chairman-elect, Minnesota Section, American Chemical Society in April, 1950.

John F. Ripken served as member and secretary, Committee of the Symposium, Engineering Research, Minneapolis, March, 1949.

Frank B. Rowley was recipient of research grants from Insulation Board Institute, National Paint, Varnish, and Lacquer Association; Weatherstrip Research Institute; and Minnesota and Ontario Paper Company.

James J. Ryan served as secretary, 1948-49, vice-president, 1949-50, Minnesota Society of Professional Engineers; chairman, Mechanical Engineering Committee, North Mid-West Section American Society for the Promotion of Engineering Education, 1948-49; consultant, Naval Medical Research Center, Bethesda, Maryland, on aircraft acceleration problems, 1949; and member, National Research Council Committee on Air Safety, 1949.

Ernest B. Sandell served as consultant for U. S. Geological Survey; and was named fellow of the Mineralogical Society of America.

George J. Schroepfer served as chairman, Minnesota Branch, American Society of Engineering Education, 1949-50; trustee and chairman, Program Committee, Minnesota Section of American Water Works Association, 1950; chairman, Advisory Committee appointed by Minnesota Department of Health for training and certification of water and sewage plant operators, 1950; member, Advisory Committee on Disposal of Radioactive Wastes, Atomic Energy Commission, 1949; member, Joint Committee of American Society of Civil Engineers and American Bar Association on Financing and Rate Structures in Water and Sewage Works; and member, Examining Boards, Minneapolis Civil Service Commission. He was the recipient, 1949, of the Gus H. Radebaugh Award, Central States Sewage Works Association, for the best paper published in *Sewage Works Journal* in 1948.

William G. Shepherd served as chairman, Task Group on Klystrons, and as member, Subcommittee on Small, High Vacuum Tubes, Institute of Radio Engineers; and member, Commission 7, U.S.A. National Committee of International Scientific Radio Union. He was director, Contract DA 36-039 sc-159 between the Regents of the University of Minnesota and the Signal Corps of the U. S. Army; and participated in the development of a linear accelerator under a grant from the Atomic Energy Commission.

Lee I. Smith was a member, Committee of Award for the Elmer Peter Kohler Fellowship, Harvard University.

Athelstan F. Spilhaus served as a member, 1948, and deputy chairman, 1950, one committee, and member, panel, 1948-49, Research and Development Board, Office of the

Secretary of Defense; member, Committee, National Academy of Sciences, 1950; member, Subcommittee on Meteorological Problems, National Advisory Committee for Aeronautics, since 1941; special consultant, Wright Field, 1948-49, Cambridge Field Station, 1949, Air Materiel Command; member, Committee on Environmental Protection, National Research Council, 1950; member, Subcommittee on Atmospheric and Industrial Hygiene, Division of Medical Sciences, National Research Council, 1948; chairman, Standing Committee on Meteorology, Pacific Science Council, 1949; member, Engineering Advisory Committee, Brookhaven National Laboratory, 1948-49; member, Permanent Subcommittee on Station Instruments and Exposure, Commission on Instruments and Methods of Observation, International Meteorological Organization, since 1947; associate editor, *Journal of Meteorology*, 1948-49; member, 1948-49, and chairman 1949-50, Committee on Professional Ethics and Standards, American Meteorological Society; chairman, Nominating Committee for the Section of Oceanography, American Geophysical Union, 1949-50; member, Visiting Committee, Department of Meteorology, Massachusetts Institute of Technology, 1948-50; member, Education Committee, National Society of Professional Engineers, 1950; member, Subcommittee on Industrial Orientation and Training, Engineers' Council for Professional Development, 1950; member, Manpower Committee, 1949, member, Membership Committee, 1949-50, and member, Committee on Relations with Military Research Agencies, 1949, American Society for Engineering Education. He was appointed Councilor, American Meteorological Society, 1950.

Arthur E. Stoppel aided in the administration of chemical engineering examination, Minnesota State Board of Registration for Architects, Engineers, and Land Surveyors.

Lorenz G. Straub was appointed a member of the Federal Beach Erosion Board by the Chief of Engineers, U. S. Army, 1950, and was selected panel chairman, Division of Geophysics and Geography, Research and Development Board, U. S. Department of Defense, 1949. He served as commissioner, Upper Mississippi and St. Croix River Improvement Commission, State of Minnesota, 1948-50; member, Advisory Committee of Afghanistan, Institute of Technology, 1949; member and president of Supreme Council, Chi Epsilon, national honorary civil engineering fraternity, 1948-50; chairman, Hydraulics Division, American Society of Civil Engineers, 1948-49; president, Section of Hydrology, American Geophysical Union, 1948-50; and chairman, Graduate Studies Division, American Society for Engineering Education, 1948-49. He was appointed by Governor Youngdahl as one of the commissioners from Minnesota on Mississippi River Parkway Commission, 1950, and was named a member of Governor Youngdahl's Minnesota Committee on Water Resources, 1950. Dr. Straub was the recipient of the French Award, Officier d'Académie "in recognition of service rendered to French culture," 1949; and the French medal of academic palms, 1950. He was re-elected president, International Association for Hydraulic Research, at Grenoble, France, 1949, and was appointed by Trygve Lie as discussion leader of the water resources meeting, United Nations Scientific Conference at Lake Success, 1949. Dr. Straub served as consultant to the Navy Department on hydraulic test facilities; consultant to Corps of Engineers, Department of the Army, on Missouri River development program, Columbia River development program, U. S. Waterways Experiment Station research, Alaska hydrology and airport drainage studies, the Committee on Tidal Hydraulics; consultant to the U. S. Soil Conservation Service on various soil conservation studies; special consultant to Government of Madras, India; and special consultant on hydropower development for El Salvador, 1948-50. He was recipient of research grants from the Navy Department, and the U. S. Army Engineers.

Aldert van der Ziel participated in work on Contract DA 36-039 sc-159 between the Regents of the University of Minnesota and the Signal Corps of the U. S. Army, for the study of secondary emitting surfaces.

Frank Werner was elected to Sigma Xi, 1950.

Lee S. Whitson was lecturer for special course in Industrial Engineering and Management, sponsored by the Federation of Norwegian Industries and the Economic Cooperation Administration, Oslo, Norway, 1950; and lecturer for special course in Production Engineering and Management, sponsored by the Federation of Swedish Industries, Federation of Swedish Employers, and the Economic Cooperation Administration, Stockholm, Sweden, 1950.

Joseph A. Wise directed special research projects at the University from South St. Paul Stockyards Company; research on prestressed concrete, Minnesota Highway Department; research on dynamics of highway bridges, U. S. Public Roads Administration; and research on water permeability of clay tile walls, U. S. Department of Commerce.

Dana Young served as member, Executive Committee, Applied Mechanics Division, 1948-50, and member, Special Research Committee on Pressure Vessels under External

Pressure, 1948-50, American Society of Mechanical Engineers; member, Executive Committee, Mechanics Division, American Society for Engineering Education, 1948-49. He was elected president, Texas Chapter, Sigma Xi, 1949-50; and was appointed consultant to Sandia Corporation which operates for Atomic Energy Commission, 1949.

Department of Agriculture—John H. Allison served as a member and secretary, Steering Committee, Minnesota Forest Survey, and was consultant on taxation to State Legislative Committees, and consultant, St. Paul City Water Department on forest plantings.

Clara B. Arny was named chairman, Evaluation Committee, American Home Economics Association, 1948-49.

Clyde H. Bailey was selected as one of Minnesota's "One Hundred Living Great" in 1949. He was chairman, North Central Agricultural Experiment Station Directors, 1948-49; chairman, Cereal Technology Section of the VII^e Congrès Internationale des Industries Agricoles, Paris, France, 1948; administrative adviser to the North Central Region Cooperative Research Project; and national chairman, Administrative Advisers to projects on the Nutritional Status of Agricultural Experiment Stations. He served on the following committees: Advisory Committee on Rural Sociology, Farm Foundation, 1948-50; Scientific Advisory Committee, American Institute of Baking, 1948-50; Committee of Nine to allot cooperative research project funds under the Research and Marketing Act, 1948-49, vice-chairman for 1949-50; Experiment Station Committee on Organization and Policy, Association of Land-Grant Colleges and Universities, 1948-50; Minnesota State Conservation Commission, 1948-50; International Service Committee, St. Paul Rotary Club, 1948-50; and Executive Committee, Minnesota Safety Council, 1948-50.

Bruce C. Beresford was re-elected secretary-treasurer, 9th District Horticultural Society for 1949-50. He served as superintendent, Potatoes, Vegetables, and Honey Show, Red River Valley Winter Shows, 1949-50.

Alice Biester was elected president, Minnesota Dietetic Association, 1948-50.

William A. Billings was the recipient of an award for superior service, U. S. Department of Agriculture, 1949.

Willard L. Boyd served as a member, Council on Education, American Veterinary Medical Association, 1948-50; member, Minnesota State Livestock Sanitary Board, 1948-50; member, special committee on brucellosis, National Research Council, 1948-50; and officer, Association of Research Workers in Animal Diseases of North America, 1948-50.

Paul D. Boyer was elected treasurer, Minnesota Section, American Chemical Society, 1949-50.

James I. Brown was named chairman, Inter-College Committee on Evaluation of Communication, American Council on Education, 1950.

Randolph M. Brown served as a member, Steering Committee, Minnesota Forest Survey.

Albert L. Burroughs was appointed by the U. S. Department of the Army to carry on research on Japanese B-Encephalitis in Tokyo, Japan, 1949-50.

Paul M. Burson was elected to the Board of Directors, American Society of Agronomy. He served as a member, Technical Committee on Programs for the State Production and Marketing Administration, U. S. Department of Agriculture.

Thomas H. Canfield was associate editor, *Poultry Science*, since 1949. He served as chairman, teaching section, Poultry Science Annual Meeting, 1949. He received research grants from Northwest Feed Manufacturers Association, Brewer's Yeast Council Fund, and Merck & Co., Inc.

Jonas J. Christensen served as visiting expert consultant, Agriculture Division, National Resources Section, SCAP, in Japan, 1950. He was consultant to the U. S. Army Chemical Corps, Camp Detrick, Fredrick, Md.; and scientific adviser, Flax Institute of America. He was named an honorary member, Japanese Phytopathological Society, 1950; and in 1948 was named premier seed grower of Minnesota (honorary). He was elected president, Minnesota Chapter of Sigma Xi, 1948-49.

John O. Christianson was named chairman, Governor's Fire Prevention Conference, 1948-50; and general chairman, Governor's Youth Conference, 1950. He served as chairman, State Advisory Committee, Youth Conservation Commission, 1949-50; chairman, Short Course Committee, Association of Land-Grant Colleges and Universities; and chairman, Short Course Workshop held at Michigan State College in 1950. He was the recipient of the honorary L.H.D. degree from Gustavus Adolphus College in 1950. In the summer of 1948 he traveled in Sweden as guest of the Swedish Government to study agricultural education, farm organizations, public health, and recreation. He was elected as

one of the "One Hundred Living Great" of Minnesota in 1949. He served as a member, Executive Committee, American Country Life Association, 1950; as member, Minnesota Committee on the Crusade for Freedom; and as a member, State Committee for the Folke Bernadotte Memorial Foundation, Gustavus Adolphus College. He was elected president, American Swedish Institute, Minneapolis, in 1950.

Willes B. Combs was elected president, Minnesota Dairy Technology Society, 1949-50; secretary, Minnesota Dairy Industry Committee, 1948-50; and was named chairman, Advisory Committee, Minnesota Public Health Department, 1949-50.

Cora E. Cooke was awarded a silver medal and certificate for her "meritorious service to agriculture and rural life," May, 1950.

Samuel T. Coulter served as director, Associates, Food and Container Institute, 1949-50.

Laurence K. Cutkomp was named investigator, Research on Temperature Relationships of Insecticide Action, War Department, Office of the Surgeon General.

William H. Dankers served as chief, Food and Agriculture Division, Wuerttemberg-Baden Area, Germany (U. S. Zone), 1949-50.

Austin A. Dowell was elected a fellow, American Association for the Advancement of Science. He was a member, North Central Land Tenure Committee, and member, Regional Livestock Marketing Committee.

Francis E. Drake served as evaluation and educational adviser, Air Tactical Control School, U. S. Army Air Force, 1948, and was commended for his services by Brigadier General J. K. Lacey.

Donald P. Duncan was elected secretary, 1948-50, and chairman, 1950, Southern Minnesota Chapter of the Upper Mississippi Valley Section, Society of American Foresters.

Raymond S. Dunham was elected president, North Central Weed Control Conference, 1948-49. He was recipient of a research grant from Sherwin-Williams Company.

Allen W. Edson served as lieutenant governor, Sixth Division, Minnesota-Dakotas District of Kiwanis International, 1950.

Carl J. Eide was secretary-treasurer-elect, Minnesota Chapter of Sigma Xi, 1950.

Homer D. Fausch served as manager, Subcollegiate Livestock Judging Contests, Red River Valley Winter Shows, 1949-50.

Theodore H. Fenske was elected vice-president, Kiwanis International, 1949-50. He was chairman, St. Paul Area Council, Boy Scouts of America, 1950.

Reuel Fenstermacher served as president, Minnesota State Veterinary Medical Society, 1948-49. He was the recipient of a leadership award from the Minneapolis *Star and Tribune* for his services to Minnesota, 1949.

James B. Fitch was a member, Jersey Type Classification Committee, American Jersey Cattle Club, 1949-50; and of the Feed Survey Committee, American Feed Manufacturing Association, 1949-50. He served as judge of 4-H dairy cattle at the International Dairy Show, Indianapolis, 1949-50; as judge of Jersey and Guernsey cattle, Los Angeles County Fair, 1949; as judge of Holstein-Friesian and Brown Swiss cattle at Upper Peninsula State Fair, Escanaba, Michigan, 1949-50; and was in charge of Dairy Cattle Judging Conference at the University of Wisconsin, July, 1950.

Roxana R. Ford served as recording secretary, Minnesota Home Economics Association, 1948-49.

Ruth V. Fuller was elected treasurer, Minnesota Home Economics Association, 1948-49. She served as Committee Adviser on Clothing Survey, Bureau of Human Nutrition and Home Economics, U. S. Department of Agriculture, 1948-49.

William F. Geddes was awarded the Osborne Medal by the American Association of Cereal Chemists, 1950. He served as editor, *Cereal Chemistry*, 1948-50. He was a member, Subcommittee on Foods, National Research Council, 1948-50; and was collaborator, Northern Regional Research Laboratory, 1948-50.

Catherine Gibler served as a member, Executive Board, Minnesota Dietetic Association, 1948-49.

Ethel R. Gorham was named secretary, 1948-49, and chairman, 1949-50, Planning Committee, Central Regional College Textiles and Clothing Teachers.

Alexander A. Granovsky was the recipient of the honorary degree, Doctor of Agricultural Sciences by the Ukrainian Polytechnical Institute, Regensburg, U. S. Zone, Germany. He served as chairman, Section of Truck Crops, North Central States Branch, American Association of Economic Entomologists. He was elected to membership, Ukrainian Free Academy of Science and the Shevchenko Scientific Society. He was elected to honorary membership, Minnesota Greenkeepers Association; elected national president of the organization for the rebirth of the Ukraine; and was named a member,

Political Board, Ukrainian Congress Committee of America. He served as a member, State of Minnesota Civil Service Board for examination of state entomologist and entomological staff.

Henry J. Griffiths was elected resident state secretary, American Veterinary Medical Association, 1949. He was elected to membership, Association of Research Workers in Animal Diseases of North America, 1948.

Thor W. Gullickson was invited to give a paper at the International Conference on Vitamin E held by the Section of Biology, New York Academy of Sciences, 1949.

Henry L. Hansen served as a member, North Central States Weed Control Committee; as chairman, Program Committee, Quetico-Superior Wilderness Research Center; and as secretary, Upper Mississippi Valley Section, Society of American Foresters, 1948-49. He acts as consultant to the Division of State Parks on forest and wildlife problems.

Leonard L. Harkness was named Minnesota's outstanding young man of the year by the Minnesota Junior Chamber of Commerce, 1950.

Helen Hart has continued as editor-in-chief of *Phytopathology*. She served as a member, Council of The American Phytopathological Society, and was on the Panel of Appraisers for the Handbook of Biological Data, 1950. She was elected secretary, Minnesota Chapter, Gamma Sigma Delta, and served as president, Minnesota Chapter, Sigma Delta Epsilon, 1948-49.

Herbert K. Hayes was consulting crops editor, American Society of Agronomy, 1948-49; and served as chairman, Subcommittee on National Seed Storage for the Conservation of Germ Plasm, 1949 and 1950. He was the recipient of a scroll presented by the Minnesota Crop Improvement Association and the Northwest Crop Improvement Association for leadership in research and teaching, 1950.

Albert C. Heine served as chairman, Selective Service Board No. 1, Stevens County, until July 1, 1949.

Marshall C. Hervey was a member, Technical Committee, Regional Dairy Cattle Breeding Committee, 1949-50.

Robert E. Hodgson has served as secretary-treasurer, Minnesota Milking Shorthorn Breeders Association since 1943.

Alexander C. Hodson served as collaborator, Division of Forest Insects, Bureau of Entomology and Plant Quarantine.

Ralph L. Hossfeld was a member, Lignin Round Table Committee on the Preparation of Standard Lignins.

Arthur E. Hutchins was elected secretary, Great Plains Region, American Society for Horticultural Science, 1949-50.

Kathleen Jeary served as a member, Advisory Committee for Study on Family Clothing Inventories and Expenditures, Bureau of Human Nutrition and Home Economics, 1948-49.

Oscar B. Jesness served as a member, Foreign Agricultural Trade Policy Advisory Committee, U. S. Department of Agriculture; member, Advisory Council, Agricultural Commission, American Bankers Association; member, Council of International Conference of Agricultural Economists; member, National Council, American Association of University Professors, 1947-49; member, Board of Directors, Minnesota Institute of Governmental Research; member, Board, Minnesota Community Research Council; and member, Board of Directors, American Country Life Association, 1946-49. He was editor of *Readings on Agricultural Policy*, sponsored by the American Farm Economic Association, 1949. He was consultant both to the Water Resources Policy Commission and to the Agricultural Subcommittee of the Committee for Economic Development. He was elected vice-president, Minneapolis Chamber of Commerce, 1949.

James J. Jezeski was elected to Sigma Xi, 1948. He served as consultant, Chemical Corps, Biological Division, U. S. Army, 1949. He was elected president, Minnesota Society of Bacteriologists, 1948-49, and vice-president, Minnesota Dairy Technology Society, 1950.

Gertrud Stanton Joachim was elected a member, Genetics Society of America, 1950. She served as treasurer, Sigma Delta Epsilon (graduate women's scientific fraternity), 1950.

Hedda B. Kafka was elected secretary-treasurer, Minnesota-North and South Dakota Association for Student Teachers, 1948-49.

Frank H. Kaufert served as council member, Society of American Foresters, 1950; chairman, Publications Committee, Forest Products Research Society, 1947-50; chairman, Special Committee on Fire Retardants and Wood Preservatives, and of three other committees, American Wood-Preservers Association, 1948-50; member, American Standards Association; chairman, Forest Products Division, Society of American Foresters,

1947-48; chairman, Council of Forestry School Executives, 1947-48; member, Governor's Conservation Advisory Committee; and member, Executive Board of the Steering Committee, Keep Minnesota Green. He was associate editor, *Journal of Forestry*, 1948-50.

Howard C. H. Kernkamp served as secretary-treasurer, Minnesota State Veterinary Medical Society, 1948-50. He was elected to Charter Membership in the American College of Veterinary Pathologists, 1949.

Milton F. Kernkamp was elected secretary-treasurer, North Central Division, American Phytopathological Society, 1949-50. He served as associate editor of *Phytopathology*, 1948 and 1949, and was on the Editorial Committee, *Minnesota Farm and Home Science*.

William P. Kirkwood was honored for "distinguished journalistic service to farm people" by the American Association of Agricultural Editors.

Orville M. Kiser was re-elected secretary, Red River Valley Livestock Association.

Harry W. Kitts served as a member, Camps Committee, Governor's Youth Conference; member, Central Regional Research Conference in Agricultural Education; member, State Christian Rural Overseas Program Committee; member, Camp Committee, State Future Farmers of America; consultant for the North Atlantic Regional Workshop for Teacher Trainers in Agricultural Education, 1948 and 1949, and moderator of the Workshop for 1950; member, Committee on FFA Judging Contests, National Dairy Congress, 1949; and chairman, Resolutions Committee, and member, Banquet Committee, Minnesota Vocational Association, 1950. He was the recipient of the Honorary State Farmer Degree awarded by the Minnesota Future Farmers of America, 1950.

Thor Kommedahl served as associate editor, *Phytopathology*, 1949. He was elected president, Minnesota Chapter, Gamma Alpha, 1948-49.

Fred A. Krantz was chairman, Potato Breeders Technical Committee for the North Central Region, 1949-50.

Alvin H. Larson served as consultant, Quartermaster Division, U. S. Army, 1950. He was chairman, Section on Control of Annual Weeds, North Central Weed Control Conference, 1948 and 1949. In December, 1949, he was elected to honorary membership in the North Central Weed Control Conference.

Jane M. Leichsenring served as regional director, Iota Sigma Pi for Region Y, and was official delegate to American Dietetic Association, 1949.

Irvin E. Liener was elected to Phi Beta Kappa, Phi Kappa Phi, and Sigma Xi, 1949.

Helen A. Ludwig served as chairman, National Home Furnishings Committee, Educational Testing Service, 1949-50.

Harold Macy served as vice-chairman, 1948, and secretary, 1949-50, Experiment Station Directors of the North Central Region. He was chairman, Committee on Distribution of Publications to Foreign Countries, Experiment Station Section, Association of Land-Grant Colleges and Universities; interviewer, Civil Service Department of the State of Minnesota; member, Governor Youngdahl's Advisory Committee on Brucellosis, 1950; associate member, Minnesota Dairy Industry Committee, 1948-50; and administrative adviser, North Central Regional Technical Committees on Animal Diseases.

Douglas G. Marshall was elected to Executive Committee, Mid-West Sociological Society.

William H. Marshall served on the Governor's Advisory Committee on Conservation and was adviser to the U. S. Fish and Wildlife Service on agriculture-waterfowl problems.

Thomas M. McCall was re-elected president, Red River Valley Livestock Association and president, Red River Valley Development Association, 1949-50. He continued as chairman, Board of Managers, Red River Valley Winter Shows and the Northwest School Farmers' and Homemakers' Week, 1949-50.

Gerald R. McKay served as a member, Steering Committee, National Visual Aids Workshop, 1950, and president, St. Anthony Park Association, 1949-50.

Paul R. McMiller served as vice-chairman, Section V, Soil Genesis, Morphology, and Cartography, Soil Science Society of America.

Clarence E. Mickel was elected permanent president, International Great Plains Conference of Entomologists.

Paul E. Miller served as secretary, 1948, and chairman, 1949, Extension Committee on Organization and Policy, Association of Land-Grant Colleges and Universities. He was on a three-man committee for the Economic Cooperation Administration to survey countries under the Marshall Plan, 1950. He was elected a director, Federal Reserve Bank, Minneapolis, and Director-at-large, Farm Credit Administration, 1948-49.

Ralph E. Miller was elected to Phi Delta Kappa, 1950.

Doris E. Nelson was selected to attend the summer school for American students at the University of Oslo, Norway, in the summer of 1948.

Josephine B. Nelson served on the American Association of Agricultural College Editors Press Committee for the meeting of the Association of Land-Grant Colleges and Universities, 1948.

Lowry Nelson was a member, Permanent Agricultural Committee, International Labor Office, and attended the meetings at Geneva, Switzerland, 1949. He served as consultant, President's Commission on Water Resources Policies, 1950; was a member, Agricultural Committee of the National Planning Association; and a member, Committee on the Rural Education *Yearbook*, National Society for the Study of Education. He was the recipient of a research grant from the American Philosophical Society for a resurvey of two Utah farm villages.

Ralph G. Nichols served as consultant in communication skills, Air ROTC Indocination School, University of Alabama, 1948, and was commended by Major General H. M. Turner, vice-commander of the U. S. Air Force. He was named as a member, Executive Council and as chairman, Committee on Listening Comprehension, National Society for the Study of Communication, 1949.

Isabel T. Noble was recipient (with others) of a research grant from the Bureau of Human Nutrition and Home Economics.

Joseph A. Nowotny served as a member, Posture Committee, Minnesota Public Health Association. He was elected to membership in Phi Delta Kappa.

Robert E. Nylund served as chairman, Subsection on Weed Control in Fruit Crops, North Central Weed Control Conference, 1950.

Mavis C. Nymon was the recipient of the Lisle Fellowship, International Institute of Human Relations, 1948.

Joseph C. Olson, Jr., served as secretary-treasurer, Minnesota Milk Sanitarians Association, 1948-50; member, Committee on Laboratory Procedure, International Association of Milk and Food Sanitarians, 1950; member, Milk Advisory Committee, Minnesota Department of Health, 1949-50; member, Dairy and Food, Milk Quality Committee, Minnesota Department of Agriculture, 1949-50; and member, Quality Control Committee for Minneapolis and St. Paul, 1948-50.

Charles K. Otis was elected to the Board of Directors, Minnesota Federation of Engineering Societies, 1949-51. He was named vice-chairman, Structures Division, American Society of Agricultural Engineers, 1950-51. He served as a member and secretary, Falcon Heights Planning Commission, 1950, and as agricultural engineer reviewing plans for grain storage structures submitted to the Commodity Credit Corporation, U. S. Department of Agriculture, 1950.

Harold C. Pederson was awarded a silver medal and certificate for his "meritorious service to agriculture and rural life," May, 1950.

William E. Petersen was elected president, American Dairy Science Association, 1948-49; and is president-elect, Minnesota Chapter Sigma Xi, 1950. He served as chairman, Minnesota Section, Society of Experimental Biology and Medicine, 1949-50. In the fall of 1948 he lectured in New Zealand and Australia. He was named one of Minnesota's "One Hundred Living Great" in 1949.

Milo J. Peterson served as a member, Agriculture Committee, Minneapolis Chamber of Commerce; member, Youth Committee, American-Swedish Institute; member, Education Committee, Governor's Youth Conference; member, Program Planning Committee, Central Regional Research Conference in Agricultural Education; chairman, Contacts Committee, Minnesota Nutrition Council; member, State Advisory Committee, Future Farmers of America. He was director, Central Regional Research Project on Functions of State Supervision in Agricultural Education; and was superintendent, Education Department, Minnesota State Fair. He served as editor of *The Visitor*, a nationally circulated quarterly devoted to agricultural education. He was elected to honorary membership in Alpha Tau Alpha.

Ethel L. Phelps was a member, Advisory Editorial Committee on Publications; and chairman, Research Committee, Textiles and Clothing Division, American Home Economics Association.

Benjamin S. Pomeroy was elected secretary-treasurer, Minnesota State Veterinary Medical Society, 1950. In 1948 he was awarded the S. J. Ranelius Award by the Minnesota Turkey Growers Association.

George A. Pond was elected secretary-treasurer, Minnesota Farm Managers Association. He served as a member, Research Committee, North Central Farm Management.

Louis W. Rees served as a consulting member, Committee D-7 on Wood, American Society for Testing Materials.

A. Glenn Richards was recipient of an extramural contract with the Surgeon General's Office, U. S. Army, for research on structure and permeability of insect cuticle; and

of a research grant from the U. S. Public Health Service on the development of insect cuticle.

Ernest H. Rinke served as chairman, Executive Board, North Central Regional Corn Conference, 1948.

Martin H. Roepke was elected vice-president, Minnesota Chapter, Society of Sigma Xi, 1948-49.

Ella J. Rose was elected president, Minnesota Vocational Association, 1948-49. She served as a member, State Commission on Vocational and Higher Education, 1949-50; as a member, Advisory Council, 1949-50, and as chairman, Association of Teacher Trainers, American Vocational Association. She was the recipient of an award for Leadership in Minnesota from the Minneapolis *Star and Tribune*, 1949.

Clayton O. Rost served as consulting editor of *Soil Science*. He was a member, Soil Research Committee, North Central Region, a member, Regional Technical Research Committee, Missouri Basin Development Program, and served as chairman, Resolutions Committee, Soil Science Society of America and the American Society of Agronomy.

Jay H. Sautter was elected to membership in the Association of Research Workers in Animal Diseases of North America, 1948.

Thorvald Schantz-Hansen served as a member, Advisory Committee, Lake States Research Center, and as chairman, Committee on Standard Practices, Minnesota Tree Farms. He was abstractor of *Biological Abstracts*.

Henry Schmitz was the recipient of the award "Alumnus Summa Laude Dignatus," presented by the University of Washington, 1949; and received the Minnesota Interfraternity Award in recognition of outstanding contribution to faculty-student relations, 1950. He was named chairman, Committee on Organization and Policy, Resident Instruction Section, and chairman, Resident Instruction Section, Division of Agriculture, Association of Land-Grant Colleges and Universities, 1950.

Arthur E. Schneider served as consultant to the Minnesota Division of Forestry.

Miriam G. Scholl was a member, Food Administration Committee, Minnesota Dietetic Association, 1949-50.

Arthur J. Schwantes served as a member of the Council since 1948, and as president, 1948-49, American Society of Agricultural Engineers.

Hubert J. Sloan was named general program chairman, Poultry Science Annual Meeting, 1950. He served on the Committee on *Handbook of Biological Data*, National Research Council, 1949-50.

Fred Smith was elected to Sigma Xi, 1949. He served as collaborator, Starch and Dextrose Division, Northern Regional Research Laboratory, 1950.

Lloyd L. Smith, Jr., served on the Governor's Advisory Committee on Conservation; and was editor of *Transactions*, American Fisheries Society.

Olaf C. Soine served as superintendent, Crops Shows, and as manager, Subcollegiate Crops Judging Contest, Red River Valley Winter Shows, 1949-50.

Elvin C. Stakman received the honorary doctor of science degree from Yale University, 1950. He continued to serve as a member, Advisory Committee for Biology and Medicine, U. S. Atomic Energy Commission, 1948-50; he served as a member of the advisory group appointed by the National Academy of Sciences at the request of SCAP to study status and improvement of scientific work in Japan, November 20 to December 20, 1948. He continued as adviser to the Rockefeller Foundation Agricultural Improvement Program in Mexico and other Latin-American countries, 1948; was named a member, Rockefeller Foundation Commission of Review, International Health Division, 1950; was appointed member, Executive Committee, Agricultural Board, National Research Council, 1950; was named a member, National Academy of Sciences Committee on the John J. Carty Fund, 1950; continued to serve as a member, Editorial Committee, *Annual Review of Microbiology*, 1948-50; and was elected president-elect, 1948, president, 1949, and chairman of the Executive Committee, 1950, American Association for the Advancement of Science. He was named honorary member of the Japanese Phytopathological Society, 1949. In May, 1950, Professor Stakman attended the conference of UNESCO in Florence, Italy, in an advisory capacity. He was designated by the American Association for the Advancement of Science as a member of the U. S. National Commission for UNESCO, 1950; and was appointed a member, standing Committee on Program, National Commission for UNESCO, 1950. He was selected as one of the "One Hundred Living Great" in Minnesota, 1949.

Lucy A. Studley served as a member, Social Welfare and Public Health Committee, Minnesota Home Economics Association, 1948.

Harold B. Swanson was a member, Farm Section, Minnesota Safety Council. He was named honorary state farmer by the Minnesota Association of Future Farmers of America, 1948.

Warren C. Waite was elected president, American Farm Economic Association, 1949. He served as a member, Board of Directors, National Bureau of Economic Research; and as a member, Consultant Panel, Research and Marketing Administration.

Arthur N. Wilcox was elected vice-president, Minnesota Academy of Science, 1949-50.

Raymond Wolf was named chairman, Radio Safety Committee, Minnesota Safety Council.

College of Medical Sciences—George N. Aagaard was official representative, First National Conference on Cardiovascular Disease sponsored by the National Heart Institute and the American Heart Association; was a member, Committee on Postgraduate Education for Physicians; and secretary, Minneapolis Society for Internal Medicine.

Forrest H. Adams was appointed National Research Council Fellow, 1948-49. He was elected to membership, Sigma Xi, 1950; and to Society for Pediatric Research, 1950; and was elected diplomate, American Board of Pediatrics, 1948.

C. Knight Aldrich served as a member of the faculty, Institute on Mental Health in Public Health, Commonwealth Fund and Mississippi State Department of Health, 1949; and member of faculty, Institute on Mental Health in Public Health, Kansas State Department of Health and U. S. Public Health Service, 1950.

Ray M. Amberg was named chairman, Minnesota State Hospital Survey and Construction Program; chairman, Committee on Relationship of Government Boards of Hospitals with Administrators; and chairman, Council on Government Relations, Minnesota Hospital Association. He served as chairman, Subcommittee on Aid to Nursing Education, and as member, Governor's Advisory Committee on Nursing. He was a member of the Advisory Committee, Hospital Administrators Registration, and Advisory Committee on Hospital Licensing, State Board of Health; Council on Government Relations, and Veterans Affairs Committee, American Hospital Association; and Public Health Committee, Minnesota Pharmaceutical Association. He was elected trustee, American Hospital Association; and regent, American College of Hospital Administrators.

Gaylord W. Anderson served as vice-chairman, Technical Committee on Professional Training, World Health Organization; consultant to the Surgeon-General, Department of the Army; member, Committee on Survey of Schools of Public Health; consultant to Communicable Disease Control Section; consultant to the Surgeon General, U. S. Public Health Service; consultant, Institute of Inter-American Affairs, Colombia and Ecuador, 1949; exchange technical specialist, State Department, in Chile and Peru, 1948; chairman, Poliomyelitis Commission, Minnesota Health Department; chairman, Mayor's Advisory Poliomyelitis Commission; secretary-treasurer, Association of Schools of Public Health, 1948-50; member, Governing Council, 1948-49, member, Committee on Professional Education, 1948-50, chairman, Subcommittee on Field Training, 1948-50, American Public Health Association; trustee, American Board of Preventive Medicine and Public Health, 1948-50; and chairman, Medical Advisory Committee, Hennepin County Chapter, National Foundation for Infantile Paralysis.

Wallace D. Armstrong was appointed consultant, Dental Study Section, U. S. Public Health Service. He was awarded the Rockefeller Foundation Special Fellowship for study in Europe, 1950; and served as chairman, Josiah Macy, Jr., Foundation Conference on Metabolic Interrelations. He received research grants from the U. S. Public Health Service.

Abe B. Baker was elected president, American Academy of Neurology, 1948; and served as chairman, Medical Advisory Board, Minnesota Chapter, Multiple Sclerosis Society, 1950; and member, Medical Advisory Board, National Multiple Sclerosis Society, 1949. He was recipient of a U. S. Public Health Service Grant, 1950; and of a National Foundation Grant, 1950 (continuation), Council of American Neurological Association, 1949.

Cyrus P. Barnum, Jr., was recipient of research grants from the American Cancer Society, 1948-49, and 1949-50.

Ivan D. Baronofsky served as a member, Blood Bank Committee, Ramsey County Medical Society. He was elected a member, Sigma Xi; and fellow, American College of Chest Physicians. He received research grants from the U. S. Public Health Service on "mitral stenosis and organ transplants."

Robert N. Barr was named chairman, Home Safety Section, Minnesota Safety Council; and chairman, Committee on Vaccination and Immunization, Minnesota State Medical Association. He served as Christmas Seal sale chairman, Hennepin County Tuberculosis Association.

Henry Bauer served as secretary, Laboratory, Epidemiology and Preventable Disease Section, Middle States Public Health Association, 1950. He was elected to membership in Sigma Xi, 1950.

Raymond N. Bieter was named member, Committee on Drug Addiction and Narcotics, National Research Council, 1948-50; and secretary-treasurer Minnesota State Board of Examiners in the Basic Sciences, 1948-50.

John J. Bittner served as a member, Board of Directors, second vice-president, 1948, and state delegate to the national meeting, 1948, Minnesota Division, American Cancer Society, Incorporated; member, Committee on Growth, Experimental Genetics Panel, 1948-50, National Research Council; member, Editorial Advisory Board, Cancer Research, since 1941; and has been a member, Board of Directors since 1945, and president, 1948, American Association for Cancer Research. He is an honorary member, Harvey Society; and a fellow, American Association for the Advancement of Science. He was a contributor (but unable to attend) to the Symposium on the Biological Problem of Cancer, Vatican Academy of Science, Vatican City, 1949. He was awarded the honorary doctor of science degree by Bard College, 1950. He has received special research grants from the American Cancer Society, Incorporated, upon recommendation by the Committee on Growth, National Research Council; the National Cancer Institute; Minnesota Division, American Cancer Society, Incorporated; Damon Runyon Memorial Fund for Cancer Research, Incorporated; Elsa U. Pardee Foundation: grant for 10 years to establish the Elsa U. Pardee Professorship in Cancer Biology.

Lawrence R. Boies was elected to Council of the American Laryngological, Rhinological, and Otolological Society, 1948-50; Board of Secretaries, American Academy of Ophthalmology and Otolaryngology, 1949-50; Board of Trustees, Research Fund, American Otolological Society, 1950; and was appointed director, American Board of Otolaryngology, 1949-50.

Herbert M. Bosch was awarded the Order of Orange, Nassau, The Netherlands.

Helen W. Bowditch served as a member, Board of Directors, Minnesota League of Nursing Education; chairman, Administrative Section, Civil Service Advisory Committee, Minnesota Nurses' Association; member, Subcommittee on Psychiatric Nursing, National League of Nursing Education; member, Panel of Nurse Advisers to Nursing Consultants, Mental Hygiene Division, Public Health Service, Federal Security Agency; psychiatric nursing consultant, Regional Office 8, Veterans Administration.

Rena Boyle served as director of an institute at the State University of Iowa on "Principles of Learning Applied to Teaching of Nursing."

Josef Brozek served as member, Subcommittee on Physiological Stress in Industry, Food and Nutrition Board, 1948-49; consultant, Panel on Psychology and Physiology, Committee on Undersea Warfare, 1948-49; member, Subcommittee on Undernutrition and Starvation, 1950; and member, Committee on Anthropometric Standards, 1950, National Research Council. He was associate editor, *Nutrition Reviews*.

Albert L. Burroughs was engaged in a study of the natural history of Japanese B. encephalitis, as a civilian employee of the Army, 406 Medical General Laboratory, Tokyo, Japan, 1949-50.

Berry Campbell served as consultant for State Mental Health Program for setting up research laboratories at state hospitals. He was elected president, Minnesota Chapter, and member, National Council of Society for Experimental Biology and Medicine.

Carleton B. Chapman was named councilor, American Federation for Clinical Research, 1950; and associate member, American College of Physicians, 1949.

Myrtle H. Coe served as member, Governor's Advisory Committee on Nursing; and member, Committee on Cardio-Vascular Clinics, and participated in revision of its publication, *Recommended Standards and Minimum Requirements for a Cardio-Vascular Clinic*. She was elected president, Minnesota Nurses' Association; was elected to membership on the American Council on Rheumatic Fever; and was elected to the Executive Committee, National Committee on Cardiovascular Clinic, American Heart Association.

Saul L. Cohen was recipient of research grants from the National Research Council, 1948-49, and the U. S. Public Health Service, 1948-50.

Dolores Colesworthy was a member, Civil Service Advisory Committee, Minnesota Nurses' Association; director, Minnesota League of Nursing Education; and member, Committee on Public Relations, American Nurses Association.

Martha R. Cress was elected president, Zeta Chapter, Sigma Theta Tau.

William J. Cromartie participated in U. S. Public Health Service research project entitled "Experimental Studies in Rheumatic Fever," and U. S. Army research project, "Immune Mechanisms Typhoid Fever." He served as consultant, Advisory Panel—Microbiology Branch, Office of Naval Research.

Clarence Dennis was elected secretary, Society of University Surgeons. He was awarded the Kellogg Foundation Lectureship, The George Washington University, 1950; and the National Cancer Society Lectureship, El Paso, Texas, 1949.

Katharine J. Densford served as second vice-president, International Council of Nurses, 1948-50; presiding chairman, nursing section, International Congress on Industrial Medicine, in London; presiding chairman, meeting of the Interim Congress, International Congress of Nurses, Stockholm; member, Board of Directors, American Journal of Nursing; consultant to the Army Nurse Corps; member, Special Medical Advisory Group, Veterans Administration; member, Committee on Physician Education, Conference on Cardio-Vascular Diseases. She attended a conference of civilian women leaders called by the Secretary, Department of Defense, to consider matters dealing with the "Full utilization of women in places of responsibility as civilians and as members of the military services in the event of national need." She was awarded the honorary LL.D. degree by Miami University, Ohio, 1950; and was listed in Minnesota's "One Hundred Living Great."

Harold S. Diehl served as a member, Health Resources Advisory Committee, National Security Resources Board and Office of Defense Mobilization; National Advisory Committee, Selective Service System; Council on National Emergency Medical Service, American Medical Association; Medical Advisory Committee, United Mines Workers Welfare Fund; Health and Medical Advisory Committee, National Red Cross; and Joint Committee on Medical Education in the National Emergency.

Thelma Dodds served as a member, Board of Directors, and member, Legislative Committee, Minnesota Nurses' Association; member, Minnesota State Board of Examiners of Nurses; and member, Advisory Council, State Hospital Survey and Construction Program.

Hal Downey (emeritus) served as American editor, newly revived international Journal *Haematologica*.

Abraham Falk was elected associate, American College of Physicians, 1949. He was appointed a member, Minnesota Trudeau Sanatorium Commission, 1950; and diplomate, American Board of Internal Medicine, 1950.

Margaret Filson served as a member, Board of Directors, Minnesota League of Nursing Education; member, Postgraduate Board of Review, National Accrediting Service; and consultant, Veterans Administration Nursing Service. She attended as consultant a meeting on preparation of nursing service personnel called by the W. K. Kellogg Foundation.

Dean S. Fleming served as executive secretary, Minnesota Public Health Conference, 1949-50.

Edmund B. Flink was awarded the Commonwealth Fund Fellowship, 1948.

Leslie W. Foker was named consultant, Division of Industrial Health, Minnesota Department of Health, 1949-50. He served as member, Committee on Industrial Safety, Minnesota State Medical Association; and member, Committee on Education, President's Conference on Industrial Safety, 1949.

Lyle A. French was elected to membership, American Board of Neurosurgery, 1948; Sigma Xi, 1949; Neurosurgical Society of America, 1949; American Academy of Neurology, 1949; Central Society Encephalographus, 1949.

Beulah Gautefald was elected to Sigma Theta Tau, honorary nursing society.

Ernst Gellhorn delivered lectures at the invitation of the Royal Society of Medicine, Section of Psychiatry, University of London, 1949. He was a member, Editorial Board, *Acta Neurovegetativa*. He was recipient of research grants from the Office of Naval Research and the Life Insurance Fund.

David Glick was awarded the Commonwealth Fund Advanced Medical Fellowship for histochemical study in Copenhagen and Stockholm, 1949, and lectured at the Carlsberg Laboratory and at the Institute of Forensic Medicine, Copenhagen, Denmark. He was elected vice-president, Histochemical Society of America, March, 1950. He was recipient of research grants from Polio Foundation, 1948-49, Fellowships and Grants Division, 1948-50, and National Cancer Institute, 1948-50, National Institute of Health.

Margaret Grainger was elected to Sigma Theta Tau, honorary nursing society.

William Griffiths was elected president, Society of State Directors of Public Health Education; and served as vice-chairman, Public Health Education Section, American Public Health Association.

Ruth E. Grout was named chairman, Committee on Evaluation and Research, Public Health Education Section, American Public Health Association, 1948-50; and consultant to Georgia Department of Public Health, Division of Public Health Education, 1949.

Wendell H. Hall served as member, Laboratory Committee, Fifth through Ninth Streptomycin Conferences, Tuberculosis and Research Divisions, U. S. Veterans Administration.

Halvor O. Halvorson, was awarded the honorary degree, doctor of science, by St. Olaf College, June, 1949.

James A. Hamilton was recipient of the Annual Award of Merit, 1948, American Hospital Association: "As distinguished hospital administrator and educator . . ." He served as consultant to the Minister of Health and Welfare, Province of British Columbia, Canada, 1948-50; consultant to the Pan-American Sanitary Bureau, World Health Organization, 1950; consultant to the University of Sao Paulo, Brazil, South America, 1950; and consultant to Indiana State Board of Health, 1949. He was a member, Social Security Committee, Efficiency in Government Commission, State of Minnesota, 1949-50; member, Advisory Committee on Registration of Hospital Administrators, Minnesota Department of Health, 1949-50; member, Advisory Educational Council, 1948-50, and member, Committee to Develop Criteria for Selection of Hospital Administrators, 1949, American College of Hospital Administrators; member, Council on Education, 1948-49, and Pension Committee, 1949, American Hospital Association; and chairman, Research Committee, Association of University Programs in Hospital Administration, 1949-50. He was elected first vice-president and trustee, Inter-American Hospital Association, 1948-50. He served as a member, Research Committee, Conference of University Programs in Hospital Administration, 1950; member, Hospital Advisory Council, W. K. Kellogg Foundation, 1948-50; chairman, Council on Administrative Practice, 1949-50, and chairman, Council on Professional Education, 1949-50, Minnesota Hospital Association. He was a trustee, Tilton School, Tilton, New Hampshire, 1949-50. In 1950, he lectured at National University of Brazil.

Erling W. Hansen served as a member, Board of Secretaries, American Academy of Ophthalmology and Otolaryngology, 1948-50; member, Committee on Research, American Society for the Prevention of Blindness, 1949-50; and Public Relations director, Pan-American Association of Ophthalmology, 1948-50.

Helen C. Hanson served as a member, Program Committee, Minnesota Nurses' Association.

Ruth Harrington served as chairman, Subcommittee on Educational Resources for Graduate Nurses; chairman, National Committee for Improvement of Nursing Services; member, Board of Directors, National League of Nursing Education; member, Joint Committee on Post-Graduate Nursing Education; and member, Minnesota State Board of Examiners of Nurses.

M. Isabel Harris was elected to Sigma Theta Tau, honorary nursing society.

J. Francis Hartmann was recipient of a research grant from the U. S. Public Health Service.

Donald W. Hastings was a member, Air Force Scientific Advisory Board, 1950; consultant in Psychiatry and Neurology to the Surgeon General, U. S. Army. He served as personnel research consultant, Committee on Foreign Service Examinations, U. S. Department of State, 1949; was a member, Governor's Advisory Committee; member, National Research Council; and member, Mental Hospitals Subcommittee, Minnesota State Board of Health. He received research grants from the U. S. Public Health Service.

Starke R. Hathaway was nominated member, National Research Council to represent American Psychological Association, 1949; and was made honorary member, Phi Beta Kappa, 1949. He served as a member, Committee on Nominations and Elections, Division of Clinical and Abnormal Psychology, American Psychological Association, 1949-50; and member, Legislative Interim Committee to Study Juvenile Court and Domestic Relations Problems in Minnesota, 1949. He was elected to the Council of the American Psychological Association, 1950.

Lyle J. Hay was named diplomate, American Board of Surgery.

Robert Hebbel was elected president of Minnesota Pathological Society, 1950.

Allan Hemingway served as consultant for U. S. Government on Symposium on Resuscitation Devices, 1949; and Symposium on Motion Sickness, 1950. He was the recipient of research grants from the U. S. Public Health Service, the National Foundation for Infantile Paralysis, and the Quartermaster Corps, U. S. Army.

Austin Henschel served as secretary, Minnesota Section, Society for Experimental Biology and Medicine; and member, Panel on Physiology, Research and Development Board.

Fred W. Hoffbauer served as an associate member, Commission on Liver Disease; member, Armed Forces Epidemiological Board; deputy to the director of the Commis-

sion; editor, *Transactions of the Conferences on Liver Injury*, annual publication, Josiah Macy, Jr., Foundation of New York.

Edgar J. Hueneckens was appointed national medical director, Kenny Foundation, 1949.

Kano Ikeda was elected secretary, Minnesota Society of Clinical Pathologists, 1948-50.

Reynold A. Jensen was appointed secretary, Section on Child Psychiatry, American Psychiatric Association, 1948-50. He served as a member, Advisory Council, Associated Friends of the Mentally Retarded, 1950; member and chairman, 1949-50, Committee on Child Psychiatry, American Psychiatric Association; chairman, Advisory Mental Health Committee, Minnesota State Board of Health, 1949-50.

Ruth V. Johnston was elected president and vice-president, Epsilon Chapter, Pi Lambda Theta, honorary education society. She served as chairman, Minnesota League of Nursing Education, 1948. Since 1949, she has been a member, Board of Directors, Minnesota League of Nursing Education; and member, Vocational Guidance Committee, National League of Nursing Education.

William A. Jordan was elected secretary, State and Territorial Dental Directors' Organization; and president-elect, American Association of Public Health Dentists. He served as a member, American Board of Dental Public Health; and as vice-chairman, Section 3 (Nutrition, Dental Health, Maternal and Child Care), Middle States Health Association. He was editor, Public Health Section, *North-West Dentistry*.

Katherine Kendall served as a member, Program Committee, Minnesota League of Nursing Education. She was elected to Sigma Theta Tau, honorary nursing society.

Ancel Keys served as chairman, Committee on Calories, Food and Agriculture Organization, United Nations; member and later chairman, Committee on Field Physiology, and member, Panel of Consultants, Research and Development Board, Department of Defense; scientific adviser to Office of the Commissioner of Mental Health, State of Minnesota; member, Board of Directors, Minnesota Heart Association; member, Committee on Research and Standards, American Public Health Association; and for the National Research Council served on the following committees: Food and Nutrition Board and Panel of Consultants to the Board; Ad Hoc Committee on the Food Emergency; Committee on Diagnosis and Therapy of Nutritional Deficiency; Committee on Food Composition; chairman, Subcommittee on Undernutrition and Starvation, and chairman, Committee on Anthropometric Standards. He was elected to membership in the British Nutrition Society.

Arthur Kirschbaum served as advisory editor, *Cancer Research*, 1949-50. He was the recipient of research grants as follows: U. S. Public Health Service; Baker Plan-Special Research in Anatomy; Jane Coffin Childs Grant; Life Insurance Medical Research; Donner Foundation; U. S. Public Health Service Cancer Research; Federal Security Agency; American Cancer Society.

Ralph T. Knight served as a member, Panel Discussion, American College of Surgery, 1950; consultant, editorial staff, *Modern Medicine*; past first vice-president, American Society of Anesthesiologists; past president, Minnesota Society of Anesthesiologists; and guest examiner, American Board of Anesthesiology.

Arnold J. Kremen served as a member of Steering and Interim Committee of Cancer Coordinators, American Medical School, 1948-49; member, the American Cancer Society Committee on Institutional Grants, New York City, 1950. He was recipient of a grant from the National Heart Institute, U. S. Public Health Service, 1948-50; and U. S. Public Health Service grant for Clinical Cancer Teaching, 1948-50.

Cecelia Lediger served as chairman, Neuropsychiatric Nursing Committee, Minnesota League of Nursing Education; chairman, Advisory Committee on Nursing to the Minnesota State Civil Service Commission, Minnesota Nurses' Association; chairman, Advisory Committee on Nursing, Minnesota Mental Hygiene Society; and member, Health Panel, Second Annual Governor's Conference on Youth.

C. Walton Lillehei was recipient of a grant from U. S. Public Health Service (National Heart Institute for Endocarditis), 1950. He was named a fellow of the National Cancer Institute, 1948-50.

Helen Linehan was elected to Psi Chi, honor society in psychology.

Agnes Love served as a member, Curriculum Committee, Minnesota League of Nursing Education, and member, Administrative Section, Minnesota Nurses' Association.

Margery Low was chairman, State-Wide Committee, In-Service Education in Rural Hospitals.

Charles U. Lowe was elected to membership, Society for Pediatric Research, 1950; Sigma Xi, 1950; and American Association for Advancement of Science, 1950.

Lois M. Martens was awarded the Isabel Hampton Robb Scholarship for advanced study in nursing education.

Charles D. May was elected to membership, Sigma Xi, 1950. He was the recipient of research grants from: M&R Dietetic Laboratories, Incorporated; Wyeth, Incorporated; and Gerber Products Company, 1949-50.

James S. McCartney served as president, Minnesota State Board of Basic Science Examiners, 1948-50.

John L. McKelvey was elected to honorary membership, Society of Obstetricians and Gynecologists of Canada, 1949.

Irvine McQuarrie was appointed consulting editor, *Journal of the American Academy of General Practice*, 1950; and consultant, Minnesota State Mental Health Program, 1949. He was elected to Board of Directors, Minnesota Health Association, 1950; and to honorary membership, Cuban Pediatric Society, 1949. He received research grants from: Swift and Company, 1949-50; and Schering-Ciba Companies, 1949-50.

Henry E. Michelson was elected associate editor, *Archives of Dermatology*; president, American Board of Dermatology and Syphilology; president, American Dermatological Association; and corresponding member, Austrian, Danish, and Italian Dermatological Societies. He received research grants from Duke Laboratories.

Harold C. Mickey was a member, Council on Professional Practice, American Hospital Association.

George E. Moore was elected to membership in Gamma Alpha, and in Sigma Xi. He was the recipient of special research grants from the U. S. Public Health Service and the Atomic Energy Commission. He was awarded the John L. Markle Foundation Scholarship (five-year period) in 1948; and the Samuel Gross Prize for 1950 by the College of Physicians, City of Philadelphia.

J. Arthur Myers served as consultant to Principal Advisory Group, Tuberculosis Division, U. S. Public Health Service, 1949-50; member, Subcommittee on Courses for General Practitioners, American Trudeau Society, 1949-50; member, Advisory Committee to Committee on Tuberculosis, American College Health Association, 1949-50; member, Board of Directors, Minnesota Public Health Association; member, Committee on Respiratory System for Standard Nomenclature of Diseases and Operations, American Medical Association, 1949-50. Dr. Myers served on the Board of Editors of Section XV (Tuberculosis), *Excerpta Medica*, 1949; was elected secretary, Section on Diseases of Chest, American Medical Association, 1949-50; was a member, Subcommittee on Tuberculosis, National Research Council, 1949; consultant to Surgeon General, Division of Research Grants and Fellowships, U. S. Public Health Service, 1949-50; member, Advisory Editorial Board, American Academy of General Practice; chairman, Committee on Tuberculosis, 1949-50, and member, Executive Committee on Public Health Education, 1950, Minnesota State Medical Association; member, Advisory Board to Tuberculosis Control Unit, Minnesota State Division of Public Institutions, 1950; member, Committee on Awards of Scientific Exhibit, American Medical Association, 1950; chairman, Financial Section of Council on Research, American College of Chest Physicians, 1949; member, Subspecialty Board in Pulmonary Diseases, American Board of Internal Medicine; and chairman, Committee on Tuberculosis, American School Health Association. He was editor, *American Journal of Diseases of the Chest*, and editor, *Journal-Lancet*.

Samuel Nesbitt was recipient of a research grant from National Research Council, 1948-49.

John F. Noble served as president, Minnesota Society of Clinical Pathologists, 1950.

Georgia Nobles served as chairman, Legislative Committee, Minnesota League of Nursing Education; and as second vice-president, Minnesota Nurses' Association.

Theodore A. Olson was the recipient of research grants from the U. S. Public Health Service, 1948-50. He was consultant to Minnesota State Department of Health, 1948-50; and member, Subcommittee on Standard Methods for the Examination of Water and Sewage, American Public Health Association, 1948-50.

Catherine M. O'Neill was elected to Sigma Theta Tau, honorary society in nursing, and to Pi Lambda Theta, honorary education society, 1950.

Melvina F. Palmer was a member, Nursing Advisory Committee, Metropolitan Life Insurance Company; and was elected vice-president, State Board of Nurse Examiners.

Lena Paskewitz served as a member, Board of Directors, and as chairman, Legislative Committee, Minnesota League of Nursing Education.

George O. Pierce served as consultant engineer, Health and Sanitation Division, Institute of Inter-American Affairs, assigned to studies for the Brazil Field Party, 1949 and 1950. He was elected secretary, Minnesota Chapter of Sigma Xi, 1948-49; secretary,

1948-49, and vice-chairman, 1949-50, Engineering Section, American Public Health Association.

Andrew T. Rasmussen was elected second vice-president, American Association of Anatomists, 1948-50. He was the recipient of research grants from the U. S. Public Health Service.

Kurt Reichert served as a member, Governor's Advisory Committee on Commitment and Other Legal Procedures relating to the mentally ill.

Wanda M. Robertson was a member, Curriculum Committee, Minnesota League of Nursing Education.

Harvey G. Rogers served as member, Subcommittee on Sanitary Engineering and Environment, National Research Council; and as a member, Committee on Sewage Disposal for American Public Health Association, Missouri River Basin Health Council, and Upper Mississippi River and Great Lakes Boards of Public Health Engineers. He is the recipient of research funds from Water Pollution Control Sections, U. S. Public Health Service.

Burtrum C. Schiele was appointed chairman, Medical Advisory Board, and co-director, for one year, Minnesota Mental Hygiene Society. He served as member, Governor's Advisory Board on Mental Health; member, Medical Advisory Board, State Board of Health; chairman, Minnesota Subcommittee, Committee for Cooperation with Lay Groups, American Psychiatric Association; and consultant, Willmar State Hospital, St. Cloud Veterans Hospital, and Youth Conservation Commission. He was elected vice-president, Minnesota Society of Neurology and Psychiatry.

Samuel Schwartz received a three-year research grant from U. S. Atomic Energy Commission.

Eleanor Sheldon served as chairman, Headquarter's Staff, Minnesota Nurses' Association; and as chairman, Curriculum Committee, Minnesota League of Nursing Education.

John F. Shronts was a member, Governor's Committee on Employment for Physically Handicapped Persons; member, State Committee of Efficiency in Government Commission; member, Committee on Industrial Health, Minnesota State Medical Society; member, Board of Governors, Central States Society of Industrial Medicine and Surgery; and Membership Committee, American Association of Industrial Physicians and Surgeons.

Werner Simon was elected to fellowship in the American Psychiatric Association, 1949; and was elected associate, American College of Physicians, 1948.

Ernst Simonson was a member, Committee on Nutrition of Industrial Workers, Food and Nutrition Board, National Research Council; and member, Editorial Board, *Journal of Applied Physiology*.

Wesley W. Spink served as a member, Governor Youngdahl's Advisory Council on Brucellosis for the State of Minnesota, 1950; chairman, Committee on Brucellosis, and member, Agricultural Board, National Research Council; chairman, U. S. Committee on Brucellosis; organizing chairman, Third Inter-American Congress on Brucellosis, Washington, D. C., 1950; member, Expert Advisory Committee on Brucellosis, World Health Organization; member, editorial board, *Journal of Laboratory and Clinical Medicine*; and member, Editorial Board, *Journal of Clinical Investigation*. He was elected president, American Society for Clinical Investigation, 1949; and member, Board of Governors, American College of Physicians. He was awarded the honorary degree, doctor of science, by Carleton College, June, 1950. He received special research grants from Upjohn Company, Minnesota Medical Foundation, Charles Pfizer and Company, Swift and Company, U. S. Public Health Service, Lederle Laboratories, American Cyanamid Company, and George P. Douglas Fund for Medical Research.

David State was the recipient of a research grant from the U. S. Public Health Service. He was elected a member, Sigma Xi; and a fellow, American College of Surgeons and American Medical Association.

James W. Stephan was awarded a fellowship, American College of Hospital Administrators. He was elected vice-president, 1949, and member, Board of Trustees (three-year term), 1949, Minnesota Hospital Association.

Jerome T. Syverson participated in research projects for which funds were granted by U. S. Public Health Service, National Foundation for Infantile Paralysis, Office of Naval Research, U. S. Navy, and American Cancer Society. He served as consultant: U. S. Public Health Service, Viral and Rickettsial Study Section; and Office of Naval Research. He was elected and served as secretary and treasurer, American Board of Microbiologists; and president, local branch, Society of American Bacteriologists.

Margaret S. Taylor served as nurse consultant, Advisory Committee of Tuberculosis Control Division, Public Health Service, Federal Security Agency; member, Executive Committee, National Organization for Public Health Nursing, 1950; chairman and member, Joint Tuberculosis Nursing Advisory Service, National Organization for Public Health Nursing and National League of Nursing Education; vice-chairman and chairman, Public Health Nursing Section, American Public Health Association; member, Public Health Advisory Committee, American Heart Association; chairman, Educational Committee, and member, Mental Hygiene Committee, National Organization for Public Health Nursing, 1948-50.

Gertrude I. Thomas was awarded a testimonial by the Minnesota Dietetic Association of the American Dietetic Association. She served as a member of the Board, 1948-50, as librarian, 1948-50, and as chairman of lectures, 1950, Minnesota Branch, National League of American Penwomen. She was a member, Camp Committee, Campfire Girls of Minneapolis, 1948-50; and a member, Program Committee, Minneapolis Zonta Club of Zonta International, 1950.

Dorothy Titt was a member, Committee on Tests and Measurements, National League of Nursing Education.

William B. Tucker was named chairman, Clinical Subcommittee, Committee on Medical Research and Therapy, American Trudeau Society; member, Medical Section, National Tuberculosis Association, and ex-officio member, Committee on Medical Research and Therapy. He served on the editorial board, *The American Review of Tuberculosis*, 1950; and as chairman, Conferences on Chemotherapy of Tuberculosis.

Richard L. Varco was awarded the Kellogg Lectureship, at The George Washington University, 1948. He was the recipient of research grants for "Non-suture Anastomosis for Revascularization of the Coronary Circulation," "Development of Portable Mass Spectrometer," "Experimental Coarctation of the Aorta."

Carol H. Vennes was elected president, Sigma Theta Tau, honorary nursing society.

Maurice B. Visscher served as special consultant, Surgeon General's Office, U. S. Army, 1950; vice-president, American Heart Association, 1950; member, Award Committee for Physiology, Fulbright Fellowships, 1950; chairman, National Research Council Committee, UNESCO, 1950; special representative, Council for the Coordination of International Congresses in the Medical Sciences, World Medical Association, 1950; secretary, Permanent Committee for the International Physiological Congress, 1950; president, 1948-49, and past-president, 1949-50, American Physiological Society; president, Board of Directors, *Biological Abstracts*, 1950; member, Board of Directors, Unitarian Service Committee, 1950; and member, Board of Directors, American Humanist Association, 1950.

Ruth von Bergen was a member, Mental Hygiene Committee, National Organization for Public Health Nursing.

Jeanette Vroom served as chairman, Field Resources Committee on Curriculum, Minnesota League of Nursing Education, 1948-50; and a member, Collegiate Council, National Organization for Public Health Nursing.

Owen H. Wangenstein received the American Cancer Society Award, 1949; and was recipient of research grants from the U. S. Public Health Service for studies on the etiology of ulcer, precursor gastric cancer study. He was named chairman, Gastric Cancer Committee, Surgical Study Section, U. S. Public Health Service; and member, Committee on Growth, National Research Council. In 1949, the University of Pennsylvania awarded him the Alvarenga Prize for research in ulcer.

Cecil J. Watson served as director, Commission on Liver Disease, Armed Forces Epidemiological Board; recorder and member of Council, Association of American Physicians; member, Committee on Medicine, and Subcommittee on Liver Disease, National Research Council; member, Josiah Macy, Jr., Liver Injury Conference, chairman, 1948-49; member, American Board of Internal Medicine, 1948-49. He was elected honorary member of Harvey Society. Dr. Watson was invited to give special lectures as follows: Harvey lecturer, 1948; lecturer in Medicine, Royal College of Physicians and Surgeons of Canada, 1948; Carpenter lecturer, New York Academy of Medicine, 1949; Rudolph Matas lecturer, Tulane University Medical School, 1950; special lecture, University of London, England, 1950; lectures at St. Mary's and Postgraduate Medical Schools, London, 1950; visiting Physician-in-Chief, Vancouver General Hospital; and lecturer, Vancouver Medical Association, 1950. He was named chairman of a session, Ciba International Liver Conference, London, 1950. He served as member, Editorial Boards, *Journal of Laboratory and Clinical Medicine*, and *Blood, the Journal of Hematology*; and as

editor of *Outlines of Internal Medicine*. He received research grants from U. S. Public Health Service; held contracts with U. S. Army Division of Preventive Medicine, under sponsorship of Commission on Liver Disease, Armed Forces Epidemiological Board for research on liver disease; and with Atomic Energy Commission for research on porphyrin metabolism.

Dennis W. Watson participated in U. S. Public Health Service research project "Experimental Studies of Rheumatic Fever" and Medical Research and Dental Board project, "Immune Mechanisms in Typhoid Fever." He served as consultant, U. S. Army, in reviewing immunization procedures.

Lemen J. Wells participated in the International Symposium on Sex Differentiation in Vertebrates, Paris, France, June, 1950. He received research grants from U. S. Public Health Service, National Research Council, and Ciba Pharmaceutical Products, Incorporated.

Harold A. Whittaker served as special consultant to the Alaska Health and Sanitation Activities and Arctic Health Center; member, Sanitation Advisory Board, U. S. Public Health Service; adviser, Office of Surgeon General and Office of Chief of Engineers, Department of the Army; and consultant in Latin-American countries, Institute of Inter-American Affairs. For the Minnesota State Board of Health he served on three committees: Advisory Committee on Methemoglobinemia in Infants; Advisory Committee on Milk Sanitation Program; Advisory Committee on Training and Certification of Water and Sewage Works Operators. He was a member, Subcommittee on Chronic Disease Hospitals, Minnesota Advisory Council on Hospital Construction, and member, Council of Consultants, National Sanitation Foundation. He served as a member, Committee on Sanitary Engineering and Environment, chairman, Subcommittee on Waste Disposal, member, Subcommittee on Radio-active Wastes, and member, Committee on Insect and Rodent Control, National Research Council. He also served in the following capacities for the American Public Health Association: chairman, Committee on Air Pollution, Engineering Section; chairman, Study Group on Sanitation, Committee on Administrative Practice; member, Subcommittee on Air Sanitation, Committee on Research and Standards; member, Coordinating Committee, Engineering Section Project; member, Subcommittee on Graduate Education, Committee on Professional Education; and member, Committee on Hygiene of Housing.

W. Lane Williams was named associate consultant, Committee on Liver Diseases, Surgeon General's Office. He received research grants from the War Department Surgeon General/C.L.D.; and the U. S. Public Health Service.

College of Education—Gertrude M. Baker was elected national president, Hygiene Division, Wellesley Alumnae Association, 1949. She served as chairman, District Committee on Interpretation of Trends as They Affect Physical Education for Women, Central Association for Physical Education of College Women, 1948-50; member, National Committee on Historical Exhibits, American Association for Health, Physical Education, and Recreation, 1948-49; member, Committee on Revision of State Curriculum at the Secondary Level, State Department of Education, 1948-50; member, Minnesota Board, National Section on Women's Athletics, 1948-50; and member, Governor's Youth Conference, 1949-50.

David C. Bartelma was elected secretary-treasurer, American Wrestling Coaches and Officials Association; and was appointed member, Wrestling Rules Committee, National Collegiate Athletic Association.

Theresa Ann Bell served as chairman, Central District Dance Section, American Association for Health, Physical Education, and Recreation, 1950.

Mary Bermingham was named chairman, Minnesota Section, Women's National Officials Rating Committee, 1948-50; and chairman, Minnesota Bowling Section, National Section of Women's Athletics, 1948-50.

Charles W. Boardman was a member, Committee on National Teacher Examinations, American Council on Education, 1948-49; consultant to the Board of Directors, Minnesota Association of Secondary School Principals, 1948-50; editor, Secondary Education, *Encyclopedia of Educational Research*, 1948-49. He was elected president, North Central Association of Colleges and Secondary Schools, 1949-50; and in 1950 was named honorary life member.

Else H. Bockstruck served as state chairman, International Relations, American Association for Health, Physical Education, and Recreation, 1950.

Guy L. Bond served as educational consultant, National Miller's Federation, Chicago, 1948; reading consultant, Department of Education, Kansas City, Missouri, 1949; reading consultant, Hennepin County Superintendent's Office, Minneapolis, Minnesota, 1950;

reading consultant, Minnesota Department of Education, 1949; adviser, Reading Curriculum, Minnesota Department of Education, 1949; educational consultant, Minneapolis Board of Education Health Committee, 1949; consultant, All-School Reading Program, Mason City, Iowa, Public School System, 1950; reading curriculum adviser, Minneapolis Public Schools, March, 1950; and member, Special Examining Committee for Visually Handicapped Instructors, State Department of Education, 1950.

Leo J. Brueckner served as chief of the Division of Elementary and Secondary Education, Office of Military Government of the U.S.A., Berlin, Germany, November, 1947, to September, 1948; and as specialist in Education, Office of Military Government, Munich, Bavaria, March to June, 1949.

Miles E. Cary was a member, Minneapolis Commission on International Understanding and World Peace (Public School Commission). He was elected vice-president, Twin Cities Chapter, American Education Fellowship, 1949-50, and served as a member, State Council, United World Federalists.

Walter W. Cook served as chairman, Committee of the National Society for the Study of Education appointed to devise means of improving instruction for teachers in the fields of educational psychology and human development, 1949; and member, Committee on Building a Profession of Educational Research, American Educational Research Association, 1950.

Harold A. Delp served as chairman, Calhoun and Seven-Lakes District Committees, and member, Executive Board, Minneapolis Area Boy Scouts, 1949-50.

Otto E. Domian served as a member, state committee for the Revision of the State Accounting System for School Districts, 1949-50; and as member, state committee on Revision of the Minnesota Manual for Public School Buildings and Grounds.

Willis E. Dugan was elected president, Personnel Section, American Association of Colleges for Teacher Education, 1950; secretary, Council on Cooperation in Teacher Education, A.C.E., 1950; member, Executive Board, Minnesota Psychological Association, 1949-50; member, Board of Directors, and chairman, Ethical Practices Committee, Minnesota Vocational Guidance Association, 1948-50. He was named chairman, Legislative Subcommittee on Education, Minnesota Psychological Association; Minnesota state chairman, March of Dimes Campaign, 1948-50; and chairman, Divisional Committee on Individual Appraisal and Counseling, 1947-49. He served as a member, 1949-50, National Vocational Guidance Association; member, Board of Representatives, National Council of Guidance and Personnel Associations; member, Committee on Guidance Bulletin, Minnesota State Department of Education; member, Guidance Committee, National Association of Secondary School Principals; and as co-editor, monthly report on "Guidance in Minnesota," Minnesota Education Association *Journal*.

Ruth E. Eckert was named chairman, Work Committee, Minnesota Commission on Higher Education, 1948-49; member, Executive Committee, Department of Higher Education, National Education Association, 1948-49; and member, Committee on Higher Education, National Society of College Teachers of Education, 1949-50.

Marcia Edwards served as treasurer and member, Executive Committee, American College Personnel Association, 1949-50.

Clifton Gayne served as representative of the National Art Education Association at the National Conference on Evaluative Criteria for Teacher-Education Programs, June, 1950, and at the meeting of Executive Committee, American Association of Colleges for Teacher Education, August, 1950.

H. Robert Giles served as membership chairman, American Recreation Society for State of Minnesota, 1949-50; member, Committee of Management, University Branch YMCA, 1948-50; member, Delegate Body Group Work and Recreation Division, Community Chest and Council of Hennepin County, 1949-50.

Paul R. Grim served as chairman, Publications Committee, *Educational Leadership*, Association for Supervision and Curriculum Development, 1948-50; editor, "The Evaluation of Student Teaching," *Yearbook* of Association for Student Teaching, 1949; member, Executive Committee, 1948-50; and state representative, Association for Student Teaching; member, General Methods and Laboratory Experiences Committee, National Society of College Teachers of Education, 1948-50; president, Minnesota Society for the Study of Education; member, Elementary and Secondary Education Subcommittee of the Advisory Committee on Teacher Education, Department of Education, State of Minnesota; and member, Executive Committee, Minneapolis Citizens' Committee for Public Education, 1950.

Ruth E. Grout served as member, Commission on Revision of *Health in Schools*, American Association of School Administrators, 1950; delegate-at-large, National Conference on Graduate Study in Health Education, Physical Education, and Recreation;

member, Committee on Terminology in Health Education, American Association for Health, Physical Education, and Recreation, 1949-50; contributing editor to *Secondary Education*, 1948-49; and member, Board of Associate Editors, American Association for Health, Physical Education, and Recreation, 1949-50.

William R. Hastie was elected secretary and member, Steering Committee, Committee for College Teachers of Art Education.

Helen Hauptfuehrer was named member, National Softball Examining Committee, 1950.

Cyril J. Hoyt was consultant in Research and Evaluation for the National Tuberculosis Association in the Mishawaka Health Demonstration, 1948.

Eloise M. Jaeger served as treasurer, Minnesota Association for Health, Physical Education, and Recreation, 1948-50; national membership chairman, 1949-50, and member, Visual Aids Committee of the National Section on Women's Athletics, American Association of Health, Physical Education, and Recreation, 1948-50; and was named chairman, Subcommittee for Revising the State Curriculum for Physical Education at the Secondary Level, State Department of Education, 1948-49.

Palmer O. Johnson was named vice-president and chairman, Section Q, American Association for the Advancement of Science; consultant, the Educational Policies Commission, appointed by the National Education Association and the American Association of School Administrators; consultant, American Council on Dental Education; consultant, Educational Testing Service; collaborator, the American Institute for Research; and member, Committee on the Five-year Program, State Advisory Committee on Teacher Education. He served as statistical editor, *Journal of Experimental Education*.

Louis F. Keller was elected vice-president, 1948, president, 1949, and member of Executive Council, 1950, College Physical Education Association. He served as chairman, Ice Hockey Committee, Rules Committee and the National Championship Tournament, 1948 and 1949, National Collegiate Athletic Association; and member, Executive Council, American Association of Health, Physical Education, and Recreation, representing the Central District, 1950.

Robert J. Keller served as research consultant, Human Resources Research Center, Lackland Air Force Base, Texas, 1950. He was director, research studies for Minnesota Commission on Higher Education.

Warren G. Meyer served as consultant, Committee on Business Education, State Department of Education, 1948-50.

William J. Micheels was appointed visiting expert to Germany for War Department and Department of State, September to December, 1949. He served as member, Advisory Panel on Personnel and Training, Office of Naval Research, U. S. Department of the Navy, 1950; vice-president, National Association of Industrial Teacher Trainers, 1950; member, Committee on Research and Publications, 1950, and chairman, Advisory Group on Industrial Arts Public Relations, 1950, American Vocational Association; co-chairman, Committee on Visual Aids in Teaching, National Association of Industrial Teacher Trainers, 1949; chairman, Committee on Constitution and By-Laws, Minnesota Vocational Association, 1949-50; member, Committee on Methods Courses and Laboratory Experiences, American Association of Colleges for Teacher Education, 1950; and member, State Curriculum Committee for Industrial Arts, State Department of Education, 1948-50. He was a participant, Governor's Youth Conference, 1950.

Gordon M. Alfred Mork was chairman, Committee on Science Conservation Curriculum Bulletin, State Department of Education; and served on Teacher Education's Subcommittee on Professional Preparation of High School Teachers, State Advisory Committee.

Mervin G. Neale served as examiner for the North Central Association of Colleges and Secondary Schools.

Howard F. Nelson was appointed consultant, St. Paul School Survey.

Carl L. Nordly was consultant, Curriculum Committee in Physical Education, State Department of Education, 1948-50. He served for the American Association for Health, Physical Education, and Recreation as follows: president-elect and member of Board of Directors, 1948-49; president and chairman, Board of Directors, 1949-50. He was elected to American Academy of Physical Education, 1949; was a member, Executive Council and past-president, College Physical Education Association, 1948-49; chairman, Athletic Institute Advisory Committee, 1948; and representative, College Physical Education Association, to the National Conference on Graduate Study in Health Education, Physical Education, and Recreation, January, 1950. In 1948-50 he represented the American Association for Health, Physical Education, and Recreation at the National Conference of

Teacher Education and Professional Standards, and at the School for Executives; American Association of Colleges for Teacher Education, 1950. For the American Association for Health, Physical Education, and Recreation, Mr. Nordly served as a member, Committee on Reorganization of Divisions and Sections, 1948-49. He was chairman, Implementation Committee, National Conference on Undergraduate Professional Preparation in Health Education, Physical Education, and Recreation, 1948-50; member, Continuing Committee, National Conferences on Undergraduate and Graduate Professional Preparation in Health Education, Physical Education, and Recreation; and chairman, Subcommittee on Schedules and Evaluative Criteria.

Wesley E. Peik served in the following capacities for the American Association of Colleges for Teacher Education: president, 1949-50; member, Executive Committee, 1948-49; consultant, Committee on Advanced Professional Preparation, 1948; and chairman, Committee of Affiliated Organizations, 1948. He was named chairman, 1947-48, and honorary chairman for life, 1949, Commission on Teacher Preparation and Professional Standards, National Education Association. He was chairman, Committee on Educational Policies, Minnesota Education Association, 1949-50; delegate-at-large, Committee on Cooperation in Teacher Education, American Council on Education, 1948—; member, Executive Committee, Minneapolis Citizens' Committee on Education; member, Advisory Committee on Education, Minnesota State Education Department, 1948—; consultant, Commission on Teacher Education and Professional Standards, Minnesota Education Association, 1948-49; and chairman, Advisory Committee on Standards for the Accreditation of Minnesota Higher Institutions for the Preparation of Elementary Teachers, Minnesota State Education Department, 1949.

Ralph A. Piper served as a member, three-man Steering Committee for State of Minnesota to establish work groups dealing with professional training in recreation; consultant, Minnesota State Department of Education to work with Committee on Revision of the Physical Education Curriculum in Secondary Schools; associate editor, *American Squares*, national square dance magazine; member, Teacher Education Committee, National Safety Council; director of publicity, 1948, treasurer, 1949, and president, 1950, Folk Dance Federation of Minnesota; member, Legislative Board, National Dance Section, American Association for Health, Physical Education, and Recreation; consultant, North Central Area Council of YMCA; member, Gymnastic Rules Committee, National Collegiate Athletic Association; member, Gymnastic Committee, Pan-American Games; member, Gymnastic Committee, National A.A.U.; and member, Gymnastic Committee for the 1952 Olympic Games.

Ray G. Price served as president, National Business Teachers' Association, 1948-49; member, Committee on Methods Courses and Laboratory Experiences, National Society of College Teachers of Education; and member, Committee on Basic Business Education, U. S. Office of Education.

Ralph R. Reeder served as a member, Interviewing Board, State Civil Service Department, for the selection of instructors for Minnesota State Institutions, 1949-50.

Dora V. Smith served as a member, Advisory Committee in Secondary Education, United States Office of Education, 1948-50; director, Curriculum Commission in English, National Council of Teachers of English, 1948-50; member, Yearbook Committee on Reading in the Elementary School, 1949; and member, Yearbook Committee on Reading in the Secondary Schools and Colleges, 1949, National Society for the Study of Education; member, Editorial Board, Cadmus Books; consultant to Coronet Films in the Language Arts; delegate to American Council on Education from the National Council of Teachers of English, May, 1949, and May, 1950; consultant, Minnesota State Committee on the Curriculum in the Language Arts for Elementary Schools; and consultant, Minnesota State Committee on the Curriculum in the Language Arts for Secondary Schools.

Homer J. Smith served as consultant, Industrial Arts and Educational and Vocational Guidance, State Curriculum Committee, State Department of Education; member, Committee for Evaluation of Educational Experiences in the Armed Services, American Council on Education; member, Policy Committee, Industrial Arts, and member, Constitutional Revision Committee, American Vocational Association; and member, Board of Directors, Minneapolis Urban League; member, Editorial Board, American Technical Society. He was elected president, National Association of Industrial Teacher Trainers, and was elected to honorary membership in Mu Sigma Pi.

Betty M. Spears served as chairman, Swimming Examining Committee, Women's National Officials Rating Committee, National Section on Women's Athletics, American

Association of Health, Physical Education, and Recreation, 1948-50; and was chairman-elect, Executive Committee, Women's National Aquatic Forum, 1950.

Minard W. Stout served as a member, Commission on Research and Service; member, Subcommittee on Inservice Training of Teachers; and member, Subcommittee on Guidance, all of the North Central Association of Colleges and Secondary Schools. He served as chairman, Minnesota State Contest Committee, Minnesota Association of Secondary School Principals; and was elected secretary of the Association. He was elected president, Midwestern Association of Laboratory School Administrators; was selected as one of two secondary school principals to represent the National Association of Secondary School Principals at the National Conference of Leaders of Educational Administration; and was a member of the Commission for the Improvement of Secondary Education in Minnesota.

Suzanne S. Tinker was named a member, Board of Directors, Minnesota Section, 1950, and member, National Workshop, 1950, American Camping Association; and was elected Secretary, Camping Section, Central District, American Association for Health, Physical Education, and Recreation.

Tracy F. Tyler was elected president, Minnesota Radio Council, 1948-50. He served as a member, National Board of Directors, and secretary-treasurer, Minnesota Chapter, Horace Mann League of the United States, 1948-50; faculty sponsor, Eta Chapter, member, National Council, and member, National Committee on Fraternity Functions and Organization, Phi Delta Kappa, 1948-50; judge, Thirteenth Annual Exhibition of Recordings, Institute for Education by Radio, Columbus, Ohio, 1949; consultant, Radio Committee, Minnesota Education Association, 1948-50; chairman, Advisory Committee, Minnesota School of the Air, 1948-50; editor, *Journal of the Association for Education by Radio*, since 1944.

Paul R. Wendt was named state chairman, Film Council of America. He served as co-editor, Audio-Visual page, *Journal of the Minnesota Education Association*; chairman, Foreign Film Festival Committee, Film Council of America; member, State Civil Service Examining Committee for position of Rural Audio-Visual Supervisor of Teaching; member, Board of Directors, Protestant Film Commission of the United States; collaborator, E. W. Wilson's Educational Film Guide; and teaching film evaluator, Division of Audio-Visual Instruction, National Education Association.

Marjorie U. Wilson served as a member, State Committee, 1950, and as chairman of research, 1948-50, of the National Section of Women's Athletics, as district research chairman, 1950, and member, National Research Council, 1948-50, American Association for Health, Physical Education, and Recreation. She was a member, 1949-50, and chairman, 1950, District Research Committee, and member, 1950, National Workshop Committee, National Association for Physical Education of College Women.

C. Gilbert Wrenn was elected president, American College Personnel Association, 1947-49; president-elect, Division of Counseling and Guidance Psychologists, American Psychological Association, 1949-50; trustee, Council, Guidance and Personnel Associations, 1949-50; and member, Board of Directors, Minnesota Mental Hygiene Society, 1950. He served as panel member on Diplomat Examinations, American Board of Examiners in Professional Psychology; member of Council, Representatives, American Psychological Association, 1948-49; trustee and immediate past-president, National Vocational Guidance Association, 1948-49; member, Joint National Committee on Professional Preparation of Counselors; consultant on Student Personnel Work, American Council on Education, 1946-50; and as co-editor, Departmental Section, *Minnesota Journal of Education*.

Institute of Child Welfare—John E. Anderson served as a member, Advisory Commission on Research Clearing House, U. S. Children's Bureau, 1948-50; member, Advisory Committee on Mental Health, Minnesota State Board of Health, 1949-50; and chairman, Committee on Professional and Scientific Ethics, American Psychological Association, 1949-50.

Elizabeth M. Fuller was consultant, Citizens' Committee on Early Childhood Education, State of Minnesota, 1949-50; and research editor, *Childhood Education*, 1947 and 1949.

Dale B. Harris was named chairman, Research Subcommittee, Citizens' Committee on Public Education, Minneapolis, 1948-50; and secretary, Division on Childhood and Adolescence, American Psychological Association, 1950. He was a member, Council of Representatives, American Psychological Association, 1950; and committee member, Minnesota Governor's Conference on Youth, 1950.

School of Dentistry—Henry B. Clark, Jr., served as a member, Board of Directors, Minnesota Cancer Society, 1948-50; president, 1949-50, and counselor, 1950-51, Minnesota Section, International Association for Dental Research.

William H. Crawford was elected a member of the Council, National Board of Dental Examiners, American Dental Association. He served on the Dean's Committee, Veterans Hospital and Clinic, Fort Snelling.

Ambert B. Hall served as secretary, Minnesota Section, American College of Dentists, 1950; trustee, Minnesota State Dental Society, through 1952; and secretary, Beta Beta Chapter, Omicron Kappa Upsilon (honorary dental society), 1950.

David F. Mitchell was elected secretary-treasurer, Minnesota Chapter, International Dental Research Association, 1949-50.

Dorothea F. Radusch served as associate editor, *Minnesota District Dental Journal*, 1949; editor, *Transactions*, American Association of Dental Editors, 1949-50; and second vice-president, Zonta International.

William J. Simon was initiated as a fellow, American College of Dentists, 1948; served as a member, University Relations Committee, 1948-50, Minnesota State Dental Association; and was elected to membership, American Academy of Endodontists, 1949.

Thomas D. Speidel served as editor, Minnesota Section, *International Dental Research Association Journal*, 1950; and associate editor, *Minneapolis District Dental Journal*, 1949.

Harold C. Wittich was elected vice-president, Children's Dentistry Section, American Association of Dental Teachers, 1950.

Law School—Wilbur H. Cherry was a member, Advisory Committee on Rules of Civil Procedure for Federal District Courts, U. S. Supreme Court.

Maynard E. Pirsig was appointed a member, Advisory Committee on Rules of Civil Procedure for Federal District Courts, U. S. Supreme Court; served as secretary, Minnesota Judicial Council; chairman, Advisory Council, Minnesota Division of Employment and Security; and commissioner from Minnesota on Uniform Laws.

Stefan A. Riesenfeld served as chairman, Committee of Comparative and International Law, American Law Schools Association; member, Legislative Committee, Minnesota Welfare Conference; and was appointed to give the Gleason lectures on Workmen's Compensation in the University of Minnesota, by the National Association of Claimants' Compensation Attorneys, 1950.

College of Pharmacy—Earl B. Fischer served as a member, Revision Committee, United States Pharmacopoeial Convention, 1950.

Charles V. Netz was appointed a member, Minnesota State Board of Health, 1949; and was elected president, Minnesota State Pharmaceutical Association, 1950.

Graduate School—Theodore C. Blegen was appointed a member, Executive Board, American Council of Learned Societies, 1950; elected vice-president, Advisory Board, National Park Service; and chairman, National Conference on Preparation of College Teachers, under auspices of American Council on Education and United States Office of Education, 1949. He served as a member, Executive Committee, Minnesota Historical Society, 1948-50; and editor, Norwegian-American Historical Association. In 1950 he was awarded Order of Saint Olaf by the Norwegian Government.

Jan A. Boök, head of Medical Genetics, University of Lund, Sweden, received a special research fellowship from the U. S. Public Health Service, to serve in the Dight Institute.

John G. Darley served as chairman, Advisory Panel on Human Relations, Office of Naval Research, Navy Department; member, Board of Directors, American Psychological Association; member, Panel on Selection and Training Research, Committee on Human Resources, Research and Development Board; member, Panel of Psychological Consultants for the Mental Hygiene Program, United States Public Health Service; member, Editorial Board, *Applied Psychology Monographs*; and member, Editorial Board, the *Annual Review of Psychology*, Annual Reviews, Inc. He was elected president, Division of Counseling and Guidance, American Psychological Association; and secretary-treasurer, American Board of Examiners and Professional Psychology, Inc.

Walter O. Lundberg served as a member, Scientific Advisory Board, Committee on Food Research, Quartermaster Food and Container Institute; chairman, 1950, Annual Short Course, and chairman, Committee on Analysis of Fatty Acids, American Oil Chemists' Society.

Sheldon C. Reed was recipient of research grants from the American Cancer Society, U. S. Public Health Service, and Minnesota Human Genetics League.

Mayo Foundation for Medical Education and Research—R. Charles Adams was a member, Committee on Anesthesiology, Minnesota State Medical Association, 1949-50.

Alfred W. Adson was a member, American Board of Urological Surgery, 1948-50; served on the Advisory Board, *Journal of Neuro-Surgery*, 1949-50; and was a member, Executive Committee, Committee on Medical Economics, Committee on Medical Service, Committee on Public Policy, 1949-50, under the Minnesota State Medical Association.

Edgar V. Allen was a member, American Medical Association, and in that body was elected delegate, House of Delegates, 1948-50; served as chairman, Committee on George H. Minot Lectureships, Section on Experimental Medicine and Therapeutics, 1949-50; chairman, Committee on Distinguished Service Award, 1949-50; and representative, Section on Experimental Medicine and Therapeutics, House of Delegates, 1949-50. He served as a member, Heart Council, National Institute of Health, 1948-50; member, Council on the Central Society for Clinical Research, 1949-50; member, Board of Directors, American Heart Association, 1949-50; and member, Subcommittee on Cardiovascular Diseases, Committee on Medical Service, National Research Council, 1949-50. He was elected president, Central Society for Clinical Research, 1948-49; and vice-president, American Heart Association, 1948-49. He was also the C. W. M. Poynter lecturer, University of Nebraska, 1949-50.

Walter C. Alvarez was editor, *Gastroenterology*, 1948-49; member, Editorial Board, *Gastroenterology*, 1949-50; and editor, *General Practitioner*, 1949-50.

Mark J. Anderson was a member, Committee on Interprofessional Relations, Minnesota State Medical Association, 1949-50.

Hugo L. Bair was a member of the Council, Minnesota Academy of Ophthalmology and Otolaryngology, 1949-50.

Edward J. Baldes was elected fellow in aviation medicine, Aero-medical Association, 1948-49; and was a member of the Council, American Electroencephalographic Society, 1948-49; member, Panel sent by the United States to Europe to study Aviation Medicine and Surgery, 1949-50; and member, Committee on Aviation Medicine, 1949-50.

Donald C. Balfour was a member, Editorial Board, *American Journal of Surgery*, 1948-49; honorary consultant, Bureau of Medicine and Surgery, United States Navy, 1948-49; elected member, Academy of Surgery, France, 1948-49; and appointed trustee, Carleton College, 1948-49. In 1949-50 he held an honorary fellowship, Royal College of Surgeons, Edinburgh, an honorary fellowship, American Gastroenterological Society, and was honorary lecturer, University of Edinburgh.

J. Arnold Bargaen was a delegate to the American Medical Association from the Southern Minnesota Medical Association, 1948-49; and was elected president, American Gastroenterological Association, 1948-49. In 1949-50 he represented the Minnesota State Medical Association in the House of Delegates, Section on Medicine, Committee on Medical Service, American Medical Association; and was a member, Editorial Board, *Gastroenterology*.

Nelson W. Barker was a member, Board of Directors, American Society for the Study of Arteriosclerosis; member, Committee on Industrial Health, Minnesota State Medical Association; and member, Radio Committee, Minnesota State Medical Association, all in 1949-50.

Arlie R. Barnes was a member, Board of Directors, Inter-American Society of Cardiology, 1948-50; member, Joint Committee, American Heart Association and National Foundation for High Blood Pressure, 1948-50; member, National Subcommittee on Cardiovascular Diseases, Committee on Medicine, 1948-50; and member, Committee on Hospitals and Medical Education, Minnesota State Medical Association, 1949-50. He also received a doctor of science degree, Indiana University, 1948-49.

William L. Benedict was a member, Advisory Committee, Eye Health Committee of the Student Health Association, Section of Ophthalmology, American Medical Association; and member, Committee on Medical Motion Pictures, American Medical Association, both in 1949-50. He served as consultant, American Board of Ophthalmology, 1948-50; secretary, American Academy of Ophthalmology and Otolaryngology, 1948-49; and executive secretary-treasurer of the same organization, 1949-50. He was a member of the Editorial Board, *American Journal of Ophthalmology*, 1948-50; and member, Editorial Board, *Quarterly Review of Ophthalmology, Otorhinolaryngology, and Bronchoesophatology*, 1949-50; and member, Committee on Ophthalmology, Minnesota State Medical Association, 1949-50. In 1948-49, he was also the Jackson Memorial Lecturer, American Academy of Ophthalmology and Otolaryngology.

Joseph Berkson was a member, Committee on Statistical Research, American Cancer Society; and member, Subcommittee on Medicine, Committee on Applied Mathematical Statistics, both in 1949-50.

William Harold Bickel was one of ten orthopedic surgeons invited to tour England in 1948-49.

Reginald G. Bickford was elected president, Central Association of Electroencephalographers, 1949-50.

David Armitage Boyd, Jr., was a member, Special Medical Advisory Group, Veterans Administration, 1948-49; member, Committee on Hospital Policies and Standards, American Psychiatric Association, 1948-50; member, American Board of Psychiatry and Neurology, 1948-49, and associate secretary of the same group in 1949-50.

William F. Braasch was a member, Editorial Board, *Quarterly Review of Urology*, 1948-50; member, Editorial Committee, Committee on Medical Economics, Minnesota State Medical Association, 1949-50; member, Advisory Council, Greater University Fund of Minnesota, 1949-50; and president, Minnesota Public Health Association, 1949-50.

Francis J. Braceland was a member, Governing Council, American Psychiatric Association, 1948-50; secretary, American Board of Psychiatry and Neurology, 1948-50; member, Committee on Veterans Medical Problems, 1948-49; reserve consultant, Bureau of Medicine and Surgery, 1948-49; United States Navy chief consultant in neuropsychiatry, Veterans Administration, 1948-49; Minnesota chairman, Governor's Advisory Council on Mental Health, 1949-50; and consultant, Division of Public Institutions, in development of mental health program in Minnesota, 1949-50.

Albert C. Broders received the doctor of science degree, Washington and Lee University, 1948-49; and was the Horsley lecturer, Richmond Academy of Medicine, 1948-50.

Joe Brown was a member, Committee on Interprofessional Relations, Minnesota State Medical Association, 1949-50.

Louis A. Brunsting was secretary, American Dermatological Association, 1948-49; secretary, American Academy of Dermatology and Syphilology, 1949-50; member, Board of Editors, *Quarterly Review of Dermatology and Syphilology*, 1948-49; and civilian consultant, Division of Industrial Dermatoses, United States Public Health Service, 1949-50.

Louis A. Buie, in the American Medical Association during 1948-49, was a member, Judicial Council, House of Delegates, and Conference on Rural Health; and in 1949-50, he was a member, Judicial Council, Interim Committee on Amendments of the Constitution and By-laws, National Conference on Rural Health, and member, House of Delegates, representing the Section on Gastroenterology and Proctology. He was also secretary, American Board of Proctology, 1948-49; member, Advisory Board, American Specialties (Medical), 1949-50; and was elected vice-president, United States Chapter, International College of Surgeons. He received a doctor of science degree, University of South Carolina, 1948-49; and was Collier-Ford-Martin Orator of the Philadelphia Proctologic Society, 1949-50.

Hugh R. Butt was associate editor, *Nutrition Reviews*, 1948-50; and member, Sub-Specialty of Gastroenterology, American Board of Internal Medicine, 1949-50.

John D. Camp was a member, Board of Chancellors, American College of Radiology, 1948-50; chairman, Committee on Education, American College of Radiology, 1948-49; and a member of same, 1949-50; and associate editor, *Radiology*, 1948-50. He was recipient of the George W. Holmes Award, New England Roentgen Ray Society, 1948-49; and of the Gold Medal, Radiological Society of North America, 1949-50. He was also Carman lecturer, Radiological Society of North America, 1949-50.

Hadden M. Carryer was vice-speaker, Minnesota State Medical Association; member, Executive Committee, Committee on Public Health Education, Minnesota State Medical Association; and member, Speakers' Bureau, Minnesota State Medical Association, all in 1949-50.

O. Theron Clagett was consultant in thoracic surgery, Region 6, Virginia, 1948-49; and was recipient of an honorary fellowship, Royal Australian College of Surgeons, 1949-50.

Manfred W. Comfort was a member, Gastric Cancer Council, United States Public Health Service, 1949-50; and member, Cancer Council, National Advisory Cancer Council, 1949-50.

Edward N. Cook was chairman, Section on Urology, American Medical Association, 1948-50.

Winchell McK. Craig was a member, Council on National Emergency Medical Service, American Medical Association, 1948-49; chairman, American Board of Urological Surgery, 1948-49; member, Editorial Board, *Journal of Neuro-Surgery*, 1948-50; president, Harvey Cushing Society; and chairman, Program Committee, Association of

Military Surgeons, 1948-49. He was a member-at-large, Governmental Services, 1948-49; member, Committee on Surgery, 1948-49; member, Committee on Veterans Medical Problems, National Research Council, 1948-50; member, Subcommittee on Neurosurgery, Committee on Surgery, 1948-49; and president, Minnesota Society of Neurology and Psychiatry, 1949-50. He was also honorary reserve consultant, Bureau of Medicine and Surgery, United States Navy, 1948-49; the John T. Hodgen lecturer, St. Louis Surgical Society; and Sommer lecturer, University of Oregon, both in 1948-49.

Thomas J. Dry was president, Minnesota Heart Association, 1949-50.

L. McKendree Eaton was secretary-treasurer, Central Neuropsychiatric Association, 1948-50.

Jesse E. Edwards was a member, Committee on Pathology, American Heart Association, 1948-50; and was the Ludwig Hektoen lecturer, Institute of Medicine, Chicago, 1949-50.

Earl C. Elkins held the following positions in the American Medical Association, 1948-49: member, Subcommittee on Essentials, Council on Education; consultant on Education, Council on Physical Medicine; and in 1949-50: member, Subcommittee on Education, Council of Physical Medicine and Rehabilitation. He was a member, American Board of Physical Medicine, 1948-49; and a member, Advisory Board, American Board of Physical Medicine and Rehabilitation, 1949-50. In the years between 1948 and 1950 he was elected president, American Congress of Physical Medicine, and a member, Board of Editors, *Archives of Physical Medicine*.

John L. Emmett was a member, Executive Committee, American Urological Association, 1948-50; and member, Executive Committee, North Central Section, American Urological Association, 1948-49.

John B. Erich was a member, Board of Trustees, and was elected vice-president, American Society of Maxillo-Facial Surgeons, 1948-50.

Hiram E. Essex was a member, Cardiovascular Study Section, National Institute of Health, 1949-50; and was elected president, Minnesota Academy of Science, 1949-50.

William H. Feldman was a member, Committee on Pathology, 1948-50; member, Committee on Animal Health, Agricultural Board, 1949-50; and recipient of the Honor Alumnus Achievement for 1950, Colorado State College.

Frederick A. Figi was a member, American Board of Plastic Surgery, 1948-50.

Ralph K. Ghormley was elected vice-president, American Board of Orthopedic Surgery, 1948-50; president, American Orthopedic Association, 1948-50; and was chief consultant, Orthopedic Surgery, Veterans Administration, 1948-49. He was a member, Committee on Fractures, Minnesota State Medical Association, 1949-50; and was the recipient of a fellowship, American Surgical Association, 1949-50.

Herbert Z. Giffin was a member, Committee on Medical Testimony, Minnesota State Medical Association; and a member, Minnesota State Board of Health, both in 1949-50.

C. Allen Good received a Certificate of Merit for an exhibit, American Roentgen Ray Society, 1949-50.

Howard K. Gray was a member, American Board of Surgery; member, Committee on Libraries, American College of Surgeons; member, Advisory Committee on Membership, American College of Surgeons; member, Board of Consultants, United States Navy; and received a doctor of science degree, Lafayette College, all in 1949-50.

Samuel F. Haines was elected president, American Goiter Association, 1948-50.

Byron E. Hall was a member, Hematology Study Section, National Institute of Health, 1949-50.

N. O. Hanson was a member-at-large, North Central Alumni Association, Phi Beta Kappa, 1949-50.

Stuart W. Harrington was a member, Advisory Board, *Journal of Thoracic Surgery*, 1948-50.

Frank J. Heck was a member of a National Committee for Revision of Nomenclature in Hematology, 1948-50.

Henry F. Helmholtz was a member, Editorial Board, *American Journal of Diseases of Children*, and *Quarterly Review of Pediatrics*, 1948-50; and was elected chairman, National Committee on Children and Youth, 1949-50.

Henry F. Helmholtz, Jr., was a member, Committee on Pulmonary Function Tests, American Trudeau Society, 1948-50.

Philip S. Hench was elected chairman, Committee on Arrangements, International Congress of Rheumatic Diseases, 1948-49; was a member, Committee for Survey of Research on Rheumatic Diseases, United States Government, 1948-49; was elected honorary member, Danish Rheumatological Society, 1948-49; and was recipient of the Lasker Award, New York Academy of Medicine, 1948-49. In 1949-50, he received several honors:

New York News Guild Citation; Award, Passano Foundation; Award, American Pharmaceutical Manufacturers Association; and a doctor of science degree, Western Reserve University.

H. Corwin Hinshaw was a member, Administration Committee, American Trudeau Society; and a member, Board of Directors, National Tuberculosis Association, both in 1948-49.

William H. Hollinshead was Robert J. Terry lecturer, St. Louis Medical Society, 1949-50.

Arthur B. Hunt was secretary, Section on Obstetrics and Gynecology, American Medical Association, 1948-50; and member, Committee on Maternal Health, Minnesota State Medical Association, 1949-50.

Adelaide M. Johnson was consultant, National Organization for Public Health Nursing, United States Public Health Service, 1948-49.

Victor Johnson was a member, Council on Medical Education and Hospitals, American Medical Association, 1948-50; member, House of Delegates, American Medical Association, 1948-50; member, Survey of Medical Education, American Medical Association, 1948-49; member, Advisory Board for Medical Specialties, American Boards, 1948-50; and member, six-man National Committee of the three-year study group sponsored by Association of American Medical Colleges, 1949-50.

Alfred G. Karlson was a member, Subcommittee on Laboratories, National Tuberculosis Association, 1948-50; and both member and president of the Council, American College of Veterinary Pathologists, 1949-50.

Edward C. Kendall was a member, Panel on Experimental Endocrine Physiology, 1948-49; member, National Academy of Science, 1949-50. He received the Lasker Award, New York Academy of Medicine, 1948-49; and was Edgar Fahs Smith Memorial lecturer, American Chemical Society; John Phillips Memorial lecturer, American College of Physicians; and Remsen Memorial lecturer, Maryland Section, American Chemical Society; all in 1949-50. Also in 1949-50, he received the following honors: John Phillips Memorial medal, American College of Physicians; Research Corporation Award; Citation, New York News Guild; Award, Passano Foundation; Award, American Pharmaceutical Manufacturers Association; medal, Canadian Pharmaceutical Manufacturers Association; doctor of science degree, Yale University; doctor of science degree, Williams College; and doctor of science degree, Western Reserve University.

Roger L. J. Kennedy was a member, Committee for Improvement of Child Health, American Academy of Pediatrics, 1948-50; chairman, District 6, American Academy of Pediatrics, 1949-50; member, Committee on Child Health, and First District councilor, Minnesota State Medical Association, both in 1949-50.

James W. Kernohan was a member, American Board of Pathology; and member, Pathology Study Section, National Institute of Health, both in 1948-50.

Robert R. Kierland was consultant in Dermatology, Region 6, Veterans Administration, 1948-49; special consultant, Venereal Disease Division, United States Public Health Service, 1949-50; and was elected president, Minnesota Dermatological Society, 1949-50.

Byrl R. Kirklin was a member, House of Delegates, American Medical Association, 1948-50; and secretary, American Board of Radiology, 1948-49. He was a member, Advisory Board for Medical Specialties, 1948-49; chairman, Committee on Veterans Affairs, American Medical Association, 1949-50; secretary-treasurer, American Board of Radiology, 1949-50; and chairman, Advisory Committee, Minnesota and National Advisory Committee on Selective Service, 1949-50.

Lawrence C. Kolb was a member, Committee on Problems of Alcoholism, 1949-50.

Frank H. Krusen was a member, Council on Physical Medicine and Rehabilitation, American Medical Association, 1948-50; chairman, Section on Physical Medicine and Rehabilitation, American Medical Association, 1949-50; and member, House of Delegates, representing Section on Physical Medicine and Rehabilitation, American Medical Association, 1949-50. He was also special consultant in Physical Medicine, Veterans Administration, 1948-49. In 1949-50 he was recipient of an honorary membership, Danish Society of Physical Medicine; honorary membership, British Association of Physical Medicine; and was the Hyde Memorial lecturer, Royal Society of Medicine, London.

Walter I. Lillie was a member, American Board of Otolaryngology, 1948-49; and in 1949-50, became a member of the Board of Directors for that body.

J. Grafton Love was Phi Beta Kappa lecturer, Wake Forest College, 1948-49.

Stanley A. Lovstedt was a member, Board of Directors, Minnesota Dental Foundation, 1949-50.

John S. Lundy was secretary, Section on Anesthesiology, American Medical Association, 1948-50; member, American Board of Anesthesiology, 1948-50; and member, Com-

mittee on First Aid and Red Cross, Minnesota State Medical Association, 1949-50. In 1948-49 he received the District Service Award, American Society of Anesthesiology; and in 1949-50, he received Honorary Licensure in North Dakota.

Thomas B. Magath was a member, Board of Governors, College of American Pathologists, 1948-50; consultant in Tropical Medicine, Veterans Administration, 1948-49; consultant in Pathology, Region B, Veterans Administration, 1948-49; and member, Committee on Cancer, Minnesota State Medical Association, 1949-50. In 1948-49 he was elected fellow, American Public Health Association.

Frank C. Mann was a member, Physiology Study Section, National Institute of Health, 1949-50; member, Physiology Study Section, United States Public Health Service, 1948-49; and member, National Academy of Science, 1949-50.

Harold L. Mason was a member, United States Panel on Synthesis and Metabolism of Steroids, 1948-49.

Charles W. Mayo was editor, *Postgraduate Medicine*, 1948-50; member, Special Medical Advisory Group, Veterans Administration, 1948-49; member, Medical Advisory Committee, American Legion, 1948-49; member, Judging Panel, National Distinguished Service Award, United States Junior Chamber of Commerce, 1949-50; and member, Board of Judges, C. C. Criss Award. In 1948-49, he received a doctor of science degree, Franklin and Marshall College; was appointed Trustee, Carleton College; and was elected honorary member, Medical Institution, Liverpool. In 1949-50, he was the Frank N. Hack lecturer, Winchester (Virginia) Memorial Hospital.

Charles K. Maytum was consultant on allergy, Region 8, Veterans Administration, 1948-49.

John R. McDonald was a member of the Council, Institute of Cancer Cytology, 1948-49; and a member of the Institute, 1949-50; he also received a certificate of merit for an exhibit, American Roentgen Ray Society, 1948-49.

Henry W. Meyerding was elected president, United States Chapter, International College of Surgeons, 1948-50; member, Board of Governors, American College of Surgeons, representing the American Orthopedic Association, 1948-50; and member, Editing and Publishing Committee, Minnesota State Medical Association, 1949-50. In 1948-49, he was elected honorary member, Netherlands Orthopedic Association, Czechoslovak Society of Orthopedic Surgery and Traumatology, and French Surgical Society.

Herman J. Moersch was chairman, Section on Nervous and Mental Diseases, American Medical Association, 1948-50; member, American Board of Psychiatry and Neurology, 1948-50; member, Governing Board, American Gastroscopic Society, 1948-50; and member, Executive Committee, Minnesota Public Health Association.

Hamilton Montgomery was a member, Editorial Board, *Quarterly Review of Dermatology and Syphilology*, 1948-49.

Robert D. Mussey was a member, Editorial Board, *Quarterly Review of Obstetrics and Gynecology*, 1948-50; delegate, American Committee on Maternal Welfare, representing Section on Obstetrics and Gynecology, American Medical Association, 1949-50; member, Executive Committee, Committee on Medical Economics, Minnesota State Medical Association, 1949-50; and member, Committee on Medical Ethics, Minnesota State Medical Association, 1949-50.

Gordon B. New was associate editor, *Plastic and Reconstructive Surgery*, 1948-50; member, Editorial Board, *Quarterly Review of Otorhinolaryngology*, 1948-49; and was elected president, American Laryngological Association, 1949-50.

Kenneth N. Ogle was a member, Vision Committee, Armed Forces National Research Council, 1948-50; member, Advisory Committee and Committee on Research, National Society for Prevention of Blindness, 1949-50; and associate editor, *Archives of Ophthalmology*, 1949-50.

Paul A. O'Leary was a member, Editorial Board, *Archives of Dermatology and Syphilology* and *American Journal of Syphilis, Gonorrhea and Venereal Diseases*, 1948-50; member, Committee on Syphilis and Social Diseases, Minnesota State Medical Association, 1949-50. In 1948-49, he was the Henry E. Irish lecturer, University of Illinois, and was elected honorary member, Section on Dermatology, Royal Society of Medicine, London.

S. W. Olson was consultant, Committee on Medical Education Centers, State University of New York, 1948-49; dean of the medical sciences, University of Illinois, 1949-50, and Medical Director of Education and Research Hospitals, Chicago, 1949-50.

Robert L. Parker was secretary, Minnesota Society of Internal Medicine, 1949-50.

John W. Pender was consultant on anesthesia, Region 8, Veterans Administration, 1948-49.

Howard Freeman Polley was a member, County Medical Advisory Committee, Olmsted County, Minnesota State Medical Association, 1949-50.

Avery D. Prangen was a member, American Committee on Optics and Visual Physiology; member, American Orthoptic Council; and a member, Editorial Board, *Quarterly Review of Ophthalmology, Otorhinolaryngology and Bronchoesophagology*, all in 1949-50.

Louis E. Prickman was president, Central Clinical Research Club, 1948-49.

James Taggart Priestley was a member, Editorial Board, *Surgery, Gynecology, and Obstetrics*; and member, Advisory Board, *American Journal of Surgeons*, both in 1948-50. He was also a member, Board of Governors, American College of Surgeons, 1949-50.

Raymond D. Pruitt was a member, Committee for Minnesota Heart Association, 1949-50.

Lawrence M. Randall was elected president, Central Association of Obstetrics and Gynecology, 1948-50; and member, American Board of Obstetrics and Gynecology, 1948-50.

Howard P. Rome was chairman, Psychiatric Training Committee, National Institute of Mental Health, United States Public Health Service, 1948-50.

Grace M. Roth was secretary, Section on Circulation, American Heart Association, 1948-49; and was elected vice-president, Minnesota Heart Association, 1949-50.

C. Wilbur Rucker was a member, Editorial Board, *Quarterly Review of Ophthalmology, Otorhinolaryngology, and Bronchoesophagology*; and an associate editor, *Archives of Ophthalmology*, both in 1949-50.

Edward H. Rynearson was elected president, American Society of Internal Secretions, 1948-50; and was a member, Committee on Diabetes, Minnesota State Medical Association, 1949-50.

Carl F. Schlotthauer was a member, Committee on Fellowships, Research Council, American Veterinarian Association, 1948-50.

Herbert W. Schmidt was a member, Editorial Committee, Committee on Public Health Education, Minnesota State Medical Association, 1949-50.

Thomas H. Seldon was president, American Association of Blood Banks, 1948-50.

Charles Sheard was president, American Board of Opticianry, 1948-49; consultant, Bureau of Medicine and Surgery, United States Navy, 1948-49; member, Board of Directors, National Society for Prevention of Blindness, 1949-50; and received a Distinguished Service Award, Ohio Optometric Association, 1948-49.

Kinsey M. Simonton was a member, Committee on Conservation of Hearing, Minnesota State Medical Association, 1949-50.

Charles Henry Slocumb was a member, Executive Committee, American Rheumatism Association, 1948-49; and in 1949-50 was elected president of that body.

Harry L. Smith was governor for Minnesota, American College of Physicians, 1948-50; and was a member, Heart Committee, Minnesota State Medical Association, 1949-50.

Newton D. Smith was a member of the Council, American Proctologic Society, 1948-50.

Albert M. Snell was chairman, Advisory Committee, American Gastroenterological Association, 1948-49; a member, Subcommittee on Liver Diseases, Committee on Medicine, 1948-49; member, Professional Services Division, Veterans Administration, 1948-49; and chief consultant, Gastroenterology, Veterans Administration, 1948-49. In 1949-50, he was clinical professor of medicine, University of California; and member, American Board of Internal Medicine.

Benjamin Spock was a member, Fact-Finding Committee, Mid-Century White House Conference on Children and Youth, 1949-50; and in 1948-49, received the Mead Johnson Award.

Randall G. Sprague was a member, Rheumatism and Metabolism Study Section, National Institute of Health, 1949-50.

Edward C. Stafne was a member, Board of Directors, Minnesota Dental Foundation, 1949-50.

J. Minott Stickney was chairman, University of Chicago Alumni Foundation's campaign for alumni gifts to the University, 1949-50.

Jan H. Tillisch was a member, Council on National Emergency Medical Service, American Medical Association, 1948-49; member, Conference on Oxygen, 1948-49; member, Executive Council, Airlines Medical Directors Association, 1949-50; and member, Committee on Military Affairs, Minnesota State Medical Association, 1949-50.

Gershom J. Thompson was visiting professor, Fouad No. 1, University of Cairo, 1948-49.

K. G. Wakim was awarded the Gold Medal (highest order of merit), Republic of Lebanon; and the Gold Medal (highest order of merit), Republic of Syria; both in 1949-50.

Waltman Walters was president, Inter-State Post-Graduate Medical Association, 1948-50; editor, *Archives of Surgery*, 1948-50; and Balfour lecturer, University of Toronto, 1948-49.

Charles H. Watkins was president, Central Interurban Clinical Club, 1949-50.

Harry M. Weber was director, Section on Instruction, American Roentgen Ray Society, 1948-50; and member, Historical Committee, Minnesota Medical Association, 1949-50.

Lyle A. Weed was recipient of a Gold Medal for an exhibit, American Society of Clinical Pathology, 1949-50.

Russell M. Wilder was a member, Council on Foods and Nutrition, American Medical Association, 1948-50; member, Scientific Advisory Committee, National Vitamin Foundation, 1949-50; member, Food and Nutrition Committee, National Research Council, 1948-49; member, Editorial Board, *Archives of Internal Medicine*, 1948-50, *Quarterly Review of Internal Medicine and Dermatology*, 1949-50, *Quarterly Review of Medicine*, 1948-49; and an associate editor of *American Journal of Medicine*, 1948-50. In 1948-49, he received the Howard Taylor Ricketts Award, University of Chicago; and in 1949-50, he served the National Research Council as vice-president, Food and Nutrition Board; member, Steering Committee, Food and Nutrition Board; member of Board, Food and Nutrition Committee; member, Committee on Diagnosis and Pathology of Nutritional Deficiencies; chairman, Committee on Vitamin Deficiency Studies, Elgin State Hospital; chairman, Committee on Cereals and Nutritional Improvement of Grain Products; and member, Committee on Dietary Allowances.

Henry L. Williams was a member, Executive Committee on the Conservation of Hearing, 1949-50; and member, Council, American Otolological Society, 1949-50.

Marvin M. D. Williams was a member, Council of Representatives, Argonne National Laboratory, 1949-50.

Henry W. Woltman was president, American Neurological Association, 1948-50; president, Association for Research on Nervous and Mental Diseases, 1948-50; special consultant on neurology, Veterans Administration, 1948-50; and a member, Council on Mental Diseases and Blindness, Research Study Section, National Advisory Mental Health Council, United States Public Health Service, 1949-50.

Earl H. Wood was recipient of a doctor of science degree, Macalester College, 1948-49.

Lewis B. Woolner received a certificate of merit for an exhibit, American Roentgen Ray Society, 1948-49; and a Gold Medal for an exhibition, American Society of Clinical Pathology, 1949-50.

School of Business Administration—Francis M. Boddy served as a member, Universities-National Bureau Committee, National Bureau of Economic Research, 1949-50.

Helen G. Canoyer was elected vice-president, 1947-48; president, 1948-49, Minnesota Chapter; and director, 1948-49, American Marketing Association. She was chairman, National Committee on Teaching Ideas in Marketing, 1948-50; chairman, Western Area Committee, 1949-50; and member, National Planning Committee, 1949-50; all of the American Marketing Association. She was elected secretary, Marketing Section, Midwest Economic Association, 1950-51; and served as a member, Symposium on Advancement in the Science of Marketing, sponsored by the University of Illinois, November, 1949. She was a member of the Education Committee of Zonta.

Blaine M. Cooke was a member of the Faculty Industrial Seminar sponsored by Swift and Company, Chicago, August, 1949.

Richard K. Gaumnitz served as a member, Governmental Affairs Committee, Minneapolis Chamber of Commerce, 1948-49; and member, Faculty Industrial Seminar sponsored by the International Harvester Company, Chicago, August, 1949.

Ernest A. Heilman was a member, Committee on Standards, American Accounting Association, 1948-50.

Walter W. Heller was chief of the Internal Finance Group, U. S. Military Government for Germany, from September, 1947 to September, 1948. He served as consultant on taxation for the U. S. Treasury Department; as staff consultant, Committee for Economic Development, 1948-49; and as member, Board of Directors, Minnesota Institute of Governmental Research, Inc., since 1948. He was co-director of "The Minneapolis Project" under grant from Investors' Diversified Services, Inc., 1950.

Charles E. Johnson was a member, Faculty Industrial Seminar sponsored by Swift and Company of Chicago, June, 1950.

Richard L. Kozelka served as a member, Board of Directors, National Bureau of Economic Research; as member, Executive Committee, 1948-50, and chairman, Committee on Standards and Survey of Business Education, 1948-50, American Association of Collegiate Schools of Business; as member, Educational Committee, Controllers' Institute of America, 1949-50; as consultant, Committee on Economic Development, 1950; as member, Board of Directors, Minnesota Institute for Governmental Research, 1948-50; as member, Commerce and Utilities Committee, Efficiency in Government Commission, 1950; and as member, Board of Directors, Minneapolis Chamber of Commerce, 1950. He was awarded the honorary LL.D. degree by Beloit College in June, 1950.

Edwin H. Lewis served on the Civil Service Examining Board, State of Minnesota, 1948; and was elected a director, Twin Cities Chapter, American Marketing Association, 1950.

Bruce D. Mudgett was named chairman, Committee of Three, appointed by the American Statistical Association to advise the U. S. Bureau of Labor Statistics in the revision of the indexes of wholesale and consumer prices, 1949-50.

Carl L. Nelson served as a member, Subcommittee on Taxation, Efficiency in Government Commission, 1950; and was co-director, "The Minneapolis Project," under grant from Investors' Diversified Services, Inc., 1950.

Edmund A. Nightingale served as consulting transportation economist, Iron Range Resources and Rehabilitation Commission and Minnesota Railroad and Warehouse Commission; was a member, Legislative Committee, Northwest Shippers' Advisory Board; and a member, Committee on Education and Research, Associated Traffic Clubs of America, since 1949. He served as director, 1948-49; treasurer, 1949; and secretary-treasurer, 1950, Transportation and Public Utilities Section, American Economic Association.

Harry J. Ostlund was elected vice-president, American Accounting Association, 1949-50.

Arthur R. Uppgren served as director of "The Minneapolis Project," under grant from the Investors' Diversified Services, Inc., 1950. He was a member, Governmental Affairs Committee, 1948-50; Metropolitan Areas Committee, 1948-49; and Education Committee, 1950, all of the Minneapolis Chamber of Commerce.

Roland S. Vaile was director, Research Project for the Upper Mississippi and St. Croix River Improvement Commission, 1949-50; and served as consultant for the President's Water Resources Policy Commission, Washington, D. C., 1950.

Dale Yoder was named chairman, Labor Market Research Committee, Social Science Research Council, 1949-50.

Duluth Branch—Addison Alspach was college and university consultant, Minnesota Music Educators' Association, 1949-50.

Lyda C. Belthuis served as director, Social Studies Board, Minnesota Education Association, 1950; geography representative, Secondary Social Studies Curriculum Committee, 1949-50; state coordinator for Minnesota, 1949-50; and member, Committee on Bibliography for the Use of Reading Material in Geography, 1948-50, National Council of Geography Teachers; and member, Association of American Geographers, 1948.

Carolyn Bock was elected president, Latin Section, Louisiana Education Association, 1948-49. She served as member, State Committee on Recognition and Standards, American Association of University Women, 1949; member, Program Committee, American Classical League, 1950; member, Resolutions and Necrology Committees, Classical Association of Midwest and South, 1949; and state chairman, Junior Classical League, 1949-50.

Arthur M. Clure served as Bar member, Board of Appeals, State Supreme Court Committee on Rules and Practice; chairman, Committee in Minnesota for Improvement of Practice of the Law, American Bar Association; and president, State Teachers College Board.

Raymond W. Darland served as member, Editorial Board, *Ecology*, quarterly journal of the Ecological Society of America; and member, National Committee on Applied Ecology.

Ellen Frogner was elected to Delta Kappa Gamma.

Vilera M. Gedstad was elected to membership in Pi Lambda Theta, 1950.

John B. Gerberich served as entomologist, Quetico-Superior Wilderness Research Center.

Elizabeth Graybeal served as member-at-large, member, Executive Committee, 1948-50, and chairman, Research Committee, 1948-50, Central District Association of Physical

Education of College Women. She was faculty chairman, Student Section, Central District Association of Health, Physical Education, and Recreation.

Rose Mary Hoene was a member, Convention Committee, Central District Association of Physical Education of College Women.

Pershing B. Hofslund was regional editor of *The Flicker*.

Robert H. Hood served as Government Appeal Agent, Selective Service System; and as member, State Board of Law Examiners.

Thomas H. Ige was appointed chairman, Governor's Fact-Finding Panel in Duluth Steam Corporation Case, 1949; and was arbitrator for the Minnesota Division of Mediation and Conciliation.

Donald H. Jackson was elected president, Duluth Section, American Society of Civil Engineers.

Harry C. Johnson was named member, Board of Directors, Minnesota Chapter, National Council of Teachers of Mathematics.

Mark M. Keith was elected president, Star Island Protective League, Cass Lake, Minnesota.

Olga Lakela served as a member, Committee of the Quetico-Superior Wilderness Research Center (botany); and as council member, Minnesota Academy of Science.

Maude L. Lindquist was a member, Duluth Advisory Committee, Governor's Youth Council, 1949-50. She was elected president, Planned Parenthood League (St. Louis County), 1949; and was elected to Delta Kappa Gamma, 1948.

Elmer P. Magnell was elected to Phi Kappa Delta.

William R. McEwen was named chairman, Minnesota Section, 1948-49, and served as member, Executive Board, 1949-50, Mathematical Association of America.

R. Dale Miller served as a member, Duluth National Instrumental Ensemble Committee, Music Educators' National Association, 1948-49.

Ezra H. Pieper was elected to Kappa Delta Phi.

Arthur E. Smith was named executive secretary, Minnesota Art Education Exchange.

James E. Smith was appointed a member of the Committee on Research, American String Teachers Association (affiliated with MTNA), 1950; and was named state chairman, Minnesota Unit of ASTA, 1950.

John E. Verrill was elected to membership in Phi Delta Kappa, and to membership in the National Association for Research in Science Teaching.

Samuel Weiner was elected director, Lake Superior Section, American Chemical Society.

Julius F. Wolff, Jr., served as secretary, Conservation Committee, Minnesota Efficiency in Government Commission.

General Extension Division—Fred Berger was named to the Board of Directors, Citizens Club Neighborhood House, Minneapolis; to the Board of Directors, Hennepin County Chapter, American Red Cross; to the Board of Directors, American Youth Hostel; and served as legislative chairman, Minneapolis Parent-Teachers Association.

Merrill K. Cragun served as legislative chairman, Minnesota Resort Association; member, Minnesota Safety Council; and chairman, Governor's Tourist Advisory Committee.

Northrop Dawson, Jr., was the recipient of the "Page One" Award for notable achievement in Radio Broadcasting, Twin City Newspaper Guild, 1949.

Albert M. Fulton served as consultant, Training Course for Post Managers, Fur Trade Department, Hudson's Bay Company, Winnipeg, Manitoba, Canada.

Betty Girling was elected executive secretary, Alpha Epsilon Rho; and first vice-president, Association for Education by Radio.

Harold Goldstein was elected president, Duluth Film Council.

F. Lloyd Hansen was a member, Correspondence Study Committee, National University Extension Association; and a member, National Joint Committee for Mortuary Education.

Leah M. Lewis was elected a member of Delta Phi Delta (honorary art fraternity).

Clarence C. Ludwig served as a member, Governor's Advisory Committee on Waters; member, Governor's Advisory Committee on Youth; and member, State Committee on Water and Sewage Certification. He was editor, *Minnesota Municipalities*; was a member, Executive Committee, Minnesota Safety Council; National Committee on Governmental Accounting; and Convention Committee, American Municipal Association. He was named state correspondent for *Public Management*.

Huntington Miller served as a member, Committee on Reports and Business Practices, National University Extension Association, 1948-50.

Helen P. Mudgett was a member, Committee on Human Relations, National Council of Negro Women. She served as a member, Program Committee, 1948-49; and as panel member of the second, 1948, and third, 1949, conventions, National Association of Inter-group Relations Officials. She participated in the National Conference on Citizenship, 1949.

Julius M. Nolte served as director, Minnesota Territorial Centennial, 1947-49; member, Law Enforcement Subcommittee, Minnesota Commission for Efficiency in Government, 1949-50; member, National Joint Commission for the Study of Adult Education, National University Extension Association, 1949-50; and member, Committee on Legal Institutes, Minnesota Bar Association, 1948-51. He was elected vice-president, 1949-50, and president, 1950-51, National University Extension Association.

Burton Paulu served as a member, Advisory Board, Chicago School Broadcast Conference; editor, *News Letter*, and secretary, National Association of Educational Broadcasters. He received the First Award, Institute for Education by Radio, for his radio program, "Minneapolis Symphony Preview."

William A. Porter was elected president, Audio-Visual Coordinators' Association of Minnesota.

William C. Rogers served as a member, Committee on Community Organization, National University Extension Association.

Erwin C. Welke served as program chairman, Twin City Film Council; and member, Audio-Visual Committee, National University Extension Association. He was editor, Audio-Visual page, *Minnesota Journal of Education*.

THE WORK OF THE UNIVERSITY

COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS

Instructional Load—By the crude measure of number of student credit hours taught per staff member (in computing this index, staff members at all ranks including teaching assistants were involved) the apparent instructional load during the biennium was approximately what it was in 1940-41, the last "normal" prewar year. In the fall quarter of that year, the average number of student credit hours per staff member was 308. In the fall quarter of 1948-49, it was 322, and in 1949-50, 297. This was a welcome decrease from the unusually heavy student-credit-hour loads immediately after the war. But the comparison with 1940-41 is really deceptive, for the gross indices mask an actual step-up in the burden of the faculty.

In the first place, the proportion of Senior College students has been much greater than before the war. Even more significant is the fact that the number of graduate students has increased enormously. Although the relationship between the number of Junior College and Senior College students may change in the prewar direction, the enrollment of graduate students will probably continue to grow. Approximately fifty-one per cent of the student credit hours of graduate instruction were taught by the faculty of this college in the fall quarter of 1949-50.

With a large graduate enrollment go a heavy burden of personal, program, and thesis advising, as well as a great load of oral and written examining. This work falls unevenly on departments and faculty members, of course, and suggests that the college should review its policy on teaching loads with the purpose of lightening those of some members of the staff who have many graduate advisees or are especially productive in research and scholarly writing, and of increasing reasonably the classroom schedule of faculty members whose activities in these fields are particularly light.

Although some downward adjustments in teaching responsibilities have been made administratively in a few cases, a more general study and revision would be desirable. But all the adjustments should not have to be made within the present budget of the college. In future allocations of funds, greater weight should be given to the amount of graduate instruction and to the time involved in the supervision of graduate programs and theses.

Although 1940-41 has been used as a base in the comparison of teaching loads made above, it should not be assumed that the instructional situation in that year was satisfactory. I believe an objective investigation would show that this college has over many years absorbed a disproportionate share, budget-wise, of the great increase in enrollments that took place between the two world wars.

Need for Development—It would be erroneous to assume that the subjects of instruction and research in the College of Science, Literature, and the Arts remain static. Many fields are expanding rapidly, and new demands for interdisciplinary instruction and investigation are constantly arising. I do not refer alone to such changes as the vast advancements in nuclear physics (which do not replace in any considerable degree other phases of the science but are added to them); the social sciences are also remarkably dynamic. And research in both the natural and social sciences not only adds to fundamental knowledge, but creates the necessary capital for engineering progress. As the development of technology is dependent on discoveries in the basic physical and biological sciences—and will be stunted if universities fail to give adequate budgetary support to basic research—so human engineering, and in very large degree the wealth and happiness of mankind, are dependent on developments in and among the social sciences.

Finally, the college includes two professional schools that must be responsive to the expanding needs of their respective fields. For example, schools of journalism are rapidly moving from preoccupation with the newspaper to a broader emphasis on the constantly increasing number of agencies of mass communication. The schools must keep pace in teaching and in investigation both with technological developments in this vast field, and with their broad economic, social, political, and cultural ramifications. It would be very easy, indeed, for the University to lose its present eminence in this area of professional education.

These considerations make it clear that if the budgetary allocations to the college are tied almost entirely in the future with fluctuations in enrollment, its standing in many fields will be endangered. Entirely apart from immediate instructional loads, the developmental needs of the college should be considered along with those of all other divisions of the University when funds are available for strengthening the institution's program of teaching, research, and public service.

Laboratory for Research in Social Relations—One of the most important advancements during the biennium was the creation of a laboratory to foster interdisciplinary research in group dynamics. The activities of the laboratory are carried forward by a committee appointed jointly by the dean of the college and the dean of the Graduate School, although other staff members may be invited to participate in research or in the conferences and seminars which it sponsors from time to time. The project began with a small budgetary grant from the college and with assistance from Graduate School research funds. This support, coupled with an initial grant of \$10,000 by the Carnegie Corporation, enabled the laboratory to undertake some preliminary investigations and to plan a comprehensive research program on the nature and development of "social responsibility." This program was supported by a three-year grant of \$90,000 from the same foundation. The laboratory's work not only should expand our knowledge of important aspects of individual and group behavior through the cooperation of research personnel from the fields of psychology, education, child development, sociology, political science, and economics, but should add significantly to our understanding of how to conduct interdisciplinary research in the social sciences.

Other Interdepartmental Programs—The program in American Studies has strengthened its curriculum at both undergraduate and graduate levels. For example, as a means of fostering a more truly integrated understanding of American civilization and of the methods and substances of the related disciplines, it has established both undergraduate and graduate seminars. It has continued and strengthened its radio programs, public lectures, and summer institutes. With the generous support of the president, it established the first journal of American Studies, the *American Quarterly*. The first Ph.D. in the program was granted at the August, 1950, commencement. The Minnesota program is, we believe, the strongest one in the country, and perhaps the broadest (carrying students beyond American literature and American history into philosophy and the social sciences) in its reference. It has plans for research, fellowships, and a still more active effort to interest the general public which wait upon expanded financial support. It is to be hoped that the additional support can come both from the University and from outside sources.

The "foreign" area programs have been strengthened in several ways. With the support of the Graduate School, and with the cooperation of the Social Science Research Council, the central committee, through a research assistant, has completed a comprehensive survey of curricula in international relations and area studies in the colleges and universities of this country. It is hoped that from this modest beginning an active interdepartmental research program in area studies will develop.

The Committee on International Relations and Area Studies sponsored during the first term of the 1950 Summer Session a successful course and symposium entitled "Cultural Relations: Instrument of Peace or War?" the purpose of which was to study the effect of different national cultures and ideologies on international relations. Staff members representing five different fields cooperated in this program.

The Far Eastern Area program has been strengthened by the addition of courses in Chinese language and Chinese history. Other gaps in all areas still exist, and steady progress in securing the necessary staff is essential.

In most institutions, this one included, the principal purpose of area study has been to prepare teachers in international relations or in foreign civilizations, although the undergraduate major may well be defended as a meaningful program of liberal studies. Little has been done in devising courses and correlated facilities to give many students a better understanding of the peoples, territories, and civilizations of the great regions of the world as a part of their "general," rather than their "specialized," education. The Department of General Studies has recently inaugurated a course designed to acquaint students with the world's critical areas and with critical factors in war and peace. To this should be added the opportunity to become familiar with other cultures than our own. I would like to see this University take leadership in developing this phase of general education, for upon some such program in our schools and colleges depends the attainment of world understanding and world citizenship.

Through its course in American Life, offered in the Department of General Studies, the American Studies program has led the way in this kind of curricular and instructional invention, and the Scandinavian Department offers a course in "Scandinavian Life Today and Yesterday."

Under the stimulus of its grant from the Rockefeller Foundation, the Scandinavian Area Study program has been especially active during the biennium. The range of courses has been extended through close cooperation of many departments of the University. The Library has made commitments to secure all significant current books published in Scandinavian countries as a means of maintaining what is already probably the most important

collection of Scandinavia in this country. The university staff has been supplemented by visiting lecturers from Scandinavian countries, all of whom have made an outstanding contribution to the program. These visiting faculty members have been mainly in social, economic, political, and historical fields. An unusually promising group of fellows has been appointed, and at the present time there are eleven candidates for the M.A. in the program, most of whom expect to continue toward the Ph.D. degree. An unusually successful institute on the relation of Scandinavian countries to the Marshall Plan and the North Atlantic Pact was held during the biennium, and in many other ways the program reached not only students and scholars but also interested members of the public in this region. Finally, a cooperative program was established with the University of Wisconsin so that the resources of both institutions could be pooled for teaching and research.

Since the program is now in its third year, it seems particularly important for the University to plan to finance two permanent appointments in the Scandinavian field with emphasis on Scandinavian history and contemporary social institutions.

Research—A tabulation of expenditures for research from extra-university sources, both governmental and nongovernmental, for 1948-49, showed that the college was one of the four divisions of the University which had extensive outside support. The actual amount expended was \$345,902.64. Thirteen departments or programs of the college were involved.

A tabulation by the business office showed that the total amount of research funds under contract within the college on January 1, 1950, was \$1,386,518.95. The amount actually expended during 1949-50 was, of course, much less, since several of these contracts run over a period of years. The largest contracts were those with the Atomic Energy Commission and the Office of Naval Research and were, therefore, of great significance in the development of the fundamental sciences and of the research activities of the university faculty.

Some means of coordinating research contracts with government and industry would seem to be highly desirable if it did not lead to undue centralization and dictation. One of the purposes of such coordination should be to utilize the full resources of the research staff of the institution. There was at least one instance during the biennium in which distinguished personnel in this college was passed over in planning and staffing a research program under contract with one of the military services. It is to be hoped that the problem of reasonable coordination of this research will be solved, and it is important that the college should be fully represented in any planning to that end.

Curriculum Changes—Space does not permit a review of many important curricular changes. The newly reorganized Department of Art has made rapid progress in planning an undergraduate and graduate program to meet varied needs. In both the Music and Art Departments plans have been approved for offering a curriculum for the Master's degree that would include both applied and theoretical training. In the case of the Art Department, the program will cover two years and will lead to the degree of master of fine arts. These developments are in line with the broad policy in literature and the arts of offering a well-balanced program that includes historical, theoretical, critical, and creative training.

During the past year, a sequence of courses in geophysics was established through a joint appointment between the Physics Department and the School of Mines and Metallurgy. These courses fill what had been a serious gap in the training of geologists and mining engineers.

As a means of emphasizing greater breadth in undergraduate curricula, the faculty voted to require each student to complete fifteen Senior College credits outside his major and minor fields. The Psychology Department went even further by deciding to permit students to take only thirty-three credits in the department toward the B.A. degree.

Personnel Services—The activities of the Students' Work Committee have been reorganized in order to give fuller consideration and more careful study to each student's problems. An attempt has been made to avoid perfunctory consideration and action by holding more conferences, by securing more information about each student, and by centralizing records. The college has cooperated in what it considers a successful program of orientation of both Junior and Senior College students during the summer.

The biennium also marked the closing of a gap in the counseling program that has existed for a decade. Beginning last year, freshmen were assigned to counselors in the Junior College office, and sophomores, who had not previously been required to have a regular adviser, were assigned to faculty members of their own choice, or staff members in departments of their choice, for the first time.

Administrative Organization—In 1941 the faculty approved a new plan of administrative organization of the college. It established divisional councils in the humanities, the natural sciences, and the social sciences, with representatives elected by constituent de-

partments. The charter provided that the dean of the college serve as chairman of each divisional council and the associate dean as vice-chairman. Subsequently, when the position of associate dean was discontinued, the faculty authorized the dean to appoint a vice-chairman for each council if he wished to do so. Since this authorization, the practice has varied. In some cases the dean has served as chairman, and in others a vice-chairman has been appointed to preside at divisional council meetings.

It was the purpose of the divisional councils to consider changes in curricula and courses and to discuss other matters of educational policy laid before it by the dean, the Advisory Committee, or any member department. In practice, nearly all new courses or proposed changes in requirements have been reviewed by the divisional councils, and if approved by them, submitted to the Advisory Committee (the central committee on educational policy) for action or recommendation to the entire faculty.

Perhaps the actions of the divisional councils have been more negative than positive. Nevertheless, the councils have made it possible for related departments to keep in close touch with one another's offerings, and, indirectly, the deliberations of the councils have influenced educational policy and practice positively.

More positive and constructive educational planning along divisional lines has become increasingly important. Further development and improvement of the program in general education makes more interdepartmental cooperation and planning essential. Preparation for college teaching requires broader background and more adequate preparation for teaching integrated courses. Furthermore, new areas of research require greater interdisciplinary cooperation. These and other considerations indicate, in my judgment, that the division should become a more distinct administrative unit. I would suggest, therefore, that the dean be authorized to appoint chairmen of the Divisions of the Humanities, the Social Sciences, and the Natural Sciences who would also act as chairmen of the divisional councils. The chairman of a division, like the chairman of a department, should stimulate educational planning on a divisional basis, advise and assist the dean of the college with respect to departmental appointments within the division, propose appointments to the division rather than to any one department, if that seemed desirable, and cooperate with the dean in preparing the budget of the constituent departments.

This proposal should not be interpreted as a recommendation ultimately to substitute a divisional organization for the present college. The undergraduate liberal arts college is a unique feature of higher education in the United States, and although specialists often become impatient with the broader purposes of liberal training, it would be unfortunate to create new barriers between the humanities, the social sciences, and the natural sciences just at the time when wider vision is needed both for professional effectiveness and for intelligent citizenship.

Just as the college might be considered greater than any one of the divisions, so a division might include lesser combinations of departments. For example, it might be wise to consider the grouping of the foreign languages and literatures into a more comprehensive unit. In addition to Classical and Romance languages, we are now teaching Norwegian, Swedish, Russian, Japanese, and Chinese, and next year will probably offer additional courses in Slavic languages. Except for Classics, Romance languages, and Scandinavian, these languages are included in a Department of Linguistics, which has rather different primary purposes from giving elementary language instruction. To group foreign languages together in some fashion that might or might not break down present departmental lines would not only be administratively desirable but should encourage active research on problems of language instruction. In any event, it would seem desirable soon to review the whole foreign language situation, the offering in linguistics, and the possibility of giving courses in comparative literature.

The University Gallery—The biennium covered by this report has been a period of considerable growth and achievement. Through physical improvements, increased facilities, and additional staff provided for by two grants from the President's Office, we have been able to extend and increase our services to the University and to the general public.

A special allotment of funds, providing for physical improvements, has permitted vast alterations in our space. The fourth floor galleries have been changed to bring about greater flow of space; the exhibition corridors on the third floor have been equipped with new lighting, exhibition cases, and wall covering. The Collections Department has been provided with new lighting and storage cabinets. The Art Reference Library has been equipped with new lighting, tables, chairs, and stacks, as well as gates, doors, and additional rest-room facilities which permit the library to remain open during the evenings, Saturdays, and holidays.

Another grant by the president, providing funds for additional personnel during a four-month period, has enabled us to make a good beginning on an accumulation of back-

log work, resulting from insufficient staff for the past ten years. Over a thousand pictures have been matted or reconditioned, storage cabinets and library tables have been constructed, thousands of pictures and books have been classified and cataloged.

The additional space granted us has permitted increased facilities and storage space for our Collections Department and Art Reference Library. It is now possible for each of these departments to provide greater study and reading facilities, as well as to maintain their possessions more adequately and with greater accessibility.

It was and is felt that, with the development of the Art Department, our main function is one of providing every possible visual experience to the art student. Consequently, particular emphasis has been placed upon maintaining close coordination between our exhibitions and the teaching in the art divisions. Other university departments and the general public have also been supplied with specific exhibitions, as well as provided for in our general exhibition program. Our exhibitions have been given dramatic interest by their installation, a great deal of thought and effort having gone into this particular aspect of the work.

In 1949 the program included these exhibitions: 9 painting, 6 print and drawing, 4 architecture, 1 sculpture, 1 jewelry.

In 1950 the exhibitions included: 9 painting, 6 photography, 5 primitive and folk art, 4 print, 3 architecture, 1 advertising art, 1 jewelry.

Two outstanding additions have been made to our originals collection. Mr. and Mrs. Hudson D. Walker have loaned approximately 850 art objects, and Mrs. George P. Tweed of Duluth has given 20 art objects. A notable addition to our collection of large color reproductions is a group of approximately 700 Alinari prints, provided for in the special allotment of funds. Approximately 5,000 small reproductions have been organized for addition to our collection of pictorial mounts.

The collections now total approximately 3,500 original objects of art, 4,000 large color reproductions, and 40,000 pictorial mounts.

Loans during 1948-50 were approximately 800 framed original paintings loaned to campus offices, 3,000 framed reproductions loaned to students, and 50,000 matted reproductions and pictorial mounts loaned for study and teaching purposes.

Great strides have been made in the operation and facilities of the Art Reference Library. In January, 1949, we began to receive books from the main University Library, to supplement this departmental library of materials owned by the University Gallery. The additional space granted us has provided a double room for study, and a stack room for storage. Additional facilities and personnel have enabled the library to remain open evenings, Saturday mornings, and holidays.

The collections of the Art Reference Library are approximately 1,500 books (700 from the main University Library), 48 magazine and museum bulletin subscriptions, and 9,251 pamphlets.

Additional personnel has enabled the shop to complete a considerable amount of backlog work, including 600 reproductions matted, 450 framed reproductions reconditioned, 25 original paintings reconditioned, 3 library tables and 4 storage cabinets constructed.

In 1939-40, the University Gallery was given an anonymous gift of \$2,500, designated as a nucleus for a building fund. This amount has been increased through various earnings and accrued interest, and now totals \$5,449.07. It is hoped that means to increase this fund will be devised.

The University Gallery looks forward to a future of even greater service to the University and to the general public. We shall work toward ever closer coordination between our exhibitions and the art classes, as well as continue to provide the other University departments and general public with an interesting and educational exhibition program. We shall also attempt to provide greater study and research facilities for those interested in art by further development of the Art Reference Library, and by acquisition of more original works of art and reproductions.

These plans for the future are conditioned upon the solution to such problems as a regular staff of insufficient size, a considerable backlog of work, the limitation of space, and inadequate purchase funds. Solutions to these problems must be found, since the future of the University Gallery is at stake.—RUTH E. LAWRENCE, *director*.

School of Journalism—Development of the school's program as a "school of communications" has continued in the last biennium. This development, noted in the last biennial report, grows out of the school's basic concept of journalistic education: That such education means training in professional techniques and procedures on a basis of sound general background and an understanding of the communications media as integral influences in modern society.

It is impossible, in a brief report such as this, to show the extent to which this educational trend affects all the school's offerings. Evidences of the trend, however, are new courses in mass communications and the audience, and in radio and television advertising and administration. The school has also expanded its offerings to the University's general education program with a new course for nonprofessional students in mass communications and the news.

During the biennium the School of Journalism began a thorough analysis and re-examination of its curriculum and teaching procedures. Not yet concluded, this project is expected to yield further educational progress.

The Research Division of the school has continued its studies of the communications media and their effectiveness. In the biennium it has undertaken studies in the fields of newspapers, radio, motion pictures, magazines, television, and books. A number of the newspaper studies have been made under a \$17,500 grant from the Minneapolis *Star and Tribune*—the latest in a continuing series of grants. Basic research in prediction of degrees of popular information about current events has been conducted under grants totaling \$53,300 from the Office of Naval Research, United States Navy. An analysis of the audiences of the University radio station, KUOM, was completed. Other studies were made in problems of polling, content analysis, prediction of reading, listening, and voting behavior, and the costs and personnel of media. The Research Division is serving each year to train a limited number of qualified men and women in communications research procedures.

The adult education program of the school was expanded during the biennium by reinstitution of two professional short courses: The Daily News Executives Short Course and the Industrial Editors Conference. These are expected to be regular annual additions to the program that for more than thirty years has included the weekly editors' short course and for five years the radio news short course. The school also conducted a biennial conference for high school journalism advisers, and continued its services to the Minnesota High School Press Association.

The annual Minnesota award for distinguished service in journalism, presented by the University through the school, went in 1948 to Tom H. Keene of the Elkhart (Ind.) *Truth*, and in 1949 to J. S. Gray of the Monroe (Mich.) *News*. The annual Twin Cities Newspaper Guild lecturers, brought to the University by the guild and the school, were James B. Reston of the New York *Times* in 1949 and Reinhold Niebuhr of Union Theological Seminary in 1950.—RALPH D. CASEY, *director*.

School of Social Work—In the problem-solving continuum which is life, social work is a skilled professional service in the area of human and social relationships to assist individuals, groups, and communities in adjustmental processes coincident to defining and working toward goals of personal, social, and material equilibrium. The School of Social Work has as its objective the professional education of carefully selected students for technical and leadership positions. The school, a graduate professional school, now in its thirty-third year of operation, had its beginnings in 1917 when the Training Course for Social and Civic Work, a five-year course, was established by action of the Board of Regents. The school is a charter member of the American Association of Schools of Social Work organized in 1919, an association which now numbers 53 graduate professional schools of social work. The director of the Minnesota School of Social Work has served as president of this national association during 1949 and 1950. In 1935 the Minnesota school went on a two-year graduate basis for the Master's degree in social work, and by action of the Board of Regents this program was named the Graduate Course in Social Work. In 1942 the Board of Regents acted to establish the present designation, School of Social Work, and in 1947 established the professional degree of master of social work for those satisfactorily completing the two-year graduate sequence.

The School of Social Work has been one of the largest units in the Graduate School for over a decade and has become during the last few years one of the ten largest schools of this kind in the country.

Since the establishment of the school in 1917 approximately 450 students have completed the undergraduate social and civic course, and since 1935 about 600 students have completed the undergraduate preprofessional sequence, a four-year course leading to the Bachelor's degree. About 1,500 students from this and other universities have entered training for social work at the graduate level. These men and women occupy positions now as professional social workers throughout the country in public and private social agencies.

The school has developed a close working relationship with public and private social welfare agencies of Minnesota, particularly in the Twin Cities area, and a selected number of these agencies are used as clinical internship field work placements for graduate

students in fulfilling the field work requirements of the graduate curriculum. Also, the faculty of the school renders a continuous service to the community over and above the responsibilities of teaching and supervising graduate students. These services include technical consultation to social agencies on social work problems, conduct of research, serving on agency boards and committees, consultative services to civil service and merit system agencies, and the like.

In December of 1949, F. Stuart Chapin, who had served as director of the school since 1922, was relieved of the directorship at his own request and was succeeded by Professor John C. Kidneigh, who had served as associate director since 1946.—JOHN C. KIDNEIGH, *director*.

Public Administration Center—The graduate training program in public administration continued to be the major activity of the Center during the biennium. Ten students were enrolled in 1948-49 and sixteen in 1949-50. One hundred fifty-five men and women have now been enrolled since the program was established in 1936-37. Thirty-three others have been enrolled in the special graduate seminar in public administration. An alumni directory compiled at the close of the biennium indicates that approximately 70 per cent of our former students are now in government employment—national, state, or local—some of whom are holding positions of major administrative responsibility. Alumni meetings were held in Washington, D.C., and the Twin Cities each year of the biennium.

The research activity of the Center during the biennium was devoted largely to a continuation of work on the series of administrative histories of state departments and agencies in Minnesota. Three of these projects are now ready for final editing preliminary to publication, and work is well under way on a fourth. The addition of a half-time research fellow to the staff in 1949-50 has contributed markedly to the quality and quantity of the research work accomplished during the year. A large part of the time of the research staff during the fall of 1949 was given to the preparation of material for the use of the Minnesota Efficiency in Government Commission. The director of the Center is a member of this commission and an alumnus of the training program is the executive director.

The joint reference library of public administration materials serves the reference and research needs of the students and staff in the Center, the Municipal Reference Bureau, the League of Minnesota Municipalities, and a portion of the Department of Political Science. The librarian also answers many calls by telephone and in person from members of the University faculty and government officials in the Twin Cities area. She is at present the secretary-treasurer of the Minnesota Chapter of the American Society for Public Administration.

The Center provides information to students and faculty concerning government employment opportunities and is increasingly called upon by public officials to make recommendations to fill government positions. The director of the Center serves as liaison officer of the Eighth Regional Office of the U. S. Civil Service Commission for the University of Minnesota.

The major need of the Center is for fellowship funds. Most of the major universities giving graduate instruction in public administration offer financial aid to students. Many of our most promising applicants for admission to the training program withdraw upon receipt of scholarships and fellowships in other institutions. The gift of \$500 by an anonymous donor, and the transfer of an unexpended balance from our grant from the Rockefeller Foundation which terminated in 1944-45, have increased the amount in the Public Administration Alumni Student Aid and Loan Fund to \$1,865, but a much larger sum is needed for student financial aid if Minnesota is to maintain its present position of high rank among the universities offering graduate work in this field.—LOYD M. SHORT, *director*.

—T. R. McCONNELL, *dean*.

INSTITUTE OF TECHNOLOGY

Enrollment in the institute has been steadily declining since the peak in the fall quarter of 1946-47, part of this decline being attributable to reports which were widely circulated predicting an over-supply of engineers. Employment figures of the largest graduating classes of 1949-50 show that the predictions of over-supply were completely erroneous. In fact, even with the large numbers there are still shortages. From this one might infer that the current enrollment in the Institute of Technology has probably reached its lowest point. The decrease of enrollment permits a realignment of policies and standards which necessarily suffer when student enrollment in professional courses grows beyond the limits dictated by staff and facilities.

In the following report development of graduate instruction and research is emphasized. At the same time, however, continual effort toward improving the regular undergraduate instruction has been intensified, this improvement too being stimulated by the increased research and graduate studies. The transition from the four- to the five-year program in the institute is virtually complete.

Several new plans have been adopted. A rearrangement of the two-year technical aid courses has been made with the objective of providing technological training for positions in industry which require less responsibility and preparation than needed by graduate engineers. The first course of this kind prepares students for positions as engineering draftsmen in all branches of industry. The second curriculum, for industrial technicians, prepares them as industrial laboratory and test equipment workers. In cooperation with industry a plan has been worked out involving alternate periods of university study and supervised work in selected industries. Starting after about two years of full-time study in the institute, students selected for this program alternate quarter by quarter in attending classes and working on an industrial assignment. Two alternating sections on this work-study plan are going on in Mechanical Engineering. The professional engineer degree, formerly administered by the Graduate School, is now awarded by the Institute of Technology under somewhat changed requirements. The requirement of having a man who has been in industry for some years and is in a responsible professional position attend full-time study is removed. At the same time the standard of the degree is protected.

All three of the above plans are a small part of an effort to promote in higher technological education a real partnership with industry.

Architecture—The School of Architecture was established as one of the major divisions of the institute in 1949. The revised status has not only been justified by the resulting simplification of administrative procedure but has enhanced the identity, prestige, and morale of the school.

By a clarification of the policy regarding outside undertakings by staff members it has been recognized that architectural teachers must engage in a certain amount of practice to promote their own growth and to retain stimulus in their teaching. This has resulted in individual members of the staff being active both in creative work and in professional affairs, not only in the University's own building program, but also at local and national levels. Cooperation with practicing architects who participate in judgments of design problems and in other ways further help to maintain the close relationship of teaching and practice.

Various criteria indicate that the standards of the School of Architecture have continued to improve. Enthusiastic reports are received about students who have gone on to postgraduate work at Harvard and the Massachusetts Institute of Technology, for example. In recent years from one-fifth to one-third of the applicants accepted by these institutions on a highly competitive basis have been from our School of Architecture. The number of students who have received research and traveling fellowships from the Scandinavian American Foundation, the American Academy in Rome, the Fulbright Scholarships, and various other agencies is further evidence of the quality and standing of the work of the school. A contributing factor to this improvement has been the selective admission plan which was established in 1946 and which maintains student enrollment in line with available facilities and faculty effort.

The School of Architecture is operating on the wise policy that it is best to do outstanding work by concentrating its present resources on the development of the single undergraduate curriculum in architecture. While consideration has been given for some time to the expansion of the school's offerings into postgraduate work or city planning fields, the thought is that such expansion shall only be embarked upon when adequate additions to staff and facilities are available. The School of Architecture is the only accredited school between Chicago and the north Pacific coast and must therefore work in the closest cooperation with the universities in Wisconsin, the Dakotas, and other neighboring states.

During the last three years the enrollment in the School of Architecture has been stable, averaging two hundred sixty students, of whom about two hundred are taking the professional course or majoring in architecture.

Chemistry—The School of Chemistry was reorganized into two departments on July 1, 1949, and now consists of a Department of Chemistry and a Department of Chemical Engineering. The Department of Chemistry retains four divisions—namely, inorganic, analytical, organic, and physical.

The Department of Chemistry maintains its distinguished rating by the appropriate national accrediting group well up in the top ten per cent of the country. With the space

vacated by the moving of the Department of Chemical Engineering to its new building, chemistry has been able to begin construction of a much needed radiation laboratory and the availability of other research space will greatly aid the activities.

In the Inorganic Division members of the staff have been productive in the writing and revision of textbooks and in significant contributions, such as the production of thioacetamide as a substitute for hydrogen sulfide. In the Analytical Division the completion of a new laboratory for graduate research has provided space for ten doctoral candidates, and the important work on synthetic rubber is proceeding in a highly satisfactory manner. In addition polarographic studies of cancer are being conducted under a grant from the United States Public Health Service. The Division of Organic Chemistry has maintained its important contacts with industry, and during the sabbatical year of one of the members of the staff introduced the interesting innovation of having a distinguished member of the research staff of Merck Laboratories come to the University. The activity of the staff may be gauged somewhat by the fact that the group has published approximately fifty papers during the biennium. The division still needs remodeling of its undergraduate laboratories to handle the large number of students with whom it has to deal, but plans under way or already completed have provided a start in increasing the much needed research space available. The Division of Physical Chemistry has increased its notable activity in graduate work by the addition of eight postdoctoral fellows. The infrared spectroscopy laboratory, as well as performing important work for the division itself, has been most helpful to workers in organic chemistry, pharmacy, medicine, and on the St. Paul Campus. Graduate and postgraduate work in physical chemistry is greatly aided by four Office of Naval Research projects which are being carried out under various members of the division. Physical chemistry has important plans for the future, not only for improving the equipment in infrared spectroscopy but by adding a Collins cryostat for liquid hydrogen and helium production. Work is under way to set up a standards laboratory for the University.

In the Department of Chemical Engineering the most significant event during the last two years is the completion of the new Chemical Engineering Building and the problems associated with equipping it. The staff of chemical engineering is to be commended for the considerable effort it has made in designing a flexible, modern chemical engineering center. At the same time the department has attained a peak in graduate instruction and research work, in active participation of staff members in national meetings, in publications for leading chemical engineering journals, and in state service. While most of the research has been of a fundamental nature, a few projects emphasize the utilization of natural resources of this area including investigation of the potentialities of Minnesota peat, continuous production of lactic acid from wheat grits, and methods of producing plastics from sawdust.

Engineering—In aeronautical engineering increased emphasis has been placed on graduate work and a number of students are assigned to the department by the Naval Postgraduate School at Annapolis. The department has completed its move into the new Aeronautical Engineering Building, and the main laboratories—airplane structures and vibrations—are equipped. Three supersonic wind tunnels are in operation at Rosemount where a considerable volume of contract research work is being carried out. Because of the distance between Rosemount and the University, it is difficult to integrate the sponsored research work as fully as is desirable with the academic work of the institute. This physical separation has a tendency to inhibit the free interchange across departmental lines, which is one of the most valuable factors in the prosecution of research in a university.

Civil engineering has had unprecedented increases in student enrollment at both graduate and undergraduate levels, which in contrast with other fields of engineering show no signs of appreciable decrease. The percentage of students now enrolled in civil engineering is probably higher than at any previous time in the last few decades. The level of academic training of staff members, as indicated by their advanced degrees, graduate study, and productive work, is also at the highest point in the department's existence, although there are still some areas which should be better covered by additions to the staff.

In contrast to the increased undergraduate enrollment, the increased quantity and excellence of the graduate work, and the upgrading of the staff, the physical facilities available to the Department of Civil Engineering have not at all improved and in some instances have actually undergone a serious retrogression. Permanent floor space for laboratories and drafting rooms is fifty per cent less at the present time than it was prewar. This has been offset for the moment by making available space in the temporary buildings adjoining Main Engineering. Currently the civil engineering staff and labora-

tories are spread over six different buildings of the technology group, a circumstance which mitigates seriously against optimum performance of their teaching and research functions. The importance of providing space and facilities for the work of the Department of Civil Engineering is one of the principal reasons that the projected wing to Main Engineering should be made available immediately.

The temporary expedient of utilizing Rosemount for the Civil Engineering Summer Camp has not proved satisfactory because of terrain limitations. A return to the prewar arrangement at Cass Lake is most desirable.

The activities of the St. Anthony Falls Hydraulic Laboratory provide a pattern which is in many respects exemplary of the proper coordination and contribution of self-supporting sponsored research to our educational program. The laboratory has grown in eminence and international recognition and in the demands placed upon it in the last two years, and has long outgrown its available space and facilities both for graduate studies and fundamental and applied research.

The publications of the laboratory have crystallized into four series: bulletins, of basic and general interest and lasting value; technical papers, consisting either of articles contributed by the laboratory to technical journals or original papers; circulars, semi-popular reports, and pamphlets; and project reports on cooperative research, primarily for the sponsoring agencies and with limited distribution.

During the biennium a number of major projects were completed. Among those now in progress are investigations in connection with hydroelectric developments both for the government of Madras, India, and for the El Salvador Power Commission; studies on a free jet water tunnel, fluid flow diversion, air entrainment by flowing water, and on hydraulic tube vibration for the Office of Naval Research; Missouri River bed sediment, Alaskan airport drainage, and a river hydraulic model are being studied for the U. S. Corps of Engineers. Four other major projects for different governmental and industrial agencies are being carried out in addition to many smaller studies and subprojects.

Forty graduate students have been attracted to work in hydraulics and a considerable number of these are employed on the sponsored projects. The scope of this laboratory's work in expanding the contributions of cooperative studies to the educational program is only limited by the space available. A minimum addition of one floor to this laboratory is amply justified on the basis of past performance.

The Department of Electrical Engineering during the biennium saw the largest student enrollment, with a peak of approximately fourteen hundred students. Great credit is due the staff that during this time standards were not merely maintained but improved, graduate work has increased markedly, and in addition a considerable number of new activities in research were initiated. An indication of the activity beyond the great demands imposed by graduate and undergraduate teaching is afforded by the fact that more than seventeen significant published contributions have resulted from their work. Among the outstanding activities and facilities for research and instruction initiated during the two years are the following: an electronic tube laboratory, which is already at work on basic research in secondary emission supported by the Army Signal Corps; an acoustics laboratory established under grant from the Research Corporation which has resulted in the completion of phases of research on guided acoustic waves. Electrical engineering shares with physics the construction of a linear accelerator under grant from the Atomic Energy Commission. Fourteen members of the staff, including graduate and undergraduate students, are employed on this project. A computing center has been established, and the initial analog computer is in operation providing instruction in modern electronic computing methods, serving general university research as well as industrial activities of the area. The center was established under grants from local industries together with a major contribution of university funds, and already a substantial proportion of the computer time is being utilized by industry.

An addition to the staff has entered the department in the important field of servo-mechanisms, although as yet laboratory space for this activity is not available. The building has not been added to in twenty-seven years, in spite of the tremendous growth of activity and student body that is indicated above. Instruction at the present time, as well as the potentialities of the staff in the field of sponsored research, are limited solely by the lack of adequate space. Some temporary relief would be afforded by covering the present open two-story central well of the main laboratory and dividing the floor space thus gained into separate small laboratory rooms. Also, an economical wooden penthouse over a large part of the building roof would meet pressing needs in facilities for propagation and antenna studies remote from interference.

The Department of Mathematics and Mechanics is devoting effort to stimulate graduate work in mathematics not only for itself but as a contribution to the continued effort

to upgrade undergraduate offerings. As evidence of accomplishment in this direction, four Doctor's degrees have been awarded to men whose major advisers were in the Department of Mathematics and Mechanics in the past two years, more than in any other two-year period in the history of the department. A policy has been established eventually to place the responsibility for the instruction in undergraduate subjects such as hydraulics, the burden of which has fallen on mathematics and mechanics in the past, on other departments within the Institute that may have well developed programs, including graduate and research work, along these lines.

The Department of Drawing and Descriptive Geometry has maintained its good work in this important area for engineers in spite of over-inflated enrollments necessitating the instruction being carried out in inadequate temporary facilities. In addition the department has contributed materially to the initial technical aid course for draftsmen.

The Department of Mechanical Engineering is now well established in its new quarters which have permitted the addition of several important laboratories, including those for instrumentation and automatic control, low temperature refrigeration (greatly aided by the new cold rooms, the refrigeration for which was provided by a gift of equipment from the Mayo Clinic), plastics, and the beginnings of a gauge laboratory. New emphasis has been placed on industrial engineering, an important growing field, and a curriculum leading to the bachelor's degree in industrial engineering has been established. The trend in mechanical engineering is to move away from highly specialized options toward a central fundamental program of core instruction. At the same time increase of graduate work and research activity has resulted in broadening the research interests of the department into such widely different fields as, for example, machine design, thermodynamics, dust transportation, solar energy, and ice, snow, and permafrost.

Engineering Experiment Station—The Engineering Experiment Station has increased the scope of its work considerably in the past two years. Earlier the station devoted its efforts principally to phases of mechanical engineering. Now it is prepared to serve in many fields covered by the Institute's activities. The number of research projects sponsored by outside organizations has increased: during 1948-49 the total funds received by the station from outside sources amounted to only \$35,000, while for the following year the amount of \$152,000 was received from nine different industrial or governmental organizations or technical societies. Further growth in the research sponsored by outside agencies is to be anticipated in the coming years. With this increase of activity there has also been a diversification, and the Engineering Experiment Station now has on its special projects research staff a wide variety of specialized talent. The station has also been active in assisting members of the Institute staff in the details of finalizing papers for publication, not only in its own series, which has increased in volume, but also in national technical journals. With the movement of the Department of Mechanical Engineering into its own new building, it has been possible to make a more efficient division and use of the Experiment Station facilities. The station acts as a center to assist departments in the prosecution of research on outside funds.

Mines and Metallurgy—One of the significant events that took place in the School of Mines and Metallurgy is the introduction of a new curriculum in geophysics, particularly suited to the intensive search for new deposits of ore and oil which the current high rate of consumption of these resources makes imperative.

Additional laboratories for research in mineral dressing have been provided by building alterations and go far to meet the need for graduate instruction and research connected with efforts to use the low grade iron ores of the state. Phases of the work include physical aspects of flotation, a laboratory to study problems in surface chemistry connected with flotation, and one equipped for the investigation of the association of minerals in crude ore and in agglomerates which are held together by ceramic bonds developed upon heating.

Improvement in laboratory space has provided facilities for metallurgical research such as high temperature melting under vacuum and controlled atmosphere, chemical analysis, X-ray examination, and polishing and microscopic study.

The staff of the School of Mines and Metallurgy is currently being extensively employed on a research project sponsored by the government. An important new program in exploration drilling has been started and is going forward in an excellent manner in close cooperation with an advisory committee from industry. The work for the Minnesota Tax Commission continues at an increased rate.

Mines Experiment Station—The Mines Experiment Station continues its work of state service and research in the iron mineral fields. In the service operations many tons of Minnesota ore have been received for study and examination, and reports have been prepared and submitted. Research activities which are largely connected with taconite

continue as the major effort of the station, and the work has resulted in enlisting the interest of a third large company, United States Steel Corporation, in the erection of a taconite plant. It is estimated that more progress toward the establishment of the taconite industry has been made this year than in any similar period in the past.

The Mines Experiment Station is utilizing the cooperation of other departments of the Institute in a mutually profitable manner. Electrical engineering is assisting in the study of the magnetic properties of oxides of iron and the School of Mines and Metallurgy is assisting in the study of fundamentals of ore flotation. Both of these vital researches will be of the greatest importance in the future of the taconite industry. An important contribution of the Mines Experiment Station has been the establishment of a taconite scholarship fund contributed from private sources to encourage the training of personnel for the special operations which future expansion of the taconite industry will demand.

The Next Two Years—It is evident that during the next two years the country will be in a state approaching total mobilization. This places the heaviest demands on technology in all its phases. Clear recognition and acceptance of this situation should guide future planning.—ATHELSTAN F. SPILHAUS, dean.

DEPARTMENT OF AGRICULTURE

Agricultural Experiment Station—The research staff of the Agricultural Experiment Station during the biennium has made significant progress in solving some of the important problems which face the many people of Minnesota who depend upon agriculture and agricultural products for their livelihood. There has been a concentration upon the long-range program of research in such fields as the development of new varieties of crops, new breeds of livestock and in the control of diseases, both of animals and plants. New studies have been initiated to meet current problems, while numerous investigations have been completed and the answers made available to the people of the state and nation.

There has been a gratifying tendency for the research workers to attack their problems cooperatively. The agronomist has worked with the plant pathologist, the entomologist, and the biochemist; the animal husbandman with the dairy husbandman and the veterinarian; the soil scientist with the agricultural engineer; the home economist with the horticulturist, the agricultural engineer, and the meat specialist—or with the rural sociologist, the agricultural economist, and the engineer. Numerous other examples could be cited to demonstrate this wholesome spirit of cooperation which will insure a broad frontal attack and fruitful results. Likewise, there has been a continuation of the long-standing cooperation between the investigators at the central and branch stations and with affiliated groups such as the Hormel Institute, the Mayo Forestry and Horticultural Institute, and the Research Center of the Red River Valley Potato Growers Association. The staff has worked together with individuals, local and regional groups, and associations. The research program, stimulated by the additional support furnished through the Research and Marketing Act of 1946, has been extended to include additional cooperation with other states in the region—as a matter of fact, with states in all parts of the country. These are significant developments in agricultural research; the pooling of interests that will insure concerted action for the earlier and more complete solution of the manifold problems which face agriculture, forestry, home economics, veterinary medicine, and other related interests of the state and nation.

The acquisition of the additional land and facilities at Rosemount has made it possible to broaden and intensify the agricultural research program. The activities at the Rosemount Agricultural Research Center have already been productive and have attracted the interest of people at home and abroad. The necessary structures immediately required for operations at Rosemount have been built with modest expenditures and by intelligent planning and improvising through the use of existing structures on the tract and some reconstruction. There is still need for additional facilities to expedite the research program and to make the large land area most effectively productive.

Some new structures have been built at the branch stations to facilitate operations. There have been renovations of existing buildings made necessary by deterioration and fire. Much remains to be done, however, to bring these stations to the highest degree of operational efficiency and to meet new needs.

The organization of the University of Minnesota Department of Agriculture Advisory Council has been a most significant development in the biennium. This group of farmers, association delegates, and representatives of the broad fields of agriculture, agricultural industries, forestry, home economics, and veterinary medicine will be able to render a signal service to the University in counseling the administration and the staff on the needs

of the state and on the most efficient effective functioning of the University in the fields of instruction, research, and extension. The council has shown a great interest in the programs of the Department of Agriculture and should become most helpful in promoting the broad program of the University, especially in the field of agriculture.

Numerous problems have been brought to the attention of the administration and the research staff of the Experiment Station during the biennium. In some cases, it has been possible to meet the demands; but, in other cases, the lack of sufficient funds has made it impossible for the station to initiate investigations which should have been undertaken. Attempts have been made to maintain a well-balanced program of research and to meet the new needs as they arise, so far as resources have permitted.

Many of the projects of the Agricultural Experiment Station are joint enterprises between the subject-matter divisions at the St. Paul Campus and the branch stations at Duluth, Grand Rapids, Crookston, Morris, Waseca; the Fruit Breeding Farm at Excelsior; and the Forestry Station at Cloquet. In some instances, the branch stations have the major responsibility for an active project with the cooperation of staff members at the central station at St. Paul. For several years, variety trials of small grains, grasses, legumes, and corn have been conducted in the southwestern part of the state with the cooperation of county crop improvement organizations and county agents. Additional variety trials were initiated in 1950 through a similar arrangement in the Lake-of-the-Woods region where three counties had joined together to work with the staff from the St. Paul Campus and the Grand Rapids Branch Station. These regional enterprises within the state have been remarkably successful and have become a part of the overall program of crop variety testing. The local communities have benefited likewise by the opportunity to observe these research activities and the results under local conditions.

It may be pointed out that the people of the state are beginning to realize that the Agricultural Experiment Station is not simply a group of buildings and staff located in St. Paul but rather a group of widespread centers throughout the state where agricultural research is being conducted under different climatic and soil conditions. Investigations are being pursued in every county of the state—sometimes on individual farms, in other instances at the established branch stations and cooperating institutions. Literally, the whole state is the site of the Agricultural Experiment Station, even though the administrative headquarters are located in St. Paul.

At the present time, there are 270 active projects under way in the Agricultural Experiment Station. Each year, from ten to twenty new projects are undertaken and about an equal number completed. The research is supported by state and federal funds, as well as grants from individuals, corporations, foundations, associations, etc. The number of grants-in-aid from private sources has increased during the biennium. This indicates a fine recognition of the need for additional agricultural research and, also, of the capacity of the research staff to supervise a broad program of basic and applied research.

The investigations in the field of agricultural economics, particularly in the marketing of farm products and the purchasing of farm supplies, have been progressing satisfactorily and have yielded results which have been put into practice to increase the efficiency of agricultural operations. The research in the broad field of marketing has been accelerated during the biennium, especially with the passing of the Hope-Flannagan Bill (Research and Marketing Act of 1946), and has been extended to a study of foreign trade with a portion of the investigations actually being conducted in countries abroad. This is of great importance to Minnesota as an exporting state. Much of the marketing research has been on a cooperative basis, involving other states and the U. S. Department of Agriculture. The work in farm management has continued with additional emphasis on a study of the costs involved in producing specialty crops and the adjustments of agriculture to mechanization and new techniques of production. Agricultural enterprises in the state have been benefited by studies of farm finance, farm prices, and work simplification, as well as problems of land economics, including ownership, land prices, inheritance, and classification. The investigations on the marketing of slaughter livestock by carcass weight and grade, in which this station has cooperated, have merited national and international interest and recognition.

In the field of agricultural engineering, there has been added emphasis on farm buildings and farm equipment, resulting in the improvement of design and operation. Work is being done on the housing and management of dairy cattle with relation to efficiency and economy, farm fencing materials, and the design and development of equipment and methods for weed control. Most of these projects are cooperative with other subject-matter divisions of the Agricultural Experiment Station. The important subjects of farm drainage and irrigation have received major attention and some of the results actually put into practice on Minnesota farms.

There has been increased attention on the testing and improvement of forage grasses and legumes adapted to Minnesota conditions. This has involved, especially, studies on brome grass, blue grass, clover, and alfalfa. This is a very important development since there has been renewed interest in grassland agriculture, legume seed production, and pasture development. These genetic and agronomic phases constitute one part of the total program which includes studies on the pathological, entomological, and soil fertility aspects. Some of the fundamental studies are being conducted advantageously at the Rosemount Station as well as in the northern regions of the state. Research on weed control has been coordinated throughout many divisions of the Agricultural Experiment Station and with outstanding results. An advisory committee on weed control has been particularly effective in the integration of activities in this important field. The long-time studies on varietal improvement in farm crops continue to be significant. New varieties which are more productive, more resistant to disease and better adapted to commercial use are being developed. Some of these new varieties are still in the developmental stage but should be ready in several instances to meet any crisis such as the appearance of new races of rust-producing organisms, etc. As an example, a new variety of spring wheat called Lee has been named and increased for distribution in 1951. A new variety of winter wheat called Minter, which was released in 1948, continued to yield favorably and had other desirable characteristics. Redwood, a new variety of flax developed by the Minnesota Station, has been placed on the list of recommended varieties and may replace older varieties previously grown in the state. Significant progress was made in the development of inbred lines of corn for resistance to the corn borer. This is one of the most important developments in crop breeding during recent years. Fundamental research in the field of cytogenetics will form the basis for more rapid progress in the breeding of new varieties of crop plants.

There has been a continuation of the studies in swine breeding following the introduction of the well-known Minnesota No. 1 and No. 2 breeds and their use in various crosses. These investigations are being pursued mainly at Rosemount and at the branch stations. In addition, extensive research on the breeding of sheep and beef cattle has been undertaken. Some progress has been made to date, but it will be several years before results similar to those obtained with swine are forthcoming. Other studies are being made on the nutrition of livestock and in some of the fundamental aspects of artificial insemination and physiology.

The biochemistry of milling and baking continues to receive major attention, along with studies on the control of spoilage in stored grain. Significant progress has been made in the field of animal nutrition, particularly the effect of maternal nutrition on the development and growth performance of the young, the relation of nutrients to metabolic processes, and fundamental studies on vitamin E. The fundamental properties of colloid systems, with particular reference to winter hardiness of crop and horticultural varieties, are being investigated with most promising results. Besides basic research in the field of the chemistry and utilization of carbohydrates, some aspects are being studied on a pilot plant scale, especially in the case of the delignification of natural cellulosic materials.

A study of the effects of inheritance, management, and environment on dairy cattle, as determined by the use of identical twins, has introduced a new procedure in dairy research in which the Minnesota Station has become a leader. In line with the times, the study of milk formation by the use of radio-active carbon compounds is under way along with other significant investigations on milk secretion. The transplantation of bovine ova is, also, a new and interesting area of research being undertaken by the Division of Dairy Husbandry. Long-time experiments on dairy cattle breeding, particularly of the fixation of milk-production characteristics by inbreeding, are under way in cooperation with other states of the region and country. Further evidence has been secured to emphasize the importance of low oxygen tension in fluid milk during processing if maximum protection against oxidation is to be had in the resulting dry whole milk. The results obtained in these studies have been made available to the industry. Significant contributions have been made to the knowledge of the coliform group in milk, including their heat resistance and their response to inhibitors in laboratory test media.

Extensive investigations are under way on the control of the European corn borer which has become so devastating in the state of Minnesota. Research was initiated on the harmful and beneficial insects of alfalfa and clover. These studies are being made in several places in the state but especially in the northern counties where seed production by legumes is an important factor in the economy. Considerable progress has been made in the study of diseases of honeybees, a new field of research which was begun during the biennium. Basic research is being done on methods of estimating insect abundance and relating population density to insect damage, the structure and permeability of insect cuticle, as well as the penetration and accumulation of insecticides in the insect cuticle. In the field

of fish and game management, research is being conducted on game and fur bearing animals; the movements, reproduction, and survival of the beaver, and biology and management problems of the commercial fishery resources of the state. Some of the investigations on the epidemiology, epizootiology of the arthropod-borne virus encephalitides with particular emphasis on western equine encephalitis were interrupted by the demand for the project leader's services by General Douglas MacArthur for studies in Japan. The preliminary results, however, have been most significant. Studies are under way also on the endoparasites of domesticated and game animals. Some results have been published and are known to have been applied successfully.

Extensive experiments are under way on farm woodlots, shelterbelts, and Christmas tree planting. All of these will have practical applications as soon as results are available. The fundamental study of the chemical nature of lignin is expected to yield knowledge essential to the eventual economic utilization of a variety of raw materials in the state, especially of large quantities of low-grade aspen. From a practical standpoint, the project concerned with the production, marketing, and utilization of treated fence posts is yielding results which will extend their useful life in contact with the soil. These studies are being made at various points in the state, and a new forest products industry in northern Minnesota could be the result of these studies, where various types of wood have been used for fence posts and where new methods for sharpening, barking, pointing, and treating have been developed.

In the field of home economics, there has been further progress in a study of calcium utilization in human subjects and a determination of the blood picture of youths. The observations on the nutritive value, quality, and utilization of Minnesota fruits and vegetables and the effect of preparation, storage, cooking, preservation, and the nutritive value and palatability of fruits, vegetables, and meat have been reported at frequent intervals and applied extensively. A regional study on the nutritional status and dietary needs of population groups is reaching the stage where the information will become available to those who are interested in human nutrition.

A new selection of potatoes, Minnesota 23, has shown unusual promise as an early white potato for home garden and market garden purposes. The variety is being increased for distribution. Other studies are continuing in the development of other new varieties of potatoes, vegetables, garden flowers, ornamental shrubs, and fruits. Close cooperation has been established with the Research Center of the Red River Valley Potato Growers Association for making studies on the quality of potatoes as affected by harvesting, handling, storage, and shipment. These observations are being made in cooperation with the U. S. Department of Agriculture and the North Dakota Station, all of whom have joined with the potato producers to study these important problems. Evidence continues to accumulate to indicate that paper sheets coated with either wax or plastics do not provide as good protection to stored frozen foods as laminated sheets or suitable types and gauges of transparent plastic films and aluminum foil. Certain varieties of strawberries showed outstanding adaptability to freezing in the home or commercially. A new method of sealing transparent bags for frozen foods has been widely adopted in many sections of the United States. Certain herbicides and treatments have been found useful in strawberry plantings and for certain vegetable patches.

A method for evaluating herbicides has been developed for comparing herbicides to ascertain which are superior. This will be very helpful in the development of methods for the control of weeds. The plant disease garden at the St. Paul Campus affects the development of disease-resistant varieties of farm crops. This has been a center for all such research in the United States because of the pre-eminence of the local staff in the study of physiological races of organisms causing certain plant diseases. The work is conducted in close cooperation with the plant breeders. Fundamental studies on physiological specialization and epidemiology of the rusts have continued. The results will serve as a basis for understanding the development of rusts, the behavior of varieties of crops and predicting the possible changes in the future. Similar studies have been made also on cereal smuts. Diseases of many fruits, vegetables, ornamentals, and forest trees have been investigated. In some instances, specific solutions have been found in the nature of insecticides, fungicides, or bactericides and methods for applying them. Special attention has been given to the diseases and spoilages of potatoes. A new field of investigation has been on the dissemination of plant pathogens and allergens, particularly allergenic molds that may be air-borne. It has been found that the viability of certain microbial seeds can be considerably prolonged when packaged in envelopes made of laminated material containing foil. This is important since some seeds, especially in warm, humid sections of the United States, such as the Gulf States, deteriorate rapidly when shipped in ordinary lithographed

or plain envelopes. Under the sponsorship of the Atomic Energy Commission, a study is being made of the effects of radioactive substances on plant pathogens and other microorganisms. The first aspect of this investigation is concerned with the mutagenic effect of uranium salts. The common mushroom and certain lines of the corn smut fungus seem to be susceptible to the uranium salts.

Inbred lines of poultry have been developed without serious risk of loss. The results of crosses indicate that some combinations of inbred lines, but not all, will produce progeny with superior performance. New information has been revealed concerning factors affecting the hatchability of goose eggs. This is a field in which there was very little information previously. Studies are being made on the embryological development of the fowl as affected by systems of breeding. It is important to secure information in this field in order to attain a reduction in embryo mortality, especially in the inbred lines of poultry. It has been found that an unidentified growth promoting factor is present in corn and in soybean oil meal when fed to poultry. It has been demonstrated that a ration containing all-plant proteins may be safely used under farm conditions for the production of broilers and starting chicks, but the addition of vitamin B₁₂ to the ration appears to be required for maximum growth. In preliminary studies with hens, it has been shown that all plant rations with B₁₂ that are adequate for good egg production are not completely adequate for hatchability of eggs. Studies on the efficiency of turkey meat production as influenced by inheritance have been under way for a short time at the Rosemount Station. On the basis of results obtained to date, it appears that weight and breast width are the most reliable criteria of meat yield. In some cases crossing has produced slightly better growth and body size.

Oats grown on soils relatively low in inorganic sulfur have shown a definite response to fertilization with gypsum. Significant increases in yields of hay were obtained from liquid phosphoric acid and superphosphate. Soils which are quite acid yield crops more abundantly when judicious liming is practiced. Proper liming reduced acidity and increased the production of nitrate nitrogen. Fertilizers not only increase the yields of legumes as hay, but also increase the amount of roots which remain in the soil and serve as a source of soil organic matter. The studies on the development of plant material on taconite tailings continue to reveal information which may be helpful in solving the perplexing problem which faces the industry in utilizing low-grade ore in Minnesota.

A new and simpler method for the assay of aureomycin in milk has been devised, as well as the disclosure of the effect of aureomycin on the mammary gland when it is used by the intravenous and infusion routes of medication. A better understanding has been obtained of the staphylococcal form of mastitis. The results of field studies on the ring test for brucellosis indicate that the test on a county-wide basis of six-month intervals in counties under the area plan of control will serve as a means of holding bovine brucellosis at a level significantly lower than has been the experience in the past with county-wide blood tests alone at three-year intervals with a material saving to the animal disease control agency as well as the herd owners. Valuable antigen strains used in the control of pullorum disease have been isolated. The control of Newcastle disease through vaccination has proved to be a very valuable supplementary control measure. The results of a limited survey on the incidence of brucellosis in swine based on the agglutination reactions indicate that the numbers of infected swine are not great. Studies on death losses in young pigs indicate that about a third of the pigs failed to reach weaning age. The cause of the losses has not been determined in most cases.

The rural sociologists have found that infant mortality, which is a very sensitive index of the general health of the population, has some relationship to the type of farming areas and to rurality. That is, the more rural a county is, usually, the higher that infant mortality rate. A great deal, also, depends upon the adequacy of the coverage of these various areas by hospitals and doctors. There has been a gradual decline in the actual number of churches in Minnesota, specifically in rural areas, but an enlargement in the actual membership per church; although, there is some significant difference depending upon the denomination. A nationality map for Minnesota has been completed in color and published in local papers showing a tremendous cultural diversity of the rural population. The overall decline in the size of the farm families since 1875 has been revealed. Variations in high school attendance seem to be explainable, at least in part, by the cultural background of the rural people. Data have been obtained to show the differences in the migrants and non-migrants from the rural farm population in Minnesota by age groups and sex. The differential in the age of migrants by sex has certain important implications, particularly as they pertain to education and job opportunities when the migrants leave a particular area.

This delineation of some of the activities and accomplishments of the Experiment

Station during the biennium is not complete nor does it represent an adequate picture of the diverse and extensive character of the research program. Only a few representative cases have been cited as examples of some of the things that are under way at the present time or that have been brought to a point where some definite statements can be made. A considerable part of the research under way is of such a nature that many years will be required before the results are obtained. One cannot expect dramatic reports annually from each of the several hundred projects. For example, breeding studies, whether on plants or animals, may require years of concentration before significant results are obtained. This is particularly true in the case of animals. Many short-time projects are included in the over-all program, and the results become available promptly. Reasonable progress is being made on most of the projects that are listed as active. The program is reviewed annually, and adjustments are made in allotments of funds, depending upon the evidence of progress being made.

As in previous years, the results of the research of the Experiment Station have been published in bulletins, both general and technical, for distribution to a widespread clientele. A major part of the results has been appearing more frequently in scientific periodicals, farm, trade, and industry journals. Some of the material has been popularized for publication in newspapers, magazines, or over the radio. Recently, television has become a medium for the dissemination of research data. Quite frequently, members of the Experiment Station staff present their results to the public at meetings of farmers, service clubs, short courses, etc., not only in the state but in many parts of the country and abroad.

Agricultural Extension Service—The period 1948 and 1949 continued to be profitable years for Minnesota farmers. A total farm income of \$1,329,000,000 for 1948 was the highest on record. In 1949 a substantial drop in prices brought down the total income about 10 per cent from the 1948 figure. In spite of this decrease, farm income was almost four times the average of the prewar years of 1935-1939.

During this two-year period, a major effort by the Extension Service was given to the problem of adjusting crop and livestock production to changing demands. Following a postwar dip in livestock and poultry numbers, there has been a slight upward trend in beef cattle and hog numbers, while dairy cattle and poultry are still declining. Extension has placed considerable emphasis on economy of production and on the need for producing the kind and quality of products demanded by consumers.

This biennium marked the first serious and widespread damage to the Minnesota corn crop by the European corn borer. Unfamiliarity with this pest and methods of control on the part of farmers has resulted in a heavy demand on extension workers for information along this line. The growing use of chemicals in the control of weeds and the more general application of commercial fertilizers has also added to the requests of farmers for scientific information.

The production of quality products has long been encouraged by the Extension Service. In order to inject some new enthusiasm into this subject the Extension Service, cooperating with the Minnesota Dairy Industries Committee and Minnesota poultrymen prepared an exhibit emphasizing the steps in the production of high quality milk and eggs. Funds for this project, totaling \$20,000, were furnished by the Research and Marketing Administration, the Minnesota Dairy Industries Committee, and Minnesota poultrymen. This exhibit was shown in 50 counties with a total attendance of 77,350, or nearly 1,600 people to a stop.

The trend toward improvement in the home and better living conditions continued at an accelerated pace during 1948-49. Three factors seem to be important in this connection. The first is the high income which has been evidenced since 1940 but which reached its peak in 1948; second, the backlog of improvements which accumulated during the depression and then the war period when improvements were almost impossible to make because of scarce materials; third, the rapid extension of rural electric lines. During 1949 more rural homes were connected with highline electricity than in any year since rural electrification began. As of December 31, 1949, the records show that 85.2 per cent of farm homes in Minnesota were electrified. These forces have brought about tremendous improvements of many different kinds in the house itself, including up-to-date kitchens, more and better closets, running water, central heating systems, and sewage disposal systems; in the working equipment such as electrical refrigerators, electric stoves, washing machines, electric irons, and other work-saving equipment; in the facilities for recreational and social activities, as well as in the appearance of both the house and grounds.

One significant result has been the very substantial decrease in the amount of heavy work that was associated with homemaking on the farm, and increase in time available

for other activities. The extension staff has expended considerable effort and time to meet the requests for assistance in farm home improvement.

The 4-H club work in Minnesota has been progressing during the postwar years. Membership has moved upwards to an all-time high of 50,909 in 1950. To service this increased 4-H membership, new local adult leaders have been recruited by extension agents and 4-H members. There were 5,908 local adult leaders who helped guide the 2,168 4-H clubs in the state in 1949 as contrasted to the 5,414 local leaders assisting in 1948. Enrollment in the junior leadership project has also been on the increase with 4,851 enrolled in this project in 1949 against 4,698 in 1948.

The club program is receiving increasing support from farm and business groups. Scholarships, awards in the form of trips and cash, and other incentives are provided on a very generous scale. This sort of support has increased during the postwar years and in some measure is responsible for the enlarged interest in club work on the part of rural boys and girls.

There has been a trend toward extending club work into the smaller towns and the suburban areas of larger towns and cities. An effort has and is being made to adapt the club projects and program in some measure to the broader needs experienced by the expanded membership.

State and county fairs, achievement days, and livestock shows have been growing in keeping with expanded 4-H membership and interest. The livestock exhibit at the 1949 State Fair was double the size of any previous year's 4-H exhibit. Despite the increased size, the quality of the exhibits remained high. There were 2,500 boys and girls, winners in their own counties, who participated in Minnesota's Centennial Fair compared to less than 2,000 in 1948.

The Agricultural Extension Service faced a heavy responsibility during the postwar years for providing information and understanding of broad economic problems on a national and international basis as a guide to their production and marketing problems. During each of the past two years 60 to 65 group meetings have been held throughout the state to discuss with farmers specific topics having a bearing on these broad problems. On the domestic side this included discussions relating to farm price support programs, farm price outlook, expansion of our domestic market, and the most desirable size of farm. On the foreign affairs side it was centered mainly in the European Recovery program and the objectives of UNESCO.

The foreign trainee program continued at an accelerated pace the last two years. It is evident from the increasing numbers of foreign visitors that there is an extraordinary interest on the part of foreign nations in our methods of agricultural production and in our system of extension education in agriculture, noticeably stimulated by the availability of funds from the Economic Cooperation Administration to cover a portion of the costs. Visits ranged from a few days to several months' duration with visitors coming from 12 different countries in Europe and Asia. A substantial amount of time has been given over to this program.

Personnel problems have eased somewhat since the war period but well-trained professional workers are still hard to secure. This is especially true of home agents. Their term of tenure is short and the rate of turnover is quite rapid. In the 87 counties in the state there are now 91 county agricultural agents, 60 home agents, 24 permanent 4-H club agents, and 45 temporary 4-H club agents. On the state staff there are 17 persons in administrative and supervisory positions and 46 specialists.

In the last biennium a farm safety specialist, a consumer marketing agent, and an additional horticulturist were added to the state staff to meet the insistent demands for service along these lines.

The extension director spent four months with the Economic Cooperation Administration in Europe, outlining a program of extension for Marshall Plan countries, and one of the specialists spent nearly a year in Bavaria in a responsible position with the Bavarian Food and Agriculture Administration in 1949-50.

During the past two years, two members of the state staff and two county agricultural agents were awarded certificates of recognition for superior service by the United States Department of Agriculture. This represents approximately 12 per cent of all such certificates awarded to extension workers throughout the United States during this period.

Financial support for extension work is at an all-time high. This is the result of increased appropriations by Congress, additional funds provided by the state legislature, and some increases in the amount of county and other local funds. Total funds available for the extension program in 1949-50 were \$1,595,604.08, as compared to \$1,458,317.96 for the previous year, an increase of \$137,286.12. Of the total appropriations for 1949-50, the

federal government provided \$856,706.20, the state of Minnesota \$305,000, the counties \$395,730, and other local sources \$38,167.88. While the increase in appropriations appears substantial, higher salaries and increased costs all along the line have prevented any material extension of personnel. The congressional appropriations are now at the maximum authorized by present acts and no additional funds can be expected from that source without further congressional action.

In order to meet the demands on them, county agricultural agents in 1949 made an average of 12,746 individual contacts through group meetings. They made an average of 512 farm visits per county, and had personal calls at the office or telephone inquiries to the extent of 2,325 per county.

College of Agriculture, Forestry, Home Economics, and Veterinary Medicine—Registration in the College of Agriculture, Forestry, Home Economics, and Veterinary Medicine continued high during the biennium. The registration during the year 1949-50 was slightly lower, to be sure, than that of the previous year, but the registration during both years of the biennium exceeded the previous high of 1946-47. The increase in registration is quite largely in agricultural curricula, the registration in forestry remaining more or less stationary, that in home economics declining to a slight degree. The causes for the decline in the number of students enrolled in home economics curricula are not immediately apparent.

The number of veterans on the St. Paul Campus remained large. The graduation in 1949-50 of the first postwar group of entering students considerably reduced the proportion of veterans in the student body. The number of veterans in currently entering classes is low.

During the biennium the Division of Home Economics and the Division of Forestry were given the status of Schools, and the titles of the chiefs of these divisions were changed to director. The name of the college also was changed to College of Agriculture, Forestry, Home Economics, and Veterinary Medicine.

The School of Veterinary Medicine made splendid progress since its establishment in 1947. A strong teaching staff has been recruited, admission procedures have been strengthened and improved, and an excellent group of students has been admitted to the professional curriculum. The first class will graduate in the spring of 1951.

An active building program was undertaken during the biennium. The completion of the Clinical Building greatly enlarged and improved the facilities of the School of Veterinary Medicine. Peters Hall, named in honor of the late Walter H. Peters, will house the Divisions of Animal and Poultry Husbandry. Work on the addition to the Home Economics Building began in the spring of 1950. On November 16, 1949, the Administration Building was named Coffey Hall in honor of Dr. Walter C. Coffey, president emeritus of the University and former dean of the Department of Agriculture.

Plans for the new St. Paul Campus Library are nearly complete and construction may begin early in the fall of 1950. The Building Committee for the St. Paul Campus Union has been active and with the assistance of a student-faculty Advisory Committee plans are now being rapidly developed. This building forms a part of the total Union expansion program of the University, and it is anticipated that actual construction may begin in 1951.

In the summer of 1949 the college cooperated with the Dean of Students' Office in the advanced registration program, bringing students entering the college to the campus for two-day periods of orientation, testing, and registration, with a primary purpose of making the student more at home and at ease in his new surroundings, and affording the opportunity for him to develop new acquaintances among entering students and to enter into his academic life under more auspicious circumstances.

To further facilitate the effective utilization of student personnel services of the University of Minnesota, plans were laid to have representatives of the Student Counseling Bureau and the Student Activities Bureau on the St. Paul Campus. The Housing Bureau and the office of the Bureau of Veterans' Affairs have had representatives on the St. Paul Campus for a number of years.

Cordial student-faculty relationships contributed to the operation of the college program. Student representatives were appointed, for the first time, to such faculty committees as the Students' Work Committee, Student Advisory Committee, and the Curriculum Committee, together with its various subcommittees. The Student-Faculty Intermediary Board continued to evaluate problems raised by both students and faculty, and proved to be a valuable resource group for considering and proposing various curricular adjustments and other matters of mutual concern.

Considerable study was directed toward the problems of the college itself. An analysis

made of student-faculty adviser relationships resulted in the preparation of a *Handbook for Faculty Advisers* and in-service training in phases of personnel procedures. Two studies were directed toward graduates and former students of the college, one designed to secure information relative to occupational placement and curricular effectiveness, the other in conjunction with the Land-Grant College Association in an attempt to describe the occupational placement of graduates in such institutions. Both of these studies are in progress. A comparative study of academic progress of approximately 1,400 students transferring from some 200 institutions to the college from 1945 through 1949 is well under way. It is hoped that the results of this study will meet a long unfilled need for some sound basis for determining the admission of transfer students to the college.

The demand for graduates from the college has been strong in most areas. The Veterans on-the-Farm Training Program, established under the provision of Public Law 377, created an unprecedented demand for graduates in agricultural education and technical agriculture who have had experience in farming. At the present time, too, there is a very short supply of graduates in home economics education and in home economics extension.

Schools of Agriculture—During the biennium the School of Agriculture on the St. Paul Campus continued with its program pointed directly toward an older group of students than is generally enrolled at the other Schools of Agriculture. The average age of students was approximately twenty years, and over ninety per cent were high school graduates. The registration for 1948-49 was 322, and in 1949-50, 372 students enrolled.

A new development in this School of Agriculture program was the establishment of a course in Practical Nursing and Home Management. The course of eighteen months' duration is offered jointly by the School of Agriculture and the School of Nursing. Practical training was afforded in hospitals at Glencoe, Stillwater, and Wadena. Graduates may take the State Board examination for a license as a practical nurse.

An exchange program of farm youth has been developed whereby young Swedish farmers come to the School of Agriculture, and Minnesota boys go to Sweden for a period of a year. A total of eighteen students from both countries has participated.

The West Central School of Agriculture registered 429 students in 1948-49 and 420 for the school year 1949-50. Men's dormitories at the school have been very crowded, since they were originally built to serve one hundred less people than were housed in them during each year of the biennium.

The course of study now, as in the past, is planned to serve farm boys and girls who are interested in vocational training in agriculture, home economics, business training, and the related subjects. The curriculum is being gradually changed in a manner that will encourage students to stay in school for a full four-year period instead of dropping out at the conclusion of the three-year course. Instructional programs are constantly revised to fit the rapidly changing conditions on Minnesota farms.

The Northwest School has been operating at full capacity for dormitories, dining hall, and classrooms. During 1948-49, 445 students attended school, and in 1949-50 there was a slight decrease to 430. A significant development which has continued through this biennium is the unusually large percentage of students at this school who continue through four years instead of dropping out at the end of the regular three-year course. In 1948-49 a total of 91 out of 189 students who participated in Commencement exercises were graduates of the four-year course, and in 1949-50, 77 out of 179 received their fourth-year certificates. This indicates a growing interest on the part of students and their parents in taking advantage of all that the school has to offer in the way of formal instruction.

Home project work during the summer months has continued to be an important phase of the instructional program at the Northwest School as well as at the other three Schools of Agriculture.

A Veterans-on-the-Farm Training Program has been in operation at both the Northwest and West Central Schools during the past biennium. Approximately one hundred fifty veterans engaged in farming have been given classroom and on-the-farm instruction by special instructors employed for this purpose and by regular members of the staff of the two schools.

Student enrollment at the North Central School of Agriculture continued at capacity attendance during the past biennium with an average of ninety students in attendance. The new \$125,000 classroom building was completed in the spring of 1950. Thus it is now possible to teach an enlarged and quite complete agricultural engineering section in the curriculum. Other laboratories in the new building also make for improved instruction in crops, soils, chemistry, and physics and have released space in the administration building which was converted into offices for staff.

Agricultural Short Courses—Seventy-six agricultural short courses, conferences, and special days were held at the St. Paul Campus during the past biennium with a total attendance of 23,103. Farm and Home Week was held in the fall of 1947, but the mid-winter date appeared to be more satisfactory, so such programs were presented subsequently in January, 1949, and 1950, respectively. The midday classes and forums were strengthened, and evening classes largely discontinued in the interest of many farmers who drive in for these programs.

Several new short courses were presented in the biennium. A Lumber Dealers Short Course extending over four weeks was particularly significant. Other new short courses were developed, including courses in Poultry Breeding, Liquefied Gas Service, Milk and Cream Grading, Farmstead Electric Wiring, Aircraft Spraying and Dusting, Farm Operations, and the Boys' State; also numerous shorter conferences.

Plans are in process of development for the construction of an agricultural short course center on the St. Paul Campus. This may be financed in due course by the application of extra-university resources.

The Agricultural Short Course office has functioned in arranging courses in agriculture that are offered through the General Extension Division of the University. A total of 17 evening courses was offered during the biennium with an enrollment of 1,374 students. In addition, twelve correspondence courses were offered, with an enrollment of 281 students. Thus, a total of 24,758 individuals attended or participated in these short courses, general extension, and correspondence courses in agriculture during the 1948-50 biennium. —CLYDE H. BAILEY, *dean and director*.

COLLEGE OF MEDICAL SCIENCES

The past biennium has been one of steady progress in medical education, medical research, and in the training of various types of auxiliary medical and public health personnel. Finally, after war-time shortages, faculty and staff positions are well filled. The students have been applying in large numbers for most of the training programs offered by this college. Handicaps to both teaching and research continue as a result of overcrowded and inadequate facilities. However, plans for the construction of major new facilities are almost completed and considerable progress has been made on some new construction.

The administrative and instructional divisions of the College of Medical Sciences include the following units: the Medical School, the School of Nursing, the School of Public Health, the University Hospitals, the Department of Continuation Medical Study, the Course in Medical Technology, the Course in Physical Therapy, and the Course in Occupational Therapy. The reports on the School of Nursing, the School of Public Health, and the University Hospitals are prepared by the directors of these units and appear as supplements to this report, which will cover the other activities of the College of Medical Sciences.

Revised Curriculum—With the fall quarter of 1948 a revised medical curriculum was inaugurated. This revision was made in accordance with recommendations of a special committee that had been studying the curriculum for several years. The change involves some readjustments of time allocated to the various subjects and departments, a further reduction of formal class work, and a lengthening of the school year by approximately five weeks for freshman, sophomore, and junior students. This was done by adding the first term of the Summer Session to the third term, i.e., spring quarter, of the school year. The reasons for increasing the length of the school year are to provide for the inclusion of certain new subjects and to give the students more time for independent reading, study, and for both clinical and laboratory work.

Medical Students—Applicants for admission to the Medical School continue to be in excess of the number of places available in the entering class. This necessitates more time and greater care in selection. However, this is resulting in an increase in the average level of ability of medical students. The policy of restricting acceptances, almost exclusively, to residents of Minnesota and the area naturally tributary to Minnesota has been continued.

Freshman students admitted to Medical School in the fall of 1948 numbered 126 and in the fall of 1949, 124. This is somewhat more than the optimum number for available facilities, but the large number of well qualified applicants, together with the shortage of physicians in certain areas, has caused the faculty of the Medical School to authorize a temporary expansion of the Medical School classes. The number of graduates from the Medical School was 75 in both 1948 and 1949. These are the smallest classes which have

been graduated in many years. The reason for this is that toward the end of the war Selective Service discontinued deferment of medical students, thereby reducing the number of qualified applicants for two or three medical classes. The classes graduating in 1950 and 1951 will be of more normal size.

Internships—For the first time in many years the University Hospitals were unable to fill all internship appointments. This was due in part to the small classes graduating from Medical School and in part to the desire of recent graduates for rotating internships preparatory to general practice. This in turn is due largely to the fact that most recent medical graduates had their education interrupted by several years of war service and therefore are older and have more family responsibilities than medical school graduates usually have.

Major Faculty Changes—During the past biennium Dr. Jerome T. Syverton, as the new head of the Department of Bacteriology, has made remarkable progress in rebuilding a strong department to replace the departmental staff which practically disintegrated by death and resignation during the past several years. In the Department of Pathology Dr. James R. Dawson is proving a worthy successor to Dr. E. T. Bell who served as a distinguished head of this department for 30 years.

Graduate Medical Education—The program of graduate training for the various specialties of medicine has been continued at an unprecedented level during the past biennium. During this period an average of more than 300 individuals has been pursuing graduate work in the various basic sciences and clinical specialties of medicine. Clinical training for this group is provided primarily at the University Hospitals, the Veterans Administration Hospital at Fort Snelling, the Minneapolis General Hospital, and the Ancker Hospital in St. Paul. Other hospitals cooperating to a lesser degree in the graduate training program are Northwestern Hospital and St. Barnabas Hospital in Minneapolis, Miller Hospital and the Gillette State Hospital in St. Paul, and Bismarck Clinic in Bismarck, North Dakota.

The number of applications for training in the various specialties of medicine is decreasing. As yet, however, the number of applications in most fields exceeds the number of appointments available. As physicians who were in military service complete their graduate training, the number of applicants for residency appointments will certainly decrease.

Medical Technology—The University's splendid four-year program in Medical Technology is continuing to offer superior training in this field of constantly increasing importance to modern medical care. Instructional facilities are adequate for 75 students per class and employment opportunities appear unlimited. In spite of this, current enrollment is only approximately 50 students per class.

Physical and Occupational Therapy—The programs for the training of physical therapists and occupational therapists are proceeding satisfactorily; in fact, the number of applicants for training in occupational therapy exceeds the number that can be accepted with available facilities. Trained personnel in both of these fields are needed in increasing numbers as the value of these services, particularly in rehabilitation programs, is being more widely appreciated.

Continuation Study Program—During the biennium 1948-50 forty-eight courses for physicians were presented at the Center for Continuation Study. A total of 2,217 practicing physicians, mostly from Minnesota and adjoining states, registered for these courses. The majority of the courses were three days in length although several courses of one and two weeks' duration were presented. The practice of limiting the material of a given course to a relatively narrow field was again followed. As an example, in the field of internal medicine courses were given in cardiovascular diseases, diseases of the chest, infectious diseases, and gastrointestinal diseases. The experience indicates that this is the most valuable type of program for physicians who are interested in pursuing further a certain phase of general practice. Two special courses merit particular mention. One of these was a two-week course in psychosomatic medicine for general physicians; the other a one-week course in child psychiatry for pediatricians and general physicians. Both of these were well attended and enthusiastically received.

Since certain medical subjects are more effectively presented over a prolonged period than in a short intensive type of course, several experiments with evening courses for physicians were conducted. These included a course in clinical hematology offered in Minneapolis and several courses in electrocardiography offered in Minneapolis, St. Cloud, and Faribault. These courses were presented one evening a week for twelve weeks. Enrollment was for the maximum that could be accepted and attendance and interest were excel-

lent. The physicians who attended these courses expressed unanimous opinion that this type of program is of great value to physicians in practice.

During the last year the department of Medical Continuation Study presented combined postgraduate seminars in cardiovascular diseases, cancer, and psychosomatic medicine in seven cities of Minnesota outside of the Twin Cities area. These seminars were held one night a week for eight weeks. In the first six meetings of these seminars two speakers participated, one presenting a subject in the field of cardiovascular disease and the other presenting a subject on cancer. The two final series of each seminar session were devoted to psychosomatic medicine. Throughout these seminars an informal atmosphere was maintained and freedom of questioning and of commenting was encouraged and obtained. These seminars received financial support from the Cancer and Heart Disease Divisions of the Minnesota Department of Health and had the official sponsorship of the Minnesota Cancer Society, the Minnesota Heart Association, the Minnesota State Medical Association, and the Minnesota Mental Hygiene Society. A total of 289 physicians and 317 nurses attended six or more of the eight weekly sessions.

During the biennium 49 continuation study courses in medical and related fields were offered for persons other than physicians. Nurse anesthetists, hospital administrators, clinical dietitians, school health administrators, supervisors in homes for the aged, hospital recreation specialists, and social service workers were among the groups for whom courses were given at the Center for Continuation Study. The duration of these courses ranged from one day to three weeks. The faculty for the courses included the Medical School staff, faculty members from other colleges of the University, and persons from a wide variety of institutions and agencies from Minnesota and throughout the United States. A total of 3,218 persons attended these courses.

The above programs in continuation study for physicians were aided during this biennium by the continued generous support from the W. K. Kellogg Foundation. This grant made it possible also to develop Ancker Hospital, St. Paul, into a splendid teaching institution for both graduate and undergraduate students. The five-year grant of \$50,000 a year from the Kellogg Foundation terminates with this biennium, but some unexpended balances will be available for use over the next two years. During this period it is hoped that it will be possible to make arrangements for continuing this important program.

Medical Research—The research activities of the Medical School faculty have been extended and intensified during the past biennium and in spite of limitations in space and facilities, these activities have reached an all-time high. The problems under investigation are numerous and diverse, but with a concentration of research interest devoted to the investigation of cancer, heart disease, infantile paralysis, rheumatic fever, high blood pressure, liver disease, brucellosis, ulcers of the stomach, and in duodenum, epilepsy, and other convulsive disorders, nutrition, etc. The support for this research from other than University sources amounted to more than a million dollars for each year of the biennium. Major sources of these funds have been the U. S. Public Health Service, the American Cancer Society, the Minnesota Division of the American Cancer Society, the National Foundation for Infantile Paralysis, pharmaceutical and related industries, the United States Army, the United States Navy, the Life Insurance Research Fund, and contributions from individuals. During the biennium the University received a magnificent bequest of approximately \$500,000 for the support of medical research from the late Silas McClure of Minneapolis. It is the intent to invest the principal fund of this bequest and except in very special situations, to utilize only the interest for the support of current research. A fund that can be used with such complete freedom is the most valuable type of support of medical research that could possibly be made available. Another bequest in the amount of approximately \$300,000 received during the biennium was for the support of research and/or the endowment of a professorship in ophthalmology and otolaryngology. This was given by the late Miss Georgiana Dittman, St. Paul, in memory of her brother, Dr. George C. Dittman.

American Legion Research Professorship—The campaign of the Minnesota Department of the American Legion to raise a fund for the endowment of the memorial research professorship in rheumatic fever and heart disease in children was actively and effectively promoted during the last two years by a special committee under the chairmanship of Oliver Aas. Unfortunately and tragically Mr. Aas himself was a victim of a fatal attack of heart disease a few months ago. His splendid and enthusiastic leadership, however, resulted in the collection by June 30, 1950, of a little over \$400,000 toward the announced goal of \$500,000. For several years an active search has been in progress for the best possible investigator to fill this professorship. An appointment is anticipated in the immediate future.

Variety Club Heart Hospital—The Variety Club Heart Hospital which will provide 40 beds for children and 40 beds for adults with heart disease, a modern, out-patient heart clinic and extensive facilities for research in this field is nearing completion and should be available for occupancy in the fall of 1950. The final cost of this building and its equipment will amount approximately to \$1,400,000. Most of this sum has been provided by the Variety Club of the Northwest, by the State Department of Health from the funds available to Minnesota under the Federal Hospital Construction Act, by the University from the Copavin Fund, by various University Hospitals reserves, and by a loan of \$100,000. Completion of this unit will provide excellent and urgently needed facilities for research in this important field.

Mayo Memorial—After years of effort and seemingly endless price increases, handicaps, and disappointments the necessary funds were finally assembled for the construction of the Mayo Memorial Building as originally planned. The amount currently available for this new construction, for equipment and for remodeling of the present University Hospitals is as follows:

<i>Appropriated by Legislature</i>		
1945 session	\$ 750,000	
1947 session	750,000	
1949 session	5,500,000	
		\$ 7,000,000
<i>Gifts</i>		
Individuals and corporations	\$1,320,000	
School of Public Health	350,000	
Minnesota Cancer Society	300,000	
Interest on gifts	40,000	
		\$ 2,010,000
<i>Federal funds</i>		
National Heart Institute	243,000	
National Cancer Institute	879,443	
Hospital Construction Act	2,000,000	
		\$ 3,122,443
<i>University Service Enterprises</i>		
Garage funds	70,000	70,000
		\$12,202,443

This building, the central portion of which will be 22 stories high, will provide expanded and improved facilities for the Medical School, the University Hospitals, the School of Public Health, and the other units of the College of Medical Sciences. Among other things the building will provide new operating rooms, laboratories, X-ray departments, administrative offices of the Medical School and University Hospitals, expansion of the hospitals' out-patient department, the medical-biological library, offices, conference rooms, and laboratories for the clinical departments of the Medical School and for the School of Public Health, extensive research facilities and an auditorium to seat approximately 600 persons. In addition, new construction together with vacated space in the University Hospitals will increase the capacity of the University Hospitals by 175 beds.

Contracts for the excavation and footings have been awarded and work is about to start. It is anticipated that the contracts for the main building will be awarded within the next six months, so that work may proceed without interruption. Most of the remodeling of the present hospital will have to be postponed until the completion of the new construction. This building will be a magnificent and urgently needed addition to the facilities of the University and the Medical School. It is sincerely hoped that nothing will occur to interfere with its completion as planned.

Needs and Problems—The needs of the Medical School continue to be for increased facilities, improved salaries, and certain additions to the staff. The required facilities will be provided by the Variety Club Heart Hospital and the Mayo Memorial, of which the former will be available for use within six months, the latter unfortunately not for several years.

Salaries throughout the Medical School are definitely in need of improvement if we are to continue to compete successfully for personnel with other leading medical schools. Even the neighboring state universities, such as Iowa, Illinois, Michigan, and Indiana, have higher salary scales in their medical schools than does Minnesota.

The needs for additional teaching and research staff are particularly acute in psychiatry and in physical medicine and rehabilitation. These are relatively new and expanding fields, each of which is in need of increased staff. Another urgent financial problem

is the necessity of providing funds to carry the teaching positions in physical therapy which have been provided during the past five years by a \$10,000 annual grant from the National Foundation for Infantile Paralysis. This grant terminates June 30, 1951.

Equally or even more acute than these needs are the problems of the School of Nursing, another division of the College of Medical Sciences. These problems involve undergraduate students, whose enrollment is currently so low as to cause serious problems in the operation of the University Hospitals. The University of Minnesota offers much the best program in nursing in the state of Minnesota and one of the best in the country as a whole. In spite of this, enrollment is discouragingly low. This is particularly disturbing since the enrollment in church-affiliated hospital-schools of nursing is high. Studies of the reason for this situation are in progress and efforts must be made to change it.

In postgraduate fields of nursing, such as pediatric nursing, obstetrical nursing, medical nursing, surgical nursing, operating-room nursing, and nursing education enrollment is at an all-time high. The development of these advanced and specialized programs in fields of nursing, which is an important function of a state university, has been made possible by grant funds from the W. K. Kellogg Foundation. This grant will be available for one more year, after which it will be necessary to provide locally for the support of this program if it is to be continued.—HAROLD S. DIEHL, M.D., *dean*.

SCHOOL OF NURSING

The faculty of the School of Nursing is pleased to present the following biennial report, based on a University budget of \$58,515.90 for the year July 1, 1948 to June 30, 1949, and of \$78,593.28 for the year July 1, 1949 to June 30, 1950, and funds from the U. S. Public Health Service of the Federal Security Agency and the W. K. Kellogg Foundation totaling \$69,785 for 1948-49 and \$62,415 for 1949-50 for the several curricula. During 1949-50 the relative income of the School of Nursing from various sources was 55.7 per cent from the University; 30.1 per cent from federal funds (National Mental Health Act); and 14.2 per cent from the W. K. Kellogg Foundation.

The School of Nursing operates, in cooperation with other colleges in the University, curricula for graduate nurses, for undergraduate students in professional nursing, and for students in practical nursing. In the spring quarter of 1950 the distribution of students in the several programs was 54 per cent in the graduate nurse programs; 38.4 per cent in undergraduate professional programs; and 7.6 per cent in practical nursing programs.

Major programs offered by the School of Nursing in cooperation with other departments in the University at the close of the biennium are reviewed briefly.

Basic Professional Curriculum—This program combines general education and basic nursing instruction and leads to the bachelor of science degree in professional nursing. High school graduates may complete the program in 16 quarters (four calendar years), college graduates in ten quarters. The former group may complete the first six quarters, the general education portion, of the curriculum in other accredited colleges or universities. A major strength is found in the increased instruction and experience in public health nursing and in the continued integration of the health aspects of nursing throughout the program.

Certificate Curricula in Practical Nursing—One of these is a four-quarter program. It may be combined with a year of General College work in which case it leads to an associate in arts degree. The other is six quarters in length and combines home management with practical nursing. It is operated jointly by the School of Agriculture and the School of Nursing.

The above programs afford a unique practice field educationally controlled for nursing education students who are preparing for teaching, supervisory, and administrative posts in nursing.

Advanced Professional Curricula—The currently operating advanced curricula lead to a bachelor of science degree with a major in nursing education. Minors may be pursued in ward administration, science teaching in schools of nursing, child care, and advanced clinical nursing. The completion of advanced clinical programs by an increasing number of students is assuring a group whose preparation for supervisory and teaching positions has been greatly strengthened. Expansion of the University facilities to embrace those of ten other schools of nursing has provided a greatly enriched practice field for students in teaching and administration.

Faculty—The faculty of the School of Nursing has been fortunate in having able visiting instructors; several of the regular staff have had leave usually without salary for study, consultation service, instruction in other universities, or for study and travel in

Europe; a number have been honored professionally during the biennium. Among the activities of the director have been service as consultant to the Army Nurse Corps, as member of the Special Medical Advisory Group of the Veterans Administration; and as a vice-president of the International Council of Nurses. The assistant director, Ruth Harrington, has served as a member of the Board of Directors of the National League of Nursing Education and of the Minnesota State Board of Examiners of Nurses. Mrs. Myrtle Coe has been president of the Minnesota Nurses' Association. Most faculty members have participated actively in local, state, national, and international professional organization work.

Students—Admission and enrollment of students in the various curricula have begun a healthy increase following the dramatic decrease at the end of the war. One hundred per cent of the undergraduates passed the state board examination and in every subject the Minnesota state mean exceeded the mean for all states taking the examination.

Research—The faculty has long felt that research is a vital part of any program which is attempting to meet the ever changing needs of society and for this reason has encouraged continuing study and evaluation of the various programs in the school. Support from the W. K. Kellogg Foundation has made possible most of the research, including the special studies of the graduates of the school, of the advanced clinical programs, and of the history of the school, the last resulting in the publication, *From the 40th Milestone*, in celebration of the fortieth anniversary of the school.

Fortieth Anniversary—The fortieth anniversary of this first university School of Nursing was celebrated in 1949 with the theme "Nursing in a Changing World." Educational conferences were conducted by the school through the Center for Continuation Study. The University Library housed exhibits of the school, an alumnae banquet provided the focus for a reunion of the graduates, and a special convocation with Dr. Esther Lucile Brown as speaker was held in Northrop Auditorium.

Rural Nursing—Rural nursing received considerable thought and attention. At the request of the Minnesota League of Nursing Education and with support from the W. K. Kellogg Foundation, the School of Nursing undertook in the fall of 1949 the coordination of the rural nursing affiliation program for students in basic professional nursing. The program, open to all schools of nursing in the state, has as one of its objectives the stimulation of the student to an appreciation of the advantages of returning to a rural community as a graduate nurse. It has been gratifying indeed, that some 30.6 per cent of the students having such experience have returned to rural communities as graduates.

Accreditation—During the biennium a unification of all national nursing accrediting services in the United States was effected and is known as the National Nursing Accrediting Service. By virtue of the school's membership in the Association of Collegiate Schools of Nursing, both the basic professional program and all programs for graduate nurses were approved by this National Nursing Accrediting Service for inclusion in the original list of 180 schools of nursing.

Service of the School—Some 200 of the nurses who completed their professional study at the school are currently employed in administrative, supervisory, or teaching positions in the state of Minnesota. Many of these are employed in hospitals for the mentally ill. Large numbers are also serving as "bedside" staff nurses in various institutions and agencies. Furthermore, in cooperation with the Extension Division of the University, special courses for graduate nurses have been offered on campus and in other areas of the state. In addition, the school provides instruction for affiliating students from other schools of nursing.

Educational Plans and Needs—In its programs for the education of professional and practical nurses and of teachers and administrators of nursing, the faculty of the school is working toward a comprehensive and effective plan for meeting the need for nurses in the several categories and for adequately preparing workers for the various fields of activity.

In 1949 the new sixteen-quarter basic professional program was initiated leading to a bachelor of science degree with a major in nursing. This new curriculum has made possible, for the first time, assignment of students for major clinical experience on campus in the University Hospitals. The University continues to serve the state and the entire midwest region as the only center offering advanced training to prepare nurses for the responsibilities of administrative, supervisory, and teaching posts. This activity has been supported by a five-year grant from the W. K. Kellogg Foundation, which terminates June 30, 1951.

Advanced professional curricula have shown consistent increase in enrollment, this enrollment forming at the close of the biennium 54 per cent of the total. With the con-

tinuing demand for advanced preparation and with the anticipated increase in enrollment in the master of education program the need for additional faculty is crucial. At the close of the biennium plans are being developed for the much needed Master's program in nursing administration, funds to be sought for this outside of the University.

Progress has been made in promoting the practical nursing curricula; and these will require additional funds.

Scholarship Aid—Sigma Theta Tau, scholarship society in nursing, has established an annual scholarship of \$100. The Katharine J. Densford scholarship fund, set up in 1949 by faculty and alumnae, provided six \$100 scholarships in 1950 but further scholarship aid is urgently needed.

Schools of nursing are under increasing and urgent demand to furnish personnel for administrative, supervisory, and teaching posts, as well as for taking care of the civilian and military populations. The University of Minnesota School of Nursing, with its varied programs designed to meet the above-mentioned needs of the state, must acquire additional staff (one assistant professor, eleven full-time and one half-time instructors) if it is to carry on this work. During World War II the school was financed in large part by U. S. Cadet Nurse Corps funds; since the war it has depended upon sources outside the University (W. K. Kellogg Foundation and National Mental Health Act funds) for almost one-half of its entire budget. The termination of the W. K. Kellogg Foundation grant June 30, 1951, makes the need for University support crucial. With mounting public need and demand for nursing service and nursing education personnel, the critical problem remains to secure more nearly adequate University support for the essential functions of the school.—KATHARINE J. DENSFORD, *director*.

SCHOOL OF PUBLIC HEALTH

The biennium has been marked by increased activity in all aspects of the program carried by the School of Public Health. This has been manifest through increases in student enrollment, in registration in courses offered to other parts of the University, in course offerings, and in research activity.

The acute shortage in public health personnel throughout the United States has been reflected in a decline in enrollment in some schools of public health. At Minnesota, however, the enrollment of students for graduate instruction has increased during the biennium as shown in the following tabulation.

MAXIMUM QUARTER ENROLLMENT

Course	1946-47	1947-48	1948-49	1949-50
Master of Public Health	56	57	49	72
Hospital Administration	13	30	45	52
Basic Public Health Nursing	272	288	179	174
Totals	341	375	273	298

The decline in the number taking basic instruction in public health nursing is apparently due to the end of the war-time cadet nursing program, and the end of the rush of postwar training of nurses whose program had been interrupted by military service. Unfortunately the increase has not been uniform as there has been relatively little increase in the number of physicians, the group in shortest supply. In other fields, however, and notably in hospital administration and in health education, the number of applicants has far exceeded the facilities of the school. To a certain degree this has been desirable as it has permitted a selection of the better applicants, but at the same time it has meant a denial of educational opportunities to many well-qualified prospective students. Until expansion of space and staff is obtained, the number cannot be increased in these fields. Increases can, however, be accepted in the number of physicians and engineers. Applications from the latter for the year 1950-51 are greater than ever before and will severely tax the space facilities.

In public health nursing the graduate program is in heavier demand than in former years while that for the basic training, though below the postwar level, is above the prewar figure. The high registration in 1946-48 was much in excess of the number that should be taken within present staff and field training facilities, so the decline has been welcome and permitted better instruction. Because of the shortage of qualified persons to fill the many vacant employment opportunities, the school has hesitated to limit its enrollment. The result has been an enrollment above the optimum based on staff and field

facilities. The staff is carrying an unusually heavy teaching and counseling load. To obtain field training facilities, the school has had to reach far afield, utilizing agencies in other states including Arkansas, Colorado, Illinois, Iowa, Kansas, Massachusetts, Michigan, Missouri, Nebraska, New York, North Dakota, Oklahoma, South Dakota, and Wisconsin.

Special attention has been given to a program of training nurses for special work in mental hygiene. This program, which covers a period of 15 to 18 months for nurses with some supervisory public health experience, is one of three in the United States subsidized by the U. S. Public Health Service. The subsidy provides not only added teaching staff but also special stipends for certain students. The program has been in operation for three years and subsidy has been renewed for the coming year. A similar subsidy has been received from the U. S. Public Health Service to further the instruction in the nursing aspects of chronic disease.

During the past biennium, the course in hospital administration, subsidized for three years by the Kellogg Foundation, has been taken over by the University. The course, which is one of six or eight of its kind, provides a two-year graduate program: the first year spent in formal course instruction at the University, the second in an administrative residency in a suitable hospital. Since its inception in 1946, the number of applicants has far exceeded the number that could be accepted. The school had expected to take only 15 students per class but, because of the demand, has increased the number to 25-30 which is the limit of present facilities. For the year 1949-50, these were selected from over 150 applicants; for 1950-51 over 200 applications have been received from qualified students.

As in past years, the enrollment in the school has been highly cosmopolitan. For the biennium students have been received from 40 states and territories, and from 18 foreign countries. This service to other states and countries adds materially to the value of the instruction as contact with students from other areas where public health problems are different has a broadening effect in the understanding and perspective of the student. The service to other states also makes possible the utilization of field facilities which are often better than those that could be obtained locally.

In addition to the increase in students registered in the School of Public Health, there has been a marked increase in registration in the public health courses taken by students from other parts of the University. This is most marked in biostatistics and in the courses designed for students in education, technology, agriculture, and arts. This increase is shown in the following tabulation.

Course	1946-47	1947-48	1948-49	1949-50
Biostatistics	586	679	820	780
Courses for students other than public health	2924	3137	3181	4247
Totals	3510	3816	4001	5027

To care for the increase in biostatistics, budgetary provision has been made for added staff but suitable personnel has not been procurable at the salaries available, resulting in too heavy a teaching load on existing staff. Shortage of laboratory space has seriously curtailed this program, a shortage that will persist until the completion of the Mayo Memorial. The added load in other courses has been absorbed without staff increases, but only at the expense of overburdening present staff. The biggest need here is for teaching assistants, a group that will not exist so long as graduate work in the school is limited to Master's programs.

During the biennium the research programs in the school have been maintained at previous levels. Notable in this respect have been those in the Laboratory of Physiological Hygiene and the Public Health Engineering Laboratory. The former has completed its starvation studies and published the same as a two volume monograph under the imprint of the University of Minnesota Press. This monograph is undoubtedly the most comprehensive work so far prepared on the phenomena of starvation. The laboratory is currently directing its interest to a long range study of cardiovascular degeneration. These studies, as well as those of the public health engineering laboratories, have been largely subsidized by research funds from the U. S. Public Health Service. Uncertainties as to the continuation of some of these have placed some of the most valuable studies on a very precarious basis. A more stable basis of support would be highly desirable.

The most serious needs of the school, as the biennium ends, are those common to so many parts of the University, that is, personnel and space. More personnel is needed, especially in epidemiology, statistics, public health nursing, and general health courses.

The epidemiology position, open for three years because of inability to find a suitable person, will be filled in the coming biennium; one of the statistics positions will also be filled. Added funds are needed for the other positions. There is also a serious need for strengthening of the program in child hygiene, in mental hygiene, and in medical economics. Request for outside support for the first of these has been made. Space will be a critical item until the completion of the Mayo Memorial. Until then the school cannot accept more students except in one or two categories in which the demand is currently small.—GAYLORD W. ANDERSON, M.D., *director*.

UNIVERSITY OF MINNESOTA HOSPITALS

The University of Minnesota Hospitals were established to furnish a means for the University of Minnesota to train medical, nursing, and other students in the medical auxiliary field in the disciplines of medicine. Training is given in both the Out-Patient Department and hospitals under the direct supervision and guidance of a competent staff made up of full-time and part-time members. The staff is responsible to the state through the University for both the instruction of the students and the care of the patients. This arrangement has proved satisfactory, not only in the training of students but also as an economical means for the state to care for many of its indigent sick.

For years the Minneapolis General Hospital and the Ancker Hospital in St. Paul were the principal teaching hospitals of the University of Minnesota, but in 1911, through the generosity of the family of Dr. Adolphus S. Elliot, Elliot Memorial Hospital was erected. This was a general hospital of 200 beds. Since the establishment of Elliot Hospital a service building has been added by the University of Minnesota. The relatives of Dr. Frank C. Todd and other citizens donated funds to build Todd Hospital for the care of ear, eye, nose, and throat cases. This unit was opened in 1924. The Citizens' Aid Society of Minneapolis contributed funds for the establishment of a Cancer Institute. Another unit was added to the hospitals later which includes the Eustis Hospital for children, the Health Service for students, a unit for women—including obstetrical patients—and an Out-Patient Department. A psychiatric unit was provided by the Legislature in 1937. Together these units make up a series of hospitals known as the University of Minnesota Hospitals and have a rated capacity of 450 patients.

During the year 1945 the interest of the Variety Club of the Northwest was secured in the attempt to make an approach to the problems of heart disease. Through their efforts and the aid of the State Board of Health, the U. S. Public Health Service, and the University, the Variety Club Heart Hospital unit consisting of 80 beds will be opened about January 1, 1951. This unit is unique, being the only one of its kind and character in the United States and having a counterpart elsewhere only in Mexico City.

Shortly after July 1 ground was broken for the Mayo Memorial. The unit will be 14 stories in height and will contain an additional 175 hospital beds, new facilities for the Out-Patient Department, operating rooms, laboratories, X-ray, etc. Combined with the clinical activities of the hospitals will be the biological-medical library, an auditorium seating 550, a 300-car garage, School of Public Health, Department of Bacteriology, and numerous floors for research.

The Mayo Memorial Medical Center will honor the memory of Drs. William and Charles Mayo, former associates of the University of Minnesota in its Medical School program, and will be completed January 1, 1953. The addition of the Mayo Memorial and the Heart Hospital will give the University of Minnesota Hospitals a total bed complement of 705.

It is required that each patient be referred for admission to the hospitals by his family physician or by a physician in his local community. This rule avoids the criticism that the hospitals or its clinics are taking patients away from private practitioners.

Patients are classified according to their ability to pay as county, per diem, teaching and research, Sixty Fund, Eustis, or Private. There is no distinction made between the various classes in the treatment or privileges afforded.

County patients are those who are totally unable to pay. Their expenses are shared equally by their county and the state. When applying for either out-patient or hospital care, these patients must present county papers filled in by both their physician and their county commissioner (or his representative).

Per diem patients are those who cannot afford to pay for the services of both a private physician and a private hospital. When applying for either out-patient or hospital care, these patients must present a special form filled in by themselves and their family physicians. They are required to pay their clinic or hospital expenses only, no charge

being made for the professional services of the staff. From the standpoint of money received by the hospitals, there is no difference between a county patient and a per diem patient; consequently, the services and privileges tendered both are identical.

Teaching and research patients are primarily destitute unmarried obstetrical patients who are unable to avail themselves of county papers.

The *Sixty Fund* is a special grant from the legislature which is used to hospitalize indigent psychiatric patients for treatment, teaching, and research purposes.

The *Eustis Fund* was set up by William Henry Eustis to care for indigent children under 16 years of age.

Private patients, limited in number, are admitted as a convenience to the senior staff. They are usually referred cases from other doctors in the state. They are afforded the same treatment and privileges as are private patients in any private hospital.

Students' Health Service patients are not considered as being hospital patients even though a hospital intern is assigned to that service. The Students' Health Service has its quarters in the University Hospitals, but it is not a part of either the University Hospitals or the Medical School. It is a service institution maintained by the University with a director, staff, and budget of its own. The new Students' Health Service will be opened on September 1 and is located on Church Street west of the hospitals. This provides out-patient care only. The infirmary occupies the fourth floor of the north wing of the hospitals as in the past.

In-Patient Department—The number of patients admitted for the year 1948-49 was 10,686 and for the year 1949-50, 11,081—an increase of 395. The total number of days of hospital treatment aggregated 141,217 for 1948-49 and 140,893 for 1949-50. The average number of days per patient stay in the hospitals was 13.2 in 1948-49 and in 1949-50, 12.7. Deaths for the past year numbered 469 as compared with 428 for the previous year. This is a mortality percentage of 4.2 as against 4.0 for the year 1948-49. Post mortems for 1948-49 numbered 333, an average of 81 per cent of deaths, and in 1949-50, the number was 347, an average of 80 per cent. The daily average number of patients was 386 both in 1948-49, and in 1949-50. Surgical operations performed during the year 1948-49 aggregated 7,127 and during 1949-50, 7,501, an increase of 374.

Out-Patient Department—During the year the Out-Patient Department showed an increase in the number of services rendered. New patient visits in 1948-49 were 25,189, and in 1949-50, 27,505. Total patient visits for 1948-49 were 95,786, and in 1949-50, 102,992.

General Comments—The In-Patient Department showed a decrease of 324 patient days, and the Out-Patient Department had an increase of 7,206 visits over the previous year.

The Psychopathic Department admitted 286 patients during the year 1949-50 as against 332 patients during the previous year. The patients in the Psychopathic Hospital used 10,261 days of care during the past year and 9,544 days during the previous year.

The waiting list of the hospitals showed 281 patients on July 1.

In the Out-Patient Department the cost per patient visit was \$3.82 in 1949-50 and \$3.43 in 1948-49—an increase of 39 cents per patient visit. The cost of operating the In-Patient Department was \$17.56 in 1948-49 and \$19.56 in 1949-50—an increase of \$2 per patient day. Adjustments in salaries and wages of personnel and the increased cost of supplies account for this increase.

The shortage of personnel continued to handicap the hospitals. Departments have had a struggle to keep the hospitals operating at efficiency, and at this time the chief lack of personnel is apparent in the Nursing Department. During the year it was impossible to keep open several beds of the hospitals because of the lack of nursing personnel. Department heads have made every effort to keep their units operating at peak efficiency despite this lack of help and should be given proper recognition for their services.

The administration of the hospitals wishes to thank the National Foundation for their assistance in handling the problems in connection with poliomyelitis; the Variety Club for their support to the Heart Hospital; the Citizens' Aid Society for their continued support to the X-ray Therapy Department; the University Faculty Women's Club who have continued their generous efforts in behalf of our patients; the Crippled Child Relief, the Minnesota Society for Crippled Children and Disabled Adults, the State Division of Social Welfare, and the County Welfare Boards for their assistance; the various nursing homes for their cooperation; the Traffic Club who year after year continue to provide entertainment, gifts, and cheer to our patients at Christmas; the Sunshine Club for their contributions; the Camp Fire Girls, the Girl Scouts, the Needlework Guild, the Junior League, the Federated Church Women, and the Gilfillan Fund of the Mayo Clinic. To all

THE PRESIDENT'S REPORT

IN-PATIENT DEPARTMENT SUMMARY

	1948-49	1949-50
Total patients admitted		
Private	2,371	2,500
Per diem	2,214	2,257
Eustis	192	181
Teaching and research	204	146
Staff	107	113
County	3,909	4,346
Health Service	1,357	1,252
Psychopathic	154	141
Private	98	84
Per diem	80	61
	10,686	11,081
Total patients treated (discharged)		
Private	2,341	2,468
Per diem	2,103	2,148
Eustis	218	200
Teaching and research	203	164
Staff	105	114
County	4,032	4,446
Health Service	1,355	1,250
Psychopathic	174	167
Private	97	80
Per diem	64	58
	10,692	11,095
Total days hospital care		
Private	21,633	21,584
Per diem	27,296	28,220
Eustis	3,262	3,383
Teaching and research	2,681	2,772
Staff	707	637
County	70,972	68,789
Health Service	5,122	5,247
Psychopathic	5,091	5,389
Private	1,838	2,992
Per diem	2,615	1,880
	141,217	140,893
Average days per patient		
Private	9.2	8.7
Per diem	13.4	13.1
Eustis	14.9	16.9
Teaching and research	13.2	16.9
Staff	6.7	5.5
County	17.6	15.4
Health Service	3.7	4.5
Psychopathic	29.2	32.2
Private	18.9	37.4
Per diem	40.8	32.4
Average length of stay per patient	13.2	12.7
Daily average number of patients		
Private	59.2	59.1
Per diem	74.7	77.3
Eustis	8.9	9.2
Teaching and research	7.3	7.6
Staff	1.9	1.7
County	194.4	188.4
Health Service	14.0	14.3
Psychopathic	13.9	14.7
Private	5.0	8.2
Per diem	7.1	5.1
Daily average census for hospital	386	386

of these the hospitals expresses its sincere gratitude for their interest.—RAY M. AMBERG, *director*.

SCHOOL OF DENTISTRY

Students—The supply of well-qualified students entering dentistry has continued. One hundred dental students have been entered each year. Performance in many courses is demanded at the graduate level, but in spite of this the erosion has been only about 10 per cent. Since these larger classes have moved into the clinic, conditions have been very

crowded, and it is not uncommon that students find no remaining units in which to operate.

Additional facilities are in view, however. Due to very careful study of the space in the present building, it has been possible to shift locker rooms and laboratories so as to provide considerably more clinical operating space. Emphasis is being placed in these new facilities on the dental problems of children; prevention of dental caries, prevention of periodontal disorders, improvement of occlusion, and orthodontic problems are also stressed.

The two new clinics, one for dentistry for children and one for orthodontics, will relieve crowding in the main clinic.

Enrollment in the school for dental hygienists remains about constant at 70 to 75 students in the two classes. It would be desirable if these numbers could increase because the services of these specially trained persons are becoming more important and better respected. The demands for dental services, especially by governmental agencies, far exceed the present dental manpower to provide. One obvious way to increase dental services with present manpower is to make broader use of auxiliary personnel.

During this biennium there has been considerable change in the faculty. Dr. George Damon, for many years chairman of the Division of Dental Anatomy, retired. He was succeeded by Dr. A. B. Hall who has served on the dental anatomy teaching staff and in the University on a full-time basis almost continuously since his graduation in 1922. Dr. Robert Green, chairman of the Division of Operative Dentistry, also retired. He was succeeded by Dr. William J. Simon. Dr. Simon completed his graduate studies at the University of Minnesota and had been in the Division of Operative Dentistry as a full-time teacher. He will continue with undivided interest and time in developing this important branch in the school.

Dr. Carl Flagstad, chairman of the Division of Prosthetic Dentistry, died June 16, 1949. He was succeeded by Dr. Daniel Listiak. Dr. Listiak completed his graduate work at the University of Minnesota and is serving the University on a full-time basis.

Another very significant addition to our faculty occurred at the beginning of school in 1948. Dr. David Mitchell who had completed his work for the Ph.D. degree in pathology at the University of Rochester (New York) joined the faculty. As a result of his activities we have developed three important projects. One of these is a course in special pathology with emphasis on dental problems. Another is the development of an extensive biopsy service. We have been aided in this activity by grants from the United States Public Health Service. Part of the goal has been an extensive educational program with the dentists of this and adjoining states. The service is flourishing, and many early cancers have been detected. The third activity developed by Dr. Mitchell has been the caries control laboratory. Through its use students are taught methods of caries control, and this service is also available to the dentists of the state at a small fee.

The research pathological laboratory has, under the direction of Dr. Mitchell, developed an important hamster colony and has contributed considerably to the growing knowledge of dental decay and its control.

Graduate Education—This biennium has witnessed a very decided growth in the graduate program in dentistry. Patterned after the graduate program in the clinical areas in the medical school, the program is based on two important principles. The graduate degree offered is the Master's with designation, M.S.D. The specific areas in dentistry are orthodontics, restorative dentistry, oral surgery, and oral pathology. Persons studying in these fields must become proficient in the clinical areas of their interest, and in addition, they must obtain a broad and thorough background in at least one of the basic health sciences such as physiology or pathology and complete original research projects based on their basic sciences and applied to their clinical interests. The program produces teachers and research workers so urgently needed in dentistry.

Two students completed their work in this biennium, but twenty-three were enrolled during the second year.

Continuing Education—Enrollment by dentists seeking instruction in recent discoveries and new developments in procedures has reached a high point in this biennium. Four hundred seventeen dentists received instruction during the first year. This number together with that for dental students, dental hygienists, and graduate students totals 867 receiving instruction at the School of Dentistry—the greatest number served by any school in the United States in the same period.

The school also participated in another postgraduate activity that seems likely to develop into a project of considerable importance. It would be quite impossible to serve a very large part of the dental profession with postgraduate courses if all were to be offered

at the University. Consequently, the courses are being taken to the communities. Six different community centers were given a series of eight programs the first year of the biennium and six different centers the second. Each program consisted of two one-hour lectures in the evening on successive weeks. The project was a cooperative one in which the dental division of the State Board of Health made the arrangements and financed the program.—WILLIAM H. CRAWFORD, *dean*.

LAW SCHOOL

The biennium was marked by a number of changes in the Law School, some of them incident to a transition to more normal conditions of operation.

The high point in the number of students registered was reached in the fall of 1948, when approximately 800 students attended the Law School. This compares with an average of 300 to 350 prior to the war. This registration was beyond the capacity of the school facilities and personnel to render instruction on the level sought to be maintained. The exceedingly large classes, totaling in many instances over 200, resulted in substantial deterioration in the quality of instruction that was possible to the individual student. Effective instruction in law necessitates a considerable exchange of discussion between student and instructor.

Approximately 650 students registered in the fall of 1949, with the freshman class declining from over 300 in the fall of 1948 to approximately 200.

The large increase in attendance in law schools generally in the United States created a strong demand for faculty members at a time when the war situation had reduced the supply to a minimum. The securing of competent men was therefore difficult. This school's policy was to refuse to appoint a member to the faculty until satisfied of his qualifications. The faculty did not increase, therefore, in proportion to the increase in registration. The willingness of its members to accept this extra load together with the use of practitioners for part-time teaching made it possible to operate the school without serious breakdown.

During this period the school shifted from the quarter to the year system of instruction. The quarter system had been adopted as a war measure to permit acceleration of graduation. Previous to the war classes had been conducted on the year basis. As part of the program of acceleration, the work given in the Law School during the Summer Session was the equivalent of any other quarter. It committed most of the faculty to teaching during the summer months.

Experience with the quarter system demonstrated its weaknesses for instructional purposes in the field of legal training. Assimilation was not as thorough or permanent. In addition, the accelerated program led to exhaustion of both student and instructor.

Acceleration was still made possible under the year system by offering courses during the Summer Session. This, however, was availed of by the students in a constantly decreasing degree.

During the biennium the curriculum of the Law School was critically examined by a committee of the faculty headed by Professor William B. Lockhart. This was the first comprehensive study made by the school of its plan of legal education since its adoption in 1930. War and postwar conditions prevented earlier consideration. The basic premises of our program were re-examined and modifications in our curriculum recommended to implement more concretely the objectives of the Minnesota Plan of Legal Education. The report submitted by the committee was adopted unanimously by the faculty as a whole.

The period was marked by the loss of a number of members of the faculty long identified with the school and with its achievements. Dean Everett Fraser, who retired on June 30, 1948, generously donated his services and continued to conduct his classes for another year. His assistance and the availability of his advice contributed greatly to the operation of the school under the new administration during this period of overcrowded conditions.

Professor Henry L. McClintock retired on June 30, 1949, after rendering many years of valuable service to the Law School. On June 30, 1950, Professor Horace Read, whose contributions in the field of legislation are well known, tendered his resignation to accept the deanship of Dalhousie Law School. On February 21, 1950, the Law School and the University lost an invaluable member in the death of Professor Wilbur H. Cherry, whose qualities as teacher, consultant, and adviser and whose interest in and compassion for others will always be remembered.

Before the expiration of the biennium several additions to the faculty were made by the appointment of Professors Kenneth M. Anderson, Kenneth C. Davis, David W. Louisell, and Joseph F. Rarick.

As of June 30, 1950, the total volumes in the law library numbered 175,029. On February 1, 1949, Professor Leon Liddell was appointed as librarian. The library continues to be one of the outstanding law school collections in the United States. However, it is presently facing a critical situation in the lack of space to house additional acquisitions. It is believed that when the Legislature becomes cognizant of the conditions that exist, the space that is being requested will be provided.

The essentials of a first class law school are a faculty of men skilled in their respective fields and a library and other facilities with which to conduct their studies, research, and writing. It must be motivated by a sense of direction and purpose and a pride in achievement. These conditions the school sought to maintain during the biennium notwithstanding the handicaps related above.—MAYNARD E. PIRSIG, *dean*.

COLLEGE OF PHARMACY

Enrollment—Undergraduate students registered in the College of Pharmacy during the biennium were as follows:

Year	Summer	Fall	Winter	Spring
1948-49	86	417	408	365
1949-50	68	418	402	378

The marked increase over enrollment of the previous biennium in the sophomore, junior, and senior years necessitated the sectioning of nearly all laboratory courses.

Graduate—Seventeen students with majors in pharmaceutical chemistry or pharmacognosy were enrolled in the Graduate School in 1948-49 and 21 in 1949-50. In addition three students in 1948-49 and four in 1949-50 minored in pharmaceutical chemistry.

Graduates—The following is a tabulation of the undergraduate and graduate degrees awarded during the biennium:

Year	B.S. in Phm.	M.S.	Ph.D.
1948-49	54	1	3
1949-50	78	0	4

Curriculum—No major changes were made in the professional part of the curriculum during the biennium.

Faculty—Dr. Wallace F. White, Ph.D., Yale University, was appointed associate professor of pharmacognosy effective September 16, 1949. An increase from two to three student pharmacist supervisors was authorized, effective July 1, 1948.

Scholarships and Fellowships—Each year of the biennium, nine undergraduates were awarded Samuel W. Melendy Memorial Scholarships of \$200 each; and one student each year was awarded a Minnesota State Pharmaceutical Association Scholarship of \$225.

Three graduate students each year were awarded Samuel W. Melendy Memorial Fellowships of \$1,000 each; seven students in 1948-49 and six in 1949-50 received fellowships from the American Foundation for Pharmaceutical Education; and one student each year received a \$500 fellowship from the Minnesota State Pharmaceutical Association.

Pharmacy ROTC—In General Orders, Number 34, under date of May 20, 1948, the Secretary of the Army established a Pharmacy ROTC unit at the University of Minnesota, effective July 1, 1948. Major Leonard P. Zagelow, MSC, who had been tentatively selected, was assigned as the pharmacy assistant professor of military science and tactics at the University of Minnesota. Eight students who received the B.S. in pharmacy degree were commissioned as second lieutenants in June, 1950. The following constitutes the enrollment in pharmaceutical military science for the biennium:

Course	1948-49	1949-50
I (basic)	48	52
II (basic)		21
III (advanced)	20	18
IV (advanced)		19

Continuation Study—Continuation courses for licensed pharmacists were held in the Center for Continuation Study on February 14, 15, and 16, 1949, and February 27, 28, and March 1, 1950. Thirty-two registered pharmacists were in attendance in 1949 and sixty in 1950.

Library—About 225 books have been added by purchase or gifts during the biennium. As of June 30, 1950, the total number of books and periodicals in the departmental library was approximately 5,000.

State Board Examinations and Placements—The Minnesota State Board of Pharmacy conducted four examinations in the College of Pharmacy during the biennium. One hun-

dred twenty-one persons made application for licensure examination, of whom 87 were graduates of the University of Minnesota. Eighty-one (93 per cent) of the graduates of the University of Minnesota passed the examination and were licensed to practice in Minnesota. Of the 34 graduates of other institutions applying for licensure examination, 27 (79 per cent) were successful.

As near as can be determined, approximately 80 per cent of the students graduating with the B.S. in pharmacy degree are practicing their profession in retail pharmacies. The remainder are employed as hospital pharmacists, representatives of pharmaceutical concerns, or are continuing their studies at the graduate level. Of the seven persons receiving Ph.D. degrees, five entered the teaching profession, one is a research chemist with a pharmaceutical manufacturer, and one returned to his native land (Norway).—CHARLES H. ROGERS, *dean*.

COLLEGE OF EDUCATION

Growth in Enrollment—The biennium witnessed a substantial, continuing growth in enrollment of both undergraduate and graduate students, notwithstanding the general decline of total University enrollment since 1946, the rise in College of Education admission standards, and a more systematic student personnel program. Although the war and postwar rise in teachers' salaries was tardy as compared with other incomes in the state and was also less in extent and relative purchasing power, it is continuing now to attract more and better students. It is attracting more men. A national emergency in supply, a special guidance effort, and better campus facilities are attracting three times more men and women into four-year elementary curricula and also more students into advanced programs of elementary education than in the previous biennium.

The increase of summer term and quarter by quarter enrollment for 1949-50 over the highest prewar year, 1940-41, has been in percentages: SS I '49, +31 per cent; SS II '49, +143 per cent; fall '49, +44 per cent; winter '50, +56 per cent; spring '50, +62 per cent. The corresponding increases of the last year of this biennium, 1949-50, over the first year, 1948-49, are +7 per cent and +2 per cent for the summer terms, and +12 per cent, +12 per cent, +4 per cent, respectively, for the quarters of the academic year. The first summer terms of the biennium ahead have already continued this growth at even higher percentages over last summer. The highest prewar graduate school enrollment of majors in education, which also occurred in 1940-41, was 382. In 1949-50, the last year of this biennium, it was 597. These figures do not include education minors, special students, or five-year master of education students. The increase over 1940-41 is +57 per cent. Postwar persistence in quarter by quarter and summer term by term enrollment until degree objectives are attained is markedly better.

Quality of Students—The college has better and more serious students in practically all departments. The grades earned by undergraduate students, most of which are in courses other than professional education during the period of registration in this college, are higher than those of many graduates of the colleges in which the supporting academic work is taken. This is due to initial selection, then to further elimination for sub C average work, and a requirement of a C+ average in the major teaching field. This is as it should be. A teacher must be capable in scholarship, as well as having important personal qualifications such as capacity for good human relationships. The basic features of desirable personality must then be supported by professional training for skilled and artistic performance in teaching.

Class Size—Because of our inability, with budget limitations, to make staff additions commensurate with enrollment trends, two bad class size trends have been intensified progressively during this biennium. The proportion of total credit hours earned in "normal size" or small classes has decreased very markedly, while the proportion of student credit hours earned in classes enrolling above 50, and also in those enrolling more than 100 students per class, has risen sharply. These trends unfortunately are strongest in classes enrolling graduate students; they are less marked in straight undergraduate courses numbered below 100 because for these sections we have employed temporarily a larger number of advanced graduate students as instructors at lower level salaries; their enrollment is divided more by basic teaching fields into smaller, distinctive groups.

The proportion of credit hours earned in classes enrolling less than 50 students in courses numbered 100 and above for graduate work has decreased for fall quarter enrollments from 80 per cent of all credit hours earned in education courses in the fall of 1941 to 47 per cent in the fall of 1949. The proportion earned in courses enrolling over 100 students has increased from 0 per cent to 17 per cent. The proportion of total earned credit

hours in courses enrolling above 50 has increased from 21 per cent to 53 per cent, the majority of all advanced credit hours earned. This situation reveals that we need badly more staff members of professorial rank for the advanced courses. The increased loads of major staff members in numbers of graduate advisees who are working for advanced degrees likewise supports the need.

Counseling and Guidance—All students of the college have a soundly developing service of more complete selection, central guidance, and counseling. The facts about our students are coming under more systematic observation. Staff members are periodically given precise information of many sorts. Articulated faculty guidance supplements instruction more and more significantly.

Curriculum and Instruction Development—During the biennium, art education had been reorganized into a more highly specialized professional department. General fine arts and crafts courses were transferred to the Department of Fine Arts in the College of Science, Literature, and the Arts. Better basic equipment to fit the professionalized curricula has been secured in secondary and elementary art education studios. The Psycho-Educational Clinic, inaugurated as a child study center, particularly for problem children, is a training center in special techniques. It has developed much in its contribution to state service, as well as to both general and specialized teacher education. Two grades have been added to the University Experimental Laboratory School, and the research and demonstration functions of this school in our college are being defined and developed. It is not to be used for undergraduate practice teaching.

There has been much increase in the interest of graduate students throughout the University in special preparation for college teaching and professional service in the program of studies in higher education. Some classes are so large as to call for duplicate offerings. This department now offers fourteen courses and seminars in higher education.

A well-equipped statistical laboratory has been added to supplement theoretical courses in research with more practice.

The facilities of the Bureau of Educational Research have been increased, and new quarters of four offices and a workroom for a Bureau of Field Studies and Surveys have been established. All these facilities have greatly strengthened and augmented the training of advanced students for better professional service to education.

Faculty Development of College Policy—There is a conscious effort by all to follow procedures in which the faculty and the administration can originate policies in committees. The recommendations are submitted to the quarterly faculty meetings for approval.

There is as yet no cut and dried procedural formulation. Procedures have evolved in practice and have been established by tradition. The situation is desirably flexible and democratic. The negative side, willingly faced, is the large number of committee meetings and the time consumed in talking through issues. As a result, however, the confidence of the staff in the recommendations of committees is such as will usually result in speedy action at faculty meetings.

Student Participation—The participation of students in organizations and in college events is increasing markedly. Student membership on faculty committees is contemplated for next year. Future Teachers of America, the Intermediary Board of the College of Education, Education Day, Christmas Carol Sing, and the Regional Student Conference on Education Problems are among the more outstanding examples of the group work and leadership of our students. The student organizations maintain headquarters in Burton Hall.

Undergraduate Teacher Education—The College of Education graduated the largest number of teachers with the baccalaureate degree among all colleges and universities of the United States that reported nationally last year. There has continued an extensive reorganization of the Senior College undergraduate professional program for both secondary and elementary teachers to assure a broader, richer, and more concrete experience as well as a sound theoretical foundation for teaching. This development is continuing under permanent coordinators.

Supervised Student Teaching—Continued progress in the coordination and control of campus and off-campus student teaching has been made. It is a big program under a competent director, with support coming largely from special course fees. Over 1,000 provisions for individual student teaching had to be made in 1949-50. Increased facilities were secured in the Twin Cities, in the suburbs, in Hennepin and Ramsey counties, and elsewhere in the state. Our student teaching includes practice teaching, case and group study of pupils, observation and demonstration of good procedures in clinics and classrooms, youth group experience in youth centers, and other community experiences.

The program of coordination includes much scheduling, supervised teacher guidance, meetings of supervising teachers under campus direction, and evaluation procedures. It has

called for more staff. In the process students increasingly see more experimental learning situations that are in advance of regular school practice, and see also the best available examples of the more typical teaching of the present. They are getting more concrete experiences than ever before. Improved programs in elementary education, the Psycho-Educational Clinic, and the addition of two intermediate grades to the University Experimental Elementary School have contributed much to the preparation of elementary teachers.

University High School—The internal strength, the morale of pupils, and the relations with parents of University High School students have had a satisfactory development. A new building, the first of three much-needed new units in the College of Education building setup, has been authorized and planned functionally to integrate intimately a student teaching program with a modern high school. The building contains other research and College of Education features.

Educational Leadership, Professional Service, Field Studies and Surveys—The educational development of school districts, communities, state, and nation can be advanced significantly by an alert and active staff of a state university. The Minnesota staff has attained unusual recognition in the past two years in the significant number of principal offices and positions of leadership it has held in national, regional, and state learned societies, professional organizations, educational projects, and movements of several types.

The college is sponsoring an impressive array of workshops, special conferences in teaching fields, institutes on new problems and surveys of practices. Workshops have been sponsored in higher education in liberal arts colleges, in higher education and teacher education in teachers colleges, in the economic education of teachers, in rural life and rural education, in preschool and primary education, in music, and in curriculum development and reorganization. Schoolmen's Week at the University has adopted the workshop study plan on state problems for over one-half of its effort. Its recommendations are being published by the Minnesota Council of School Executives.

Cooperation of the College of Education staff with the state, with the teachers colleges, and with the State Department of Education has been significant.

Field studies and reports with heavy emphasis on new building programs fitted to more modern educational programs have been completed in St. Peter, Ortonville, Winona, St. Paul, Alexandria, Fergus Falls, Windom, and Independent District No. 3, Ramsey County in Minnesota; and in Yankton and Mitchell, South Dakota. The St. Paul survey is a continuous one and preliminary reports have been submitted; the Ramsey County survey also has had a preliminary report on sites. Additional surveys are now under way or under contract in White Bear Lake, Detroit Lakes, Austin, Faribault, Hastings, Independent School District 135 (Hopkins), Gaylord, and North St. Paul. The central staff has been built and this service agency is moving in high gear.

Placement—The Bureau of Recommendations service is operating well for our large group of graduates and for our alumni. Placement is becoming wider in scope, but more difficult in secondary education than immediately after the war.

Graduate Work—The distinctive contribution of a professional university school in education must be to do research, to train specialists and research workers, to upgrade classroom teachers and administrators in service. The graduate program of studies, except for the many classes enrolling more than 50, 75, and 100, is sound and basic. Students' programs may be either concentrated or broad according to the objective of the student. The large classes have been offset by much more emphasis on individual studies in special problems courses and seminars. The work under the master of education program is growing conservatively. The faculty has voted a sixth year program for specialists in public school service who need more than five years of preparation, who cannot afford the time for the doctorate, or who have had a degree objective below the doctorate. The degree favored is specialist in education, with designation (Ed.S. in _____). The Graduate School will be asked to administer it. Curricula for school superintendents, high school principals, guidance directors in public schools, etc., are contemplated for addition in the near future. Our seminars are active. The college believes in the basic function of research to promote substantial progress in education. Its doctoral graduates, who are among the best specialists and trained educational research workers in the nation, are in wide demand.

Research—The staff of this college emphasizes in its courses the results and best clues from research. Our graduate students are given a substantial foundation in research techniques that is widely recognized. Special effort has been made this biennium to expand the research facilities and to expand interest and plans for more and new types of investigation.

The Bureau of Educational Research has been reorganized. Although it did not get a good postwar start until within the first year of this biennium, nineteen major studies were completed.

The research publication program of the bureau is to be carried on under three series in the future—Studies in Education, Modern School Practices, and Research Summaries included as inserts in an occasional newsletter from the college to the profession in Minnesota and elsewhere.

There is need of more stenographic help for the faculty as a whole, so that we may provide for typing nonprofit manuscripts dealing with research. More support for research assistants and for publication in limited fields is needed. Another series of publications including our outstanding doctoral theses, similar to the "Contributions to Education" series of Columbia University, is needed.

Major publications of the bureau included *Learning Theories in School Situations*, *Guidance Procedures in High Schools*, *Factors Influencing School Attendance of Rural Youth*. Additional editions have been printed of *Adapting Instruction in Arithmetic to Individual Differences* and *Adapting Instruction in Reading to Individual Differences*.

Needs—The principal needs of the future are the two additional building units, one to house the Experimental Elementary School and the Institute of Child Welfare, and the other the main building of the College of Education. Both of these will emphasize research facilities for faculty and advanced students. They should be completed within five to ten years.

A particularly widely felt need of staff and students is an education seminar and curriculum laboratory that is conveniently nearby and not (as now) in quarters that are too small and difficult of access on the fourth floor of the Library with poor elevator service.

A further need is for about six major staff members of professorial rank to relieve the graduate advising load of a core of overworked major staff members and to reduce the size of several of the advanced classes for graduate students, with added sections to make possible increased personal participation and more specific assistance to students.—WESLEY E. PEIK, *dean*.

SCHOOL OF BUSINESS ADMINISTRATION

The School of Business Administration took occasion to celebrate the thirtieth anniversary of its founding during 1949-50 and uncovered an unsuspected wealth of alumni accomplishment and loyalty. A review of curriculum and student body in this thirty-year interval reflected the very rapid growth in interest and demand for professional training for business responsibility. The high regard which the School of Business Administration and its alumni have earned among the businessmen and citizens of the state during this period was demonstrated by the responses to the several events of the celebration. Partly as a result of the anniversary observance, significant additions were made to several scholarship funds.

The School of Business Administration achieved some relief from the pressures of the postwar peak by a gradual reduction in enrollment as the proportion of veterans declined. During the last year of the previous biennium there were 2,240 students in the school. This number declined to 1,911 in 1948-49 and to 1,359 in 1949-50, although the largest number of degrees, 1,325, in the history of the school was granted in this biennium.

The school and the University suffered a serious loss in the death of Professor Frederic B. Garver, a member of the original nucleus of faculty of the School of Business Administration and a world-famed economist. The effort to strengthen our faculty by the addition of promising young men has been increasingly successful but is far from complete.

The entire curriculum has been under continued, critical scrutiny and modification to meet current needs. Particular efforts have been made to strengthen the graduate program. On recommendation of the School of Business Administration, the Graduate School approved a Ph.D. degree with a major in business administration. This degree with an accompanying increase in graduate seminars in business subjects will help the University meet the growing national demand for professionally trained faculty for new schools of business administration.

Two new ventures in economic and business education have enjoyed two years of success. The Workshop in Economic Education was jointly sponsored by the College of Education and the School of Business Administration and was largely staffed by the latter. With the general support and interest of leading businessmen of the state, some

sixty to seventy carefully selected teachers and school officials in the social sciences in the Northwest received an intensive three weeks of training and experience in current economic problems during the summers of 1949 and 1950. The second educational venture was a special postgraduate training program in business administration prepared by the School of Business Administration at the request of the Navy Department for graduate aeronautical engineers. The program was given at Duluth during the Summer Session and was staffed by members of the Duluth Branch and the faculty of the School of Business Administration. The Minnesota program was the only one retained by the Navy after the first summer.

The improving ratio of faculty to students and the addition of new faculty members have increased the interest and opportunities for research. The School of Business Administration was unsuccessful in its first request to the Legislature for the establishment of a Bureau of Business and Economic Research. However, the faculty has continued its organized efforts to develop a program of research for training of the graduate student and for service to the community. During the past biennium a special study was made of traffic prospects on the Upper Mississippi and a study of capital formation was made in Minneapolis. Several members of the faculty have benefited professionally by summer faculty research fellowships granted by the University, and other faculty members have been invited to participate in the interesting new practice of industrial seminars sponsored by leading business corporations for critical study within their organization. The conferences for service to special business groups have increased in number and attendance. This aspect of professional service will increase as the pressure of student enrollment relaxes, but would benefit greatly by coordination under a specialist within the staff.—RICHARD L. KOZELKA, *dean*.

GRADUATE SCHOOL

Centennial Reflections—As the University of Minnesota enters its centennial year, the Graduate School can point to a completed biennium marked by the highest peak of graduate enrollment in its history, and by the awarding of nearly two thousand degrees. Numbers have necessarily become great with the increasing need of specialized competence, the recognition of Minnesota as one of the great universities of the world, and the drive of veterans in the postwar period to carry their education to high levels. In all the years since graduate education began at Minnesota, more than 2,300 Ph.D. degrees have been awarded by the University and more than 9,700 Master's degrees. There is a large body indeed of graduate alumni in Minnesota, in the country, and throughout the world. If numbers in themselves seem impressive, however, it remains true that the central emphasis of the Graduate School is upon quality, not numbers; high standards, not statistics; and upon carrying forward its training and research in the atmosphere of freedom.

The biennium has put extraordinary pressures upon the graduate faculty in the teaching of graduate courses in close to a hundred fields of study, in advising each year more than five thousand students, in administering thousands of examinations, and in meeting all the problems of individual counseling that contribute vitally to the effectiveness of any educational program. I pay tribute to a faculty that has not only met these innumerable challenges in a spirit of devoted service and with the integrity of high graduate standards, but has also found time and energy to prosecute significant researches of almost bewildering variety and to give much public service to state and nation.

The biennium has been one of continued self-study, of scrutiny of traditional rules and practices, of experimental reforms, of interdepartmental thinking, of increasing emphasis upon cooperation in a common task, and of recognition of new needs and new challenges in the society that the University serves. Many factors contribute to the quality of a graduate school. Among them, at Minnesota, are the competence and integrity of the faculty; the wise selection of students based upon their potentialities for advanced study; the rich resources and opportunities provided by the University and the state community in which it functions; an advisory system under which each individual graduate student works with a faculty adviser who understands his capabilities and problems; and an atmosphere of genuine freedom and of creative research aimed at extending the frontiers of knowledge and understanding.

Enrollment—The biennium has witnessed the largest enrollment of graduate students in the University's history. The total number of students in residence in 1948-49, including those registered in the Mayo Foundation and including summer as well as the regular academic year, was 5,136; and in 1949-50 the number was increased to 5,676. These figures

may be compared with average enrollments of 2,686 for the biennium 1944-46 and 4,677 for the biennium 1946-48. The upward swing has marked both the regular academic year and the summer sessions. Not including the Mayo Foundation fellows, the enrollment in the academic year 1948-49 was 3,414 and in 1949-50, 3,724, while the Summer Session graduate enrollments have mounted steadily since the war, increasing from 824 in 1944 and 1,077 in 1945 to 2,851 in 1949.

As predicted in the biennial report for 1946-48, veteran registration, advancing from the undergraduate colleges, swept heavily into the Graduate School and comprised, during the present biennium, more than half of the total enrollment.

This heavy veteran enrollment accounts in part for the preponderance of men in graduate studies in the two years under review. In 1948-49, with a total of 5,136 graduate students, 4,089 were men and 1,047 women, while in 1949-50, the figures were 4,599 men and 1,077 women. By and large, therefore, there are at Minnesota from four to five men in graduate studies to one woman. For further details on enrollment see Table I.

A substantial number of graduate students is aided each year through appointments as teaching and research assistants, medical and Mayo fellows, and certain other categories of fellows. The total numbers of students given such aid for 1948-49 and 1949-50 were, respectively, 1,571 and 1,757. These totals do not include students holding rank as instructors, research fellows, or above. They indicate that relatively large numbers of graduate students combine with their regular program of studies training and experience in teaching and research under the guidance of the faculty, and the increase of such appointments may be regarded as a strengthening of the total graduate program.

TABLE I. GRADUATE SCHOOL STUDENTS IN RESIDENCE, INCLUDING MAYO FOUNDATION FELLOWS

Registrants	1948-49			1949-50		
	Men	Women	Total	Men	Women	Total
Fall, winter, or spring only.....	1,486	473	1,959	1,706	490	2,196
Summer Session only	728	365	1,093	965	358	1,323
Both fall, winter, spring and Summer Session	1,257	198	1,455	1,311	217	1,528
Mayo Fellows	618	11	629	617	12	629
Totals	4,089	1,047	5,136	4,599 ^a	1,077	5,676 ^a
Totals, academic year (exclusive of Mayo Fellows)	2,743	671	3,414	3,017	707	3,724
Total individuals in two summer terms, less duplicates (exclusive of Mayo)	1,985	563	2,548	2,276	575	2,851

^a Twelve students were registered in different quarters at both Mayo Foundation and Minneapolis and have been counted only once.

The Graduate School has continued to serve considerable numbers of foreign students, as Table II indicates. The totals, 407 (354 men and 53 women) in 1948-49 and 439 (389 men and 50 women) in 1949-50, represent an amazing international sweep—45 countries in the first year of the biennium and 54 in the second. The numbers from China and India are declining, those from Canada, Norway, and England increasing. In dealing with this international group, with its many and complex problems, the Graduate School has had invaluable assistance from the foreign student adviser in the Office of the Dean of Students. A university committee on foreign students, with the graduate dean as chairman, has functioned as an agency to administer the Foreign Student Tuition Scholarships authorized by the Board of Regents and increased during the biennium from thirty to forty. The effectiveness of the University's program of guidance for foreign students, and particularly the work of its office of foreign student adviser, was recognized by the American Council on Education when it assigned to a special committee through Dean Edmund G. Williamson the task of preparing a manual for the universities and colleges of the country on *Counseling Foreign Students*, with the graduate dean as chairman. This manual was scheduled for publication in 1950. The financial problems of foreign students occasioned by unhappy economic conditions in their home countries and by dollar exchange have made for great difficulties, especially among the Chinese, but through the aid of ECA they have been somewhat eased, and every effort has been made on the home campus, especially through the office of the Foreign Student Adviser, to give constructive help. The foreign students continue to specialize in the main in scientific areas of study, but the tendency, noted two years ago, to use the opportunity of American study for ad-

vanced work in the social sciences and humanities appears to be gaining ground. In general, the students from other countries are highly selected and are doing creditable work at the graduate level. Centrally devoted to their own studies, they also constitute a leaven of international good will in the student body as a whole. Through them the Greater University is extended to all parts of the world.

TABLE II. FOREIGN STUDENTS REGISTERED IN GRADUATE SCHOOL

Country	1948-49	1949-50	Country	1948-49	1949-50
Algeria	1	1	Java	1	1
Argentina	3	2	Korea	2	3
Australia	1	1	Latvia	—	1
Austria	1	3	Mexico	4	7
Belgium	3	5	Netherlands	1	1
Bolivia	2	2	Netherlands Guinea	—	1
Brazil	3	—	New Zealand	1	1
Burma	3	2	Nicaragua	1	—
Canada	130	144	Nigeria	—	2
Chile	1	1	Norway	16	24
China	125	93	Pakistan	2	2
Colombia	4	2	Palestine	—	1
Costa Rica	2	1	Panama	—	2
Cuba	—	1	Peru	1	2
Denmark	1	2	Philippine Islands	—	1
Ecuador	1	1	Poland	1	2
Egypt	14	13	Russia	—	2
England	5	14	Scotland	—	3
Finland	4	5	Siam	2	4
France	3	5	South Africa	1	1
Germany	5	11	Spain	—	3
Greece	—	2	Sweden	4	6
Guatemala	—	1	Switzerland	1	2
Honduras	1	—	Syria	1	1
Iceland	1	2	Turkey	3	3
India	44	35	Uruguay	1	1
Iraq	2	2	Venezuela	1	—
Ireland	1	4	West Africa	—	1
Italy	1	2			
Japan	1	4	Totals	407	439

The Graduate School inevitably, by virtue of the distinction of its faculty and because of its facilities and resources for research training, attracts students from all parts of the world and widely from the United States. Nevertheless a study of the geographic origins of the students shows that Minnesota residents in 1949-50 contributed 54 per cent of the total graduate student body, and when one adds to the Minnesota residents those students from the adjacent Minnesota economic area, the percentage rises to approximately 65.

Degrees—The number of graduate degrees conferred by the University during the biennium was 1,963 as compared with 1,475 during the previous biennium, and of these 302 were Doctor's degrees and 1,661 Master's degrees. The number of Doctor's degrees, increased by 50 per cent over the preceding biennium, represents the peak for any biennium in the University's history, as indeed does the number of Master's degrees. An analysis, not only of the totals of degrees but of their distribution by study areas, indicates that, for 1949-50, the physical sciences contributed the largest number of Ph.D.'s, with agriculture, education, medicine, and social sciences next in order, whereas in the number of Master's degrees the order was education, social sciences, physical sciences, and medicine.

With nearly two thousand higher degrees conferred in the two-year period, it is evident not only that many students whose training was interrupted by the war have carried their studies successfully to significant terminal points but also—since the Minnesota situation is not untypical of the larger graduate schools of the country—that the production of trained talent apparently has begun to overcome some of the grave deficits that were occasioned by the war itself.

One new degree, that of master of fine arts, was established during the biennium. The graduate program in physical education has made important strides forward. The experimental program with a major in the social sciences, looking particularly toward the preparation of college teachers in that field, is advancing. The American Studies Program has been carried forward vigorously, as have the several programs in international areas. With interdepartmental cooperation new plans have been worked out for graduate programs in the field of biophysics. Toward the end of the biennium the Gradu-

ate School cooperated with the Extension Division and the Institute of Technology in planning a new type of Master's program for engineers engaged in full-time professional work. In various areas the Graduate School is aiming at broadened training at the Master's and Doctor's levels that takes advantage of the rich resources, on an interdepartmental basis, of the institution in which it operates.

Fellowships and Scholarships—The Greater University Fund has made a signal contribution to graduate education at Minnesota by establishing a series of Greater University Fellowships. Three have been authorized and supported at generous levels by gifts from alumni and friends and are attracting students of very high promise. It is hoped that, as the fruits of these fellowships are made manifest, the number of Greater University Fellowships will be increased. Meanwhile a dozen or more fellowships have been established during the biennium; the Foreign Student Scholarships have been increased by ten; and movements are under way to set up additional fellowships for deserving students at the graduate level. The Graduate School has served as the liaison office in connection with the Fulbright awards both for students and faculty, and a faculty committee screened the large number of applications by students for fellowships under this national plan which would enable them to study abroad in 1950-51. It is gratifying to be able to record that nine University of Minnesota students won awards in this competition. I cannot too strongly emphasize the importance of good fellowships in the graduate program as a whole. They are investments in the future, highly selective in their operation, vital encouragements to high talent on the way to service of state and nation.

Social Science Research Center—This agency, organized in the Graduate School in 1947, has carried forward various activities in a highly vigorous program throughout the biennium. It has arranged two annual public lecture series, the first on the theme "Can a World Control Its Money?" and the second on "The Welfare State: Menace or Millennium?" Lively public interest was manifested through an increasing attendance, which averaged 500 persons in the second series. This series on the welfare state is being brought out in published form. Similarly the Center has arranged each year a faculty panel to discuss interdisciplinary problems. The first related to the problem of mediation, and more specifically the role of the peacemaker in promoting changes of attitudes in situations involving conflict; the second probed the characteristics of mediation and mediators in a variety of such situations. These discussions in turn have opened the way to what is hoped will prove a significant research study in this field.

The preparation of an inventory of university social science research, a project of long-range importance, has made substantial progress. Information gathered from more than 350 social science faculty members is now being consolidated in a comprehensive report. The Center has given assistance to the preparation of an annotated bibliography of "Human Relations in Public Administration" by Professor Alfred de Grazia, which has been brought out by a national organization. It has also set up a committee to consider possible cooperation of the Center with the Minneapolis Housing and Redevelopment Authority, with an eye to opportunities for the field training of graduate students in the social sciences. Aid by the Center has been given to an interdepartmental summer course in 1950 on the effect of different national cultures upon the character of international relations and organization. On the national front the Center was enabled to give fiscal and management supervision to the Advisory Panel on Human Relations of the Office of Naval Research and to planning a national conference which, among other things, permitted Minnesota representatives to keep in close touch with research developments in the social sciences at the federal level.

Plans for the coming year include assistance in the proposed University Centennial Educational Conference in the Social Sciences. The Center will also attempt to find support for the establishment of a demonstration psychological treatment center. These and other activities will be forwarded in accordance with the major objectives of the Social Science Research Center, which were described in detail in the biennial report for 1946-48. The Center continues to function with an advisory council, of which Professor F. Stuart Chapin is chairman, a small executive committee, and an executive secretary, Assistant Dean John G. Darley.

Scandinavian Area Program—The Scandinavian Area Program, inaugurated in 1947 with a grant of \$130,000 from the Carnegie Corporation of New York, has doubled its enrollments during the past two years and made notable progress in its work. In each year a visiting lecturer from one of the Scandinavian countries has joined the teaching staff. Thus in three years scholars from Sweden, Denmark, and Norway have contributed to the success of the program. Four graduate fellowships and one undergraduate scholarship are awarded for each academic year. With wide faculty cooperation the program has

been built around the history, philosophy, art, and economic, social, and political life of the Scandinavian people. The arrangement of joint Minnesota-Wisconsin summer sessions by the area programs of the two universities, with faculty and staff exchange, has strengthened the area program of each institution and incidentally afforded an interesting illustration of the potentialities of inter-university cooperation in teaching and scholarship. A joint session held in 1950 at Madison will be followed in 1951 by a similar program at the University of Minnesota. A highly successful institute was held January 9-12, 1950, at the Center for Continuation Study under the auspices of the Scandinavian Area Program. An array of distinguished speakers from this country and abroad participated in the institute, which gave special attention to the Marshall Plan, the North Atlantic Pact, and related problems. In addition to widely known scholars, this institute brought into conference government officials and representatives of business and finance. The principal addresses have been brought out in a mimeographed volume entitled *Scandinavia in a Divided World*. The program has many special projects under way, including the preparation of extensive bibliographical aids. Through its director it has also cooperated with the University Theatre in the production of several important Scandinavian dramas. The program is conducted under the supervision of an advisory committee—a subcommittee of the general University Committee on International Relations and Area Studies—with the dean of the Graduate School as chairman. Professor Alrik Gustafson has taken over, during the biennium, the post of director of the program.

A Report from the Ph.D.'s—The University Bureau of Institutional Research, under the direction of Robert J. Keller, began during the biennium an intensive inquiry for the Graduate School from twelve hundred alumni who earned the Ph.D. at Minnesota between 1935 and 1949. This "follow-up study," on which returns are now almost complete, is aimed both at keeping graduate programs attuned to needs in high-level training and at gathering information for a new directory of those who attained the doctorate at Minnesota. Returns have been received from Minnesota, all the other states of the union, and countries throughout the world where the Ph.D. alumni are serving as teachers, administrators, scientists, surgeons, business executives, and in numerous other capacities. One part of the survey relates to college teaching and is expected to reveal some of the shortcomings as well as strengths of the Graduate School's present program in this field. Meanwhile the graduate committee on college teaching is making progress in its studies of ways in which the training of prospective college teachers may be improved. The dean of the Graduate School, working with Dean Russell Cooper, planned and carried through a national conference in Chicago on December 8-10, 1949, sponsored by the American Council on Education and the United States Office of Education, on the central problem of training for college teaching. This conference brought together approximately 160 persons—graduate deans, college and university presidents, and professional leaders of higher education, whose deliberations have been edited in a volume by Dean Cooper and the graduate dean under the title *The Preparation of College Teachers*. As the problem is faced both nationally and on the home campus, it is believed that significant new advances will be made.

Change in Language Requirements for the Ph.D.—Two years ago mention was made of the intention of the graduate faculty to modify the traditional Ph.D. language requirements through establishing greater flexibility in the choice of languages by doctoral candidates and through the substitution, for the traditional requirement of French and German, of the demonstration of competence in one foreign language and in a second field, which might be an additional foreign language, or some additional and appropriate research technique, or some appropriate area of knowledge outside the student's major and minor field of study.

This plan, worked out in detail to conform to departmental and area judgment and choice, was set up administratively by the Graduate School at the beginning of the academic year 1949-50 on an experimental basis. Fifteen departments chose to retain the requirement of two languages, specifying that one must be German. Fifteen other departments chose to require two foreign languages without further specification. The graduate faculty in general agreed that the range of languages in which proficiency might be demonstrated should consist of German, French, Spanish, Portuguese, Russian, Greek, Latin, and the Scandinavian and Oriental languages. Seventeen departments chose to permit the fulfillment of the requirements by either two foreign languages or one foreign language and the option of a collateral field of knowledge. Nine elected the requirement of either two foreign languages or one foreign language and the option of a special research technique. Twenty-three departments chose to require either two foreign languages or one, with the option beyond that one language of either a special research technique or a collateral field of knowledge.

Thus the plan as a whole took carefully into account the judgment of faculties within areas and departments, and the resultant formulation of requirements was adapted to the informed views of teachers and scholars in many fields, with no uniform or simple, sweeping over-all requirement. The plan as a whole has worked effectively in the single year in which it has been tried. The evidence at hand indicates that the new plan, on the whole, tends to establish higher, not lower, standards than those obtaining under the rigid rule of French and German, and that its flexibility conforms in realistic terms to the actualities of advanced graduate study at the present time.

Graduate education has been clothed with rules and regulations created in its initial stages, when the areas of doctoral study were relatively few and when French and German were universally regarded as necessary tools for men and women educated to the top level, whatever their field. That the circumstances have changed profoundly since that day no one can deny. The Minnesota experiment is a carefully considered attempt to adjust, in realistic terms and on the basis of high standards, practices that no longer have the validity and vitality they once possessed. More than twenty-five graduate schools have established committees to restudy the traditional language requirements for the Ph.D. in the light of the reform initiated at Minnesota and of certain modifications of rules that have been established in a few other institutions. The Graduate School is studying and analyzing the effectiveness of its present policy and plans to report its findings both to its own faculty and to the graduate schools of the country. At the same time the Graduate School is giving careful study to the entire problem of the publication of doctoral dissertations.

Faculty Summer Research Appointments—Since the summer plan for encouraging faculty research and writing was inaugurated in 1946, 51 appointments have been made, of which 21 fall within the biennial period here under review. The success of the plan is reflected not only in the evidences each summer of important productive work completed or greatly advanced, but also in the sharp interest that other universities and foundations are taking in this constructive kind of aid to creative scholarship. During the biennium the appointments had a departmental spread that included chemical, civil, and mechanical engineering, mathematics, inorganic chemistry, biophysics, physiological hygiene, botany, geology and geography, history, political science, economics and business administration, psychology, English, German, and music. The values in the summer faculty research plan not alone in specific results achieved but also in the encouragement of the spirit of productive research, underline the importance of continued support of such appointments.

Regional Writing—During the biennium thirteen new regional writing fellowships have been awarded in a renewal of the Graduate School's project for creative work interpreting the life of Minnesota and the Upper Midwest. Two of the fellowships are for biographies—of Stella Louise Wood and Clara Hampson Ueland. One is for a book of essays interpreting South Dakota life, another for a work on the empire of wheat, and yet another for the story of the Finnish farmer in America. One author is preparing an informal interpretation of the Lake Minnetonka region, another is telling the story of the Sisters of St. Joseph in Minnesota, a third is presenting an informal study of the Farmer-Labor Party, a fourth is combining word and canvas in recording life and conditions in the Middle West as of today, a fifth is recording the experiences of a midwestern traveling theatrical company, and a sixth is preparing, in relation to performances by the Minneapolis Symphony Orchestra, a volume interpreting great music. The fellowships include aid to two novelists—one who is dealing with the story of people from Holland in the Midwest, the other with a modern Minnesota situation. Meanwhile, the earlier project has resulted in several additional publications. The enterprise as a whole, apart from the impressive shelf of books it has produced, has unquestionably given considerable impetus to creative work in Minnesota and the Upper Midwest. Two grants from the Rockefeller Foundation, of \$50,000 and \$25,000, have made possible this interesting and significant project. A university committee on selections has screened large numbers of applications in arriving at final selections of regional writing fellows.

Research—In the setting of hundreds of scholars and scores of interrelated departments, university research has gone forward during the biennium with vigor, buttressed by laboratories and machines, students in training, funds, organization, and the varied resources of the University and the state—and always with the disciplined imaginations of scholars at its heart. The Graduate School has encouraged faculty research both through grants from such funds as have been available and through organization and the administration of research units designed to advance particular researches and to coordinate research effort.

Through the *General Research Fund*, advanced from \$75,000 to \$90,000 a year in the second year of the biennium, support has been available for fundamental studies in natural and human resources, with a range extending from research on high altitude cosmic ray

investigations to studies of group conflict and interaction. One of the major researches has been that directed against the corn borer, the cause of losses to Minnesota agriculture that run to many millions of dollars, and scholars are making advances in a basic approach to this urgent problem. Yet another study of agricultural interest is that dealing with honey-bee diseases and their control. Beyond these, attention may be called to far-flung researches in the physiology of economic plants, fishery resources, vitamin C, the durability of concrete, photosynthesis, uses of wood wastes, sterility in corn, Minnesota clays, ethnic problems in the population, and group relations in our society. Out of these and many other researches comes a flow of constructive results each year, though not a few of the studies are of relatively long range.

Legislative grants for *Medical and Cancer Research* were increased during the biennium from \$50,000 to \$60,000 a year, and this generous action has already been productive of excellent results in expanded research activities. The funds support studies ranging in subject matter from the aging process in man, through specific disease groups, to the development of medical and surgical therapies for many kinds of illness and fundamental problems underlying them. Often this fund gives the initial stimulus to researches that, once the early stages have been accomplished, attract substantial subsidies from outside the University.

The *Nonmedical Research Fund*, as in past years, has proved of inestimable value for exploratory and research studies in the various sciences—social, educational, biological, and physical—and in the broad field of the humanities. The spread of this fund may be indicated by listing the departmental areas to which grants have gone in a single year: botany, music, English, art, organic and inorganic chemistry, economic zoology, geology, astronomy, education, educational psychology, physical chemistry, political science, history, classical languages, philosophy, journalism, physiology, agricultural engineering, Scandinavian studies, business administration, sociology, American studies, mechanical engineering, social work, psychology, child welfare, and zoology.

The Graduate School has benefited materially during the biennium from a series of generous grants received from the *Greater University Fund*. Surveys clearly indicated that many researches were severely handicapped by the lack of special equipment that could not be purchased through available moneys, and the newly established fund has attempted to meet such needs wherever it could within the limits of its resources. Thus during the biennium a planetarium has been secured for astronomical study, new vacuum tube laboratory equipment for electrical engineering, a cardiac research recording camera for medicine, a reading accelerator for psychology, a polarizing microscope for physics, and motion-picture material to aid the scholars in studying speech defectives, particularly stutterers. These and other very special pieces of equipment are now being used productively in University research—a constructive result of generous gifts by alumni and other University friends, to whom the appreciative thanks of the Graduate School are extended.

During the biennium the *Minnesota Institute of Research* has given major support to two projects. The first has to do with factors influencing the properties and market qualities of concentrated and dry milk products. This project is demonstrating that newer methods of treating milk can produce a better quality of condensed or dried product. It has been shown that the deoxygenation of fluid milk before preheating improves the keeping quality of dry whole milk. The keeping quality of spray and that of freeze-dried dry whole milk are comparable. A theoretical basis for evaluating the adequacy of the heat treatment of fluid milk before drying has been developed. Finally, it has been proved that superior dry whole milk can be secured more effectively by so-called HTST (200°F or higher for 60 seconds or less) than by "holder" preheating.

The second study has been concerned with the final correlation of the pilot plant production of linen yarn from seed flax straw. A weeder for large-scale weeding of flax fields has been successfully built and used, and on tested acreage it now appears that this weeding of flax during the growing period substantially increases the yield of seed. The general weeding of Minnesota's flax fields, if that could be accomplished, would produce a marked increase in seed yields. A new type of harvester has been put into operation in order to prepare straw for plant processing, while at the same time chemical costs have been reduced and a large amount of linen of varying yarn sizes has been made by the process. This linen has been woven into yard goods and in some cases made into shirts, nurses' uniforms, and toweling. The tests of these fabrics show that the linen produced is as good as imported material. This project has reached the stage when the whole pilot plant must be put together in the flax-growing area and run for a season in order to determine costs of operation more precisely. Present cost estimates are highly favorable, but testing of the kind indicated is now needed.

The growth and service of the *Hormel Institute*, launched as part of the Graduate School in 1942 and established two years later in laboratories at Austin, have been spectacular. Beginning with one research project and three staff members, it now has a staff of 35, a budget of more than \$170,000, expanded laboratories, and between 15 and 20 active projects. The Institute has carried on intensive studies of fat and oil chemistry and of swine diseases and nutrition. Its projects on the applied side are aimed at such goals as soil improvement, new plant and animal products, the prevention of food spoilage, and the use of animal and plant by-products in treating human diseases. Basic emphasis is placed upon pure science and creative research, but the staff is alert to findings that can be applied practically to problems of agriculture and industry. Researches in some instances are cooperative with other divisions of the University, including the Mayo Foundation. Several members of the staff are on the teaching staff of the University, among them the new director, W. O. Lundberg, who succeeded H. O. Halvorson in 1949. The Institute is under the general supervision of a board of five including Dean C. H. Bailey, Dr. F. C. Mann of the Mayo Foundation, H. C. Macy of the Agricultural Experiment Station, W. M. Lauer, and J. G. Hunting of Austin, with the graduate dean as chairman. In 1949 the Institute was formally dedicated.

The Dight Institute, essentially reactivated under the vigorous leadership of its director, Sheldon C. Reed, has had a successful biennium, with its work greatly forwarded through the addition of Ray C. Anderson as assistant director and research fellow. He and the director have given more than fifty lectures and talks to the public in the Institute's educational program, which has also witnessed the continuation of Dr. Reed's course in human genetics, with increasing enrollments. The Institute has profited by the friendly aid of the Human Genetics League, particularly through its support of basic research. The research has proceeded steadily on breast cancer, with outside grants of approximately \$20,000, on the heredity of manic depressive psychosis under Dr. David Merrill, on mutation studies of the fibrosis of the pancreas in cooperation with the Medical School, on Huntington's chorea, with active aid and support from the Division of Public Institutions, and on mental deficiency, aided by a visiting scholar from the University of Lund, Dr. J. A. Book. The counseling activities, with more than 300 cases during the biennium, have expanded with the invaluable assistance of Dr. Anderson. With a relatively small budget, the Institute faces the necessity of augmenting its funds to continue the position created on a two-year basis for Dr. Anderson. The Institute works with an advisory committee of which the graduate dean is chairman.

The Graduate School continues to administer a modest fund for the support of *Graduate Dental Education*. During the biennium graduate education in dentistry has been much strengthened, the number of candidates for higher degrees in that field has increased, and there is promise that the research and college teaching needs in this important field will be met with increasing effectiveness in the future.

Mayo Foundation—During the biennium the Mayo Foundation, under Dr. Victor Johnson as director, has had an unusually large enrollment of medical fellows—629 in all. The assistant director, Dr. Stanley Olson, resigned to become dean of medical sciences at the University of Illinois, and his place has been filled by the appointment of Dr. K. B. Corbin. A joint committee, representing medical graduate interests on both the Minneapolis and the Rochester campuses, deals with problems of common policy in this highly important field.

Duluth Branch—A new departure during the biennium was the authorization of a limited number of graduate courses, chiefly in education, to be offered in summer sessions at the Duluth Branch by elected members of the graduate faculty, on the Duluth staff, to students qualified for graduate work. Under this plan work, during summers, may be undertaken looking toward the Master's degree, but a degree program must be completed at the Minneapolis Campus under a major adviser on that campus. This plan, inaugurated in 1949, was continued successfully in 1950.

Administration—A vast amount of detailed work has fallen during the biennium upon the regular group committees and certain special committees that deal with programs, petitions, the appointment of examining committees, and problems of procedure and policy. With unprecedented numbers of graduate students, the administrative burdens of the central office have become so heavy that an expansion of the staff is urgently needed. The Executive Committee of the Graduate School, as the biennium came to an end, consisted of Dean Henry Schmitz and Professors A. Orville Dahl, Edward H. Sirich, Maurice B. Visscher, Donald G. Paterson, Lee I. Smith, and Warren C. Waite.—THEODORE C. BLEGEN, dean.

THE MAYO FOUNDATION FOR MEDICAL EDUCATION AND RESEARCH

Faculty—Membership of the faculty of the Mayo Foundation has been increased during the biennium by 27, or to a present total of 268. Among those recently appointed are Dr. David A. Boyd, Jr. (formerly professor of psychiatry and neurology, Indiana University); Dr. Adelaide M. Johnson (formerly assistant professor of criminology, University of Illinois, consulting psychiatrist, United Charities of Chicago, and associate professor of psychiatry at the Medical School, University of Minnesota); Dr. Kenneth N. Ogle (formerly professor of physiologic optics, Dartmouth); Dr. Howard P. Rome (formerly consultant in psychiatry, U. S. Navy, executive director of psychiatric training on the Dean's Committee for the Philadelphia Medical Schools); Dr. Warren A. Bennett (formerly pathologist, Army Institute of Pathology, Washington, consultant in pathologic anatomy, Mayo Clinic); Dr. Reginald G. Bickford (formerly fellow, Medical Research Council, London, research associate in physiology and consultant in physiology, Mayo Clinic); Dr. Frank D. Mann (formerly pathologist at several U. S. Army hospitals, and consultant in clinical pathology, Mayo Clinic); and David G. Pugh (consultant in radiology, Mayo Clinic).

When Dr. Olson resigned as assistant director of the Mayo Foundation, Dr. K. B. Corbin, already associated with the departments of anatomy and neurology, was appointed to the post of associate director, continuing certain responsibilities in the departments of anatomy and neurology.

During the biennium five members of the faculty reached emeritus status. They are Dr. John L. Crenshaw, associate professor of urology; Dr. George B. Eusterman, professor of medicine; Dr. William Carpenter MacCarty, professor of surgical pathology; Dr. James C. Masson, professor of surgery; Dr. Arthur H. Sanford, professor of clinical pathology.

Four members of the faculty resigned during the biennium. They are Dr. H. Corwin Hinshaw, who was associate professor of medicine, and now is in private practice and clinical professor of medicine, Stanford University; Dr. Sim B. Lovelady, who was assistant professor of obstetrics and gynecology, and now is in private practice and is on the faculty of obstetrics and gynecology, Baylor University; Dr. Stanley W. Olson, who was assistant director and instructor in medicine, and now is dean of the College of Medicine, University of Illinois and medical director, Research and Educational Hospital, Chicago; Dr. Albert M. Snell, who was professor of medicine, and now is in group practice and is clinical professor of medicine, University of California.

It is with regret that the Mayo Foundation records the deaths of four members of its faculty. These are Dr. C. A. Aldrich, professor of preventive pediatrics; Dr. W. A. Plummer, associate professor of medicine; Dr. W. C. Popp, assistant professor of radiology, and Dr. A. B. Rivers, associate professor of medicine.

Fellows—At the close of the biennium, 487 fellows were registered in the University from the Mayo Foundation. This is a reduction from the number at the close of the last previous period, but it must be remembered that this is due mainly to the fact that the 547 reported at the close of the year 1947-48 included a number of fellows who had been registered or were appointed to begin residence prior to the war and who returned from military service to complete their training. These plus those who had been regularly appointed in the interval made for an artificial elevation in registrations which was referred to in the last report. Present facilities would seem to make desirable an average of approximately 500 fellows in residence.

Of the 487 fellows in residence at the close of the biennium, 36 were from foreign countries, as compared with 22 at the close of 1947-48. As would be expected, the greatest number (15) was from Canada, five from England, four from Ireland, two each from Belgium, France, Iceland, and Scotland; and one each from Italy, Mexico, South Africa, and Sweden.

Graduate degrees were awarded 226 fellows of the Foundation: four Ph.D. degrees, 200 M.S. degrees with major field named, and two M.S. degrees without designation.

Facilities—The addition to the Medical Sciences building, more than doubling the size of the present building, referred to in the last previous report, is expected to be completed in the spring of 1951. This will provide greatly enlarged facilities and better arrangement of present facilities for research in pathologic anatomy, physiological chemistry, anatomy, physiology, biophysics, dental histopathology, and engineering. The human centrifuge and certain other equipment, which were housed in the former addition to the Medical Sciences building (wrecked to make space for the enlarged addition), will be replaced in the addition when it is completed.

The addition to the Colonial Hospital is completed and provides approximately 160 more hospital beds.

Also, a ten-story diagnostic building, across the street from the present clinic building, is planned and construction has just begun. Upon its completion, in about three years, relief from the crowded states in many departments may be foreseen.

The museum, which was housed in the building wrecked to make space for the new clinic building, is in a temporary structure. All of the museum material is available for demonstration and study.

Research—Temporary appointments of assistants in research have proved of value both to the institution and to the individuals. Four of these individuals are continuing research in the Mayo Foundation, two are now consultants in physiology in the Mayo Foundation, one is professor of pharmacognosy and pharmacy, University of Illinois, one is associate professor of medicine, University of Washington, one is research associate in experimental medicine, Jefferson Medical College, one (with M.S.) is continuing work for the Ph.D. degree, and one is resuming professional practice with a group in California.

Attention should be called to the resumption of annual Mayo Foundation Demonstration Days, at which fellows and faculty, individually and/or jointly, present some of the investigative work in which they are currently engaged. Technics, procedures, and results of research are demonstrated, and scientific motion pictures recently made are shown. These are held in the fall and visiting scientists are invited.

Monthly meetings of the Research Club provide further opportunity for presentation of progress of current research.

The Institute of Experimental Medicine, located about five miles from the city of Rochester, in which much of the fundamental research necessitating the use of animals is carried on, celebrated its twenty-fifth anniversary in 1950.

During the fall and winter quarters there were several Sigma Xi and Mayo Foundation lectures by eminent visiting scientists.

Seminars in which fellows are essayists with faculty members as commentators expand in numbers of groups and in attendance.

Impact of the International Crisis—As a result of the program of expanding rearmament, many fellows will enter active military service as medical officers. Much of the research of the institution will be oriented toward military needs, although in the main, such research will probably be of a long-term nature rather than of immediate applicability.—VICTOR JOHNSON, M.D., *director*.

GENERAL COLLEGE

During the biennium, the General College steadied down from the impact of the war and immediate postwar period. Enrollment remained high compared to that previous to World War II, but there was a gradual dropping off in keeping with the proportional drop in the rest of the University.

One of the trends which appears to be significant to the staff is the increasing number of students who enroll in the General College, even though they may be eligible for admission to other colleges of the University. In previous years, the General College was usually a place of last resort for a student who wished to attend the University, but who was ineligible to enter the college of his first choice. Although the majority of the General College population is still in this category, an increasingly larger proportion is entering on a voluntary basis. The word is apparently getting around that the chances for survival in the University are better for the student who has done only average work in high school, if he starts in the General College, than if he enters one of the four-year colleges where the academic competition is more severe. In keeping with this same trend, there appears to be a larger proportion of students who are seeking the associate in arts degree. There seems to be an increasing awareness in business and industry of the advantage of having completed a planned program, and the two-year degree is therefore receiving more favorable recognition in the nonacademic world.

Curricular Changes—The first of two curricular trends has been concerned with new or revised courses in general education. Some new exploratory courses were added to the curriculum, such as Religions in Minnesota and Related Physical Science.

In the vocational sequence area, the college has continued to experiment with programs which provide vocational preparation along with supporting courses in related fields and in general education. The Library Technician and Practical Nursing sequences mentioned in the last biennial report have been put into successful operation, although enrollment has been small so far.

Another expansion has been an increase in, or revision of, the applied business courses, such as Bookkeeping and Accounting Laboratory, Office Organization and Procedure,

Beginning Shorthand, Business Speech, Art in Business, and the two-quarter sequence, Problems of Business Transactions and Problems of Investment Transactions. Studies of former General College students have indicated that the majority of those obtaining employment go into general clerical, business, or distributive fields. Since a two-year college program is often sufficient for the level of occupation which these former students enter, an increase in the business aspects of the college offering has seemed particularly suitable.

It may be of interest to note that the college has abandoned a vocational sequence which seemed earlier to have considerable promise. This was the Air Hostess-Stewardess program which had been developed by cooperative planning with the officials of the local airlines. Young women who had completed the program, however, experienced some difficulties in securing airline employment. In the first place, many of them were only seventeen or eighteen years old when they entered the college. The airlines specified that they must have reached their twenty-first birthday before they were eligible for employment as air hostesses. This period of waiting served to discourage some of the girls. Another major factor was that as the supply of potential hostesses increased, the airlines changed their policy and required four years of college as a prerequisite for hostess work. Although they had indicated that they would give consideration to the two-year graduates of the General College Air Hostess program, this additional development made it seem desirable to the faculty to abandon the program after a trial period of two years.

Evaluation Studies—During the biennial period a special grant of money was authorized by the President's Office to undertake certain exploratory evaluation studies of the college, its students, and its curriculum. Eight separate investigations were undertaken. These included an up-to-date study of the characteristics of the post-World War II student body, several follow-up studies, including those of students who had been enrolled in the Retailing and Selling sequence, others who had transferred to a four-year college, and others who had received the A.A. degree; an investigation of student attitudes toward and use of the counseling program; another of the qualitative achievement of candidates for the two-year degree; an appraisal of the direction of curriculum development over the past ten years; and finally, the compilation of an annotated bibliography of periodicals, theses, and seminar papers concerned with some aspects of the General College. The studies listed are to be published in one of the forthcoming biennial reports of the Bureau of Institutional Research.

Participation in Inter-Institutional Projects—At the present time the General College is participating with some of the other units of the University in the cooperative study of evaluation in general education sponsored by the American Council on Education. Committees within the college are organized around the various areas in which evaluation is being explored, namely, social science, natural science, humanities, communication, and personal adjustment. Several members of the General College staff were University representatives at the inter-college evaluation conferences in Cleveland in March, 1950, and several were appointed as delegates to the two-week workshop at Michigan State College in the summer of 1950.

In March of 1949 a conference on general education was held at the University of Minnesota which was, in part, a commemoration of the completion of its eighteenth year by the General College. This conference tackled the problem of "next-steps in experimentation and research in general education," and was attended by some three hundred representatives of colleges and universities from all over the United States. The conference delegates were divided into various work groups, in such fields as natural science, humanities, etc., and the general session addresses plus the reports of the work groups, were subsequently gathered together into a manuscript which has been submitted to the University of Minnesota Press as a project for publication. This conference was significant and different in that its focus was not on curriculum development nor on philosophies of general education, but rather on the needed next-steps to validate one or another approach to general education, and looked forward towards stimulating wider experimentation in order to gather evidence to validate general education objectives.

Staff Orientation and In-Training Program—Although not new projects, there are two significant ways in which the General College attempts to provide new and continuing staff members with professional stimulation related to their work in general education. A series of meetings, or "seminars," for new staff members is scheduled at the beginning of each fall quarter. These seminars are usually divided to cover four topics. The first treats the background of general education, its various philosophies, and some representative programs on a national basis. The second deals with the origins and development of the General College at Minnesota, with specific attention to the major features of its curriculum and its all-University relationships. The third deals with the personnel program of the college, with special emphasis upon the participation of staff advisers in the college-

wide counseling program. The final meeting is conducted by one of the veteran teachers in the college, and deals with special problems of teaching as met in the General College. The reaction of new staff members to this orientation to their new professional responsibilities has been uniformly enthusiastic.

A second means of stimulation for all staff members is through the holding of colloquiums at various times throughout the year, averaging one a month. These are separate from staff meetings, and are devoted to professional matters of common interest. There may be the presentation of problems relating to the general comprehensive examination, for example, or members of one of the curricular areas such as science, or communication, may present in perspective their work and the distinctive features of their part of the general education program. If one or more staff members have participated in an off-campus educational conference, they are usually requested to present a summary of the conference findings to the staff at one of these colloquiums.

Another development in the last few years has been the restoration of a faculty news letter. In the early years of the college a faculty news sheet was circulated which bore the title of the *Belt Line*. Within the biennium 1948-50, the *Belt Line* was revived by some of the staff members of longer service, and was subsequently developed into a faculty newsletter, containing notes and comments which are of personal and professional interest.

Move to New Quarters—One of the major decisions made during the biennium which will have considerable effect upon the General College in the future was the recommendation by the all-University space allocation committee and approval by the president for the college to move from Westbrook Hall to the first and second floors of Nicholson Hall into the space vacated by the Departments of Sociology and Political Science and the School of Social Work, when these units move to Ford Hall. The advantages of this move appear to be threefold: (1) increased efficiency in the operation of the administrative and counseling offices in a single suite with a central record system; (2) a more functional arrangement of the special purpose classrooms, such as the art, vocational, and music laboratories, in relationship to supervision from office space occupied by staff members in these areas; and (3) an improvement in student morale through occupancy of a pleasanter, more spacious, and more distinctive building. Members of the faculty and student body are hopefully expectant that "Westbrook Tech," with its dubious connotations, may be left behind ideologically as well as physically.—HORACE T. MORSE, *dean*.

UNIVERSITY COLLEGE

University College continues to serve those students whose educational objectives cannot be attained in any of the other colleges. The number who register in this college is always kept low by requiring the student to demonstrate a real need for registration in University College. He must show that his objectives cannot be met in any other unit of the University.

The acceptance by other colleges of a wider range of courses that may be applied toward a degree has reduced the number who apply for admission to this college. The action of the University College in requiring 190 credit hours for graduation has, no doubt, deterred some students in applying for admission. The minimum requirement previously was 180 credit hours.

The majority of the applicants for admission have completed two or more years of college work. Not all of them are exceptionally able students and some have done poorly in the college work they first selected. Some have special talents but are weak in other fields which are traditionally regarded as essential for the baccalaureate. These students present the most difficult problems. Each student must receive much individual attention. Care must be taken to make certain that a degree is granted only when a program with sufficient breadth and quality has been completed.

During the past two years 139 degrees have been granted.—J. W. BUCHTA, *chairman*, *University College Committee*.

DULUTH BRANCH

When the Duluth Branch was established on July 1, 1947, as a coordinate college of the University, no fixed or specifically predetermined code was established by the Regents for its operation. It was consciously recognized that a desirable pattern of policy and procedures could not be entirely foreseen but would emerge in time through a general process of adaptation. This adaptation would on the one hand reflect community and area needs and on the other, all-university policies and procedures. The development of the Duluth Branch as a University facility during the 1948-50 biennium is reported here.

Program of Activities—At present, in serving the higher education needs of the students of its natural area, the Duluth Branch has assumed three primary functions: (1) to offer preprofessional courses of two or four years' duration, designed to equip students either for continuing with advanced, technical professional training, or to take positions at preprofessional levels in business and industry; (2) to provide a four-year undergraduate, liberal arts education; (3) to provide training programs for students who will enter the elementary or secondary school systems as teachers.

To fulfill these functions, the Duluth Branch is permitted by the Regents to grant the associate in arts, bachelor of arts, and bachelor of science degrees. The University of Minnesota is a single educational unit. The Duluth Branch is an integral part of the University. Diplomas awarded at Duluth are identical with those given to students who participate in exercises on the Minneapolis Campus. As an integral unit of the University, the Duluth Branch adheres to standards of staffing and instruction comparable to those prevailing in other University departments where related—though not necessarily identical—courses are offered.

The program of studies at the Duluth Branch is contained within the Division of Education and Psychology, the Division of Humanities, the Division of Science and Mathematics, the Division of Social Studies, and the Department of Air Science and Tactics. Majors are offered for the Bachelor's degrees in the following fields: art, biology, botany, business and economics, chemistry, elementary education, English, French, geography, German, history, home economics, industrial education, mathematics, music, nursery-kindergarten-primary education, physical education for men, physical education for women, physics, political science, psychology, social studies, speech and dramatics, and zoology. In addition to these curricula, the institution offers preprofessional work in agriculture, dentistry, forestry, journalism, law, medicine, nursing, pharmacy, social work, theology, and veterinary medicine.

Every student who completes a Bachelor's degree is required to complete one major, one minor, and sixty general education credits, distributed through the four divisions. A total of 180 credits is required for a bachelor of arts degree. The total required for the bachelor of science degree is 192. Students may receive the associate in arts degree at the end of two years upon the completion of 60 credits in general education, plus electives for a total of 90 or more credits. Including the June, 1950, commencement, 422 bachelor of arts, 362 bachelor of science, and 33 associate in arts degrees have been awarded at the Duluth Branch.

The Duluth Branch faculty has control over and is responsible for entrance requirements, curricula, instruction, examination, grading, degrees, discipline, student activities, athletics, and the library. These powers are exercised within the framework of general policies established by the Board of Regents as a whole and are subject to the limitations imposed by the Senate on a college or a faculty of a college of the University.

Graduate Program—Probably the outstanding single development in the program of studies during the biennium has been the establishment of a graduate program for in-service teachers in the Duluth and northern Minnesota area. The first graduate courses were offered in the Summer Session of 1949 with the approval of the Graduate School and appropriate clearance by the College of Education.

Under the present arrangements it will be possible for an elementary or secondary teacher to complete approximately two thirds of a graduate program leading to the Master's degree at Duluth with the balance to be completed on the Minneapolis Campus. Graduate work on the Duluth Campus is subject to approval in all respects by the Graduate School.

Air Force ROTC—Acknowledging its obligation as a part of a Land-Grant institution, the Duluth Branch in 1948 established an Air Force Reserve Officers Training Program.

New Campus Location—In January, 1948, a 160-acre tract known as the Nortondale development was donated to the University for use as a new Duluth Branch Campus. The Honorable Richard L. Griggs, Duluth member of the Board of Regents, led a group of citizens and civic organizations in buying up the numerous component land parcels involved. Within the same year, work was begun on a new science building costing \$930,000. In the fall of 1949 the building was opened for classes. It is hoped that other pressing building needs will be met shortly. Funds totaling \$1,260,000 were appropriated by the 1949 Legislature toward the construction of a Health and Physical Educational Building on the new campus.—JOHN E. KING, *acting provost*.

GENERAL EXTENSION DIVISION

Extension Classes—During the biennium enrollments in evening extension classes continued to increase, rising from 18,720 in 1948 to 20,747 in 1950. The latter figure is an increase of 11,914 over the low point in 1942 and is the highest enrollment total ever recorded by the department. The distribution of registrations during the 1948-50 biennium continued the trends shown during the preceding biennium, with substantial increases in business subjects. Service to the metropolitan areas of the Twin Cities and Duluth has improved during the biennium, but there is still an active and increasing demand for courses throughout the state which the University so far has not been able to meet. Efforts in this direction, however, have been somewhat more successful than in the preceding biennium, perhaps because declining enrollments in the day school have eased somewhat the staff shortage of the war period. Statistics for extension classes and short courses appear in Table I.

TABLE I. EXTENSION CLASSES AND SHORT COURSES

	1948-49	1949-50
Summary of extension classes:		
Number of student registrations:		
Collegiate	12,075	12,241
Business	5,501	5,904
Engineering	2,130	2,602
Total	19,706	20,747
Net gain over previous year	986	1,041
Number of classes given	755	808
Number of individuals in classes	12,458	12,290
Net gain over previous year	465	
Net loss over previous year		168
Summary of short courses:		
Number of short courses	13	16
Number of registrations in short courses	1,580	2,523

Correspondence Study—Registrations in the Correspondence Study Department during 1948-50 indicate a slight increase over the 1946-48 figures. As expected, correspondence registrations declined steadily after World War II, but the downward trend now has been stopped, and the present biennium actually shows small but important gains. For 1948-49 the total of new registrations was 3,127, an increase of 6.5 per cent over 1947-48. In 1949-50 there were 3,417 new enrollments, an increase of 9.3 per cent over 1947-48. For the two years of the biennium the registrations in force were 6,030 and 6,265 respectively. The 1950 fiscal year shows the highest peacetime registration in the history of the department. Analysis of the 3,417 new registrations shows that 75.7 per cent of the total were what have come to be known as "civilians," whereas only 604, or 17.7 per cent, were G.I. registrations. The remainder of 228 registrations, or 7.5 per cent, were the remnants of the United States Armed Forces Institute enrollees. The significant increase in "civilian" registrations more than balances the decline in veteran enrollment. As has been noted during peacetime in past years, the department seems to be assisting residents of Minnesota and adjacent areas. In each of the years of the biennium Minnesotans have constituted about 62 per cent of the enrollment. An encouraging factor during the biennium is the evidence that more and more correspondence students are completing their courses. Before 1944 the completion rate ranged between 42 and 62 per cent. During World War II this rate dropped, reaching a low of 16 per cent in 1945-46. It was noteworthy that the rate has climbed to 42 per cent for the 1948-50 biennium. Another indication of more extensive and persevering student activity lies in the number of lesson reports processed. For the biennium a total of 70,784 lesson assignments was handled by the department. This is only exceeded by the period 1944-46, when with almost double the present enrollments the total number of lessons processed reached only 82,000. Financially the department is at present operating on a sound basis with a moderate surplus of revenue over income.

If the completion rate continues to rise, however, the cost of instruction increases, and it is theoretically possible that the latter increase may ultimately make necessary higher subsidies on the part of the University. Such a rise in the completion rate would be very desirable from an educational point of view, but it is doubtful that the rate will increase enough during the next biennium to make much change in the ratio of expenses to revenue. Eleven new courses were added to the curriculum of the department during

TABLE II. CORRESPONDENCE STUDY ENROLLMENTS

	1948-49	1949-50
Regular Courses:		
Registrations in force, beginning of year	2,806	2,734
New registrations during the year	3,127	3,417
New registrations made through the USAFI	219*	205*
New registrations made under the G. I. Bill of Rights	492*	436*
Reinstatements from previous years	97	114
Reinstatements (registrations expiring within the year)	604	646
Total registrations in force during the year	6,030	6,265
Registrations terminating during year	3,900	3,912
Completions	1,260	1,384
Expirations	1,972	1,885
Cancellations	668	643
Registrations in force at close of year	2,734	2,999
Special Courses		
Citizenship		
New registrations during year	120	152
Individuals Enrolled (regular courses)		
New registrations	2,644	2,863
Total active registrations	5,084	5,162
Lesson Reports Received		
Regular courses and citizenship	34,649	36,125
Geographical Distribution of New Students		
Minnesota	1,639	1,749
Other states	882	990
Outside the United States	36	44
Army Post Office	62	57
Fleet Post Office	25	23
Number of states represented	47	47
Number of foreign countries represented	12	15
Courses Offered	287	296
Instructors	120	123

* These figures are included in the total new registrations for the year.

1948-50, and additional courses are under consideration. Attention is also being given to revising old courses and efforts are continually being made to interest the faculty in frequent modification and improvement of study guide materials. The form and general appearance of correspondence syllabi is also being studied with a view to improvement. The administrative officers of the department are facing at this time the prospect of substantial increases in enrollment because of military operations involving persons of college age. If resident programs cannot be completed correspondence instruction may be forced again to expand greatly its activities in order to assist those who are called to service.

Operations of the Correspondence Study Department are summarized in Table II.

Community Program Service—During the biennium this department operated three subdivisions: (1) that providing school assembly programs called the Lecture and Lyceum Bureau; (2) that providing off-campus educational, dramatic, and artistic entertainment for communities, the Off-Campus Concerts and Lectures Bureau; and (3) that assisting Minnesota schools and communities in selecting plays for dramatic performances, the Loan Play Library. Statistics for the department are given in Table III. Services of the department showed substantial increases during the biennium. In the Off-Campus Concerts and Lectures subdivision a feature was the expansion of faculty for offering dramatic entertainment throughout the territory served by the University. The

TABLE III. COMMUNITY PROGRAM SERVICE ACTIVITIES

	1948-49	1949-50
Lecture and Lyceum		
Number of programs used	34	31
Number of schools and organizations served	634	773
Number of engagements filled	2,670	3,396
Off-Campus Concerts and Lectures		
Number of programs used	37	45
Number of colleges and organizations served	103	156
Number of engagements filled	400	504
Loan Play Library		
Total number of plays in library	4,265	4,827
Number of requests filled	750	763
Number of copies sent out	3,750	3,542

gratifying results observed in connection with the activities of the Loan Play Library during the preceding biennium continued in 1949-50. With the invaluable assistance of the University Theatre and its staff, the Loan Play Library has greatly improved the quality of the advice and assistance given to local schools and communities in the selection of drama for local productions.

Municipal Reference Bureau—As in the past, the Municipal Reference Bureau served during the biennium as a University division for students' reference work and by providing headquarters for the League of Minnesota Municipalities, extended its facilities to cover officials throughout the state. The statistical record of the bureau is shown in Table IV.

In addition to the league magazine the bureau assisted in the publication of several reprints of value to local government officials, among them a directory of Minnesota city and village officials. The bureau also supervised the publication by the league of a manual for local government officials entitled *Handbook of Village Government*.

The employment of a field representative in September, 1949, after a lapse of several years brought a closer and more frequent contact with the municipalities and their officials. During the period from September, 1949, through May, 1950, 124 municipalities were visited and 160 municipal officials interviewed.

TABLE IV. MUNICIPAL REFERENCE BUREAU ACTIVITIES

	1948-49	1949-50
Number of inquiries	2,545	2,730
Monthly magazine		
Total number of copies published	81,663	83,125
Average monthly number published	6,805	6,927
Annual convention attendance	600	544
Attendance at regional meetings	940	1,046
Number of regional meetings held	16	16
Number of cities receiving charter consultation service	17	11
Attendance at short courses	326	387
Number of short courses held	4	4

TABLE V. CONTINUATION COURSES AND INSTITUTES

	1940-42	1942-44	1944-46	1946-48	1948-50	Totals 1936-50	Per Cent or Average
Number of courses	115	139	119	174	241	937	.....
Number of registrations	5,694	6,071	6,756	8,992	13,683	47,906	100
Minnesota	4,207	4,438	5,433	7,134	10,914	37,219	78
Other U. S. states	1,456	1,543	1,266	1,791	2,633	10,212	21
Foreign countries	31	90	56	67	136	475	1
Male	3,571	3,115	3,667	6,114	9,030	29,677	62
Female	2,123	2,956	3,089	2,878	4,653	18,229	38
Number on faculty	2,352	1,850	2,024	2,676	3,515	15,047	16
Course-days	538	1,470	841½	1,678½	1,362½	6,756½	7
Course-hours	3,473¼	9,074	4,793½	6,648½	5,800	34,558	37

Center for Continuation Study—The Center for Continuation Study continued during 1948-50 the steady increase in number of courses and in number of registrations which has marked its progress from its opening in 1936. During the biennium the Center offered 241 courses or institutes with a total registration of 13,683 as against 174 courses with a total registration of 8,992 during the preceding biennium. This means that the Center has continued to house an average of nearly three courses on each working day of the period. The average enrollment per course is over fifty, which means that with a dormitory capacity of 75, the building is receiving maximum use. In addition to housing the regular courses on its program, the Center has served as a meeting place for several cultural and educational groups. The latter have totaled in attendance at least 13,000 since 1936, bringing to over 60,000 the total of those who have made use of the facility since its opening. Tables V, VI, and VII give the statistics.

Audio-Visual Extension Service—This department was a subdivision of the Community Program Service Department until July, 1947, and has been operating as an independent unit only since that time. During this period the growth in its usefulness, as measured by the statistics of film bookings, has been significantly large. The general

TABLE VI. CONTINUATION COURSES AND INSTITUTES BY TYPES, 1936-50

Course	Number of Courses	Registra- tions	Minnesota	Other States	Foreign Countries	Men	Women	Number on Faculty	Course- Hours	Course- Days
Medical	191	8,019	4,043	3,741	235	7,171	848	4,267	10,567	2,033½
Hospital service and public health	122	7,144	5,560	1,554	30	738	6,406	2,184	3,156¾	1,197¼
Educational	116	6,501	5,477	1,009	15	2,569	3,932	2,099	3,229¼	540½
Commercial	62	5,007	4,641	358	8	4,609	398	1,087	1,535	219
State-municipal functions	84	4,526	4,273	222	31	4,185	341	1,321	1,542	247½
Technological	35	3,842	2,883	912	47	3,827	15	568	603¼	92½
Social welfare	52	2,908	2,464	429	15	1,004	1,904	800	1,240¾	207
Civic and cultural	42	2,418	2,266	151	1	438	1,980	540	1,023¼	173¼
Dental	101	2,423	1,864	533	26	2,349	74	732	2,385¼	442½
Nursing	27	1,510	1,169	332	9	11	1,499	389	651¾	194½
Legal	13	748	719	29	0	716	32	93	301	52
Labor	10	711	669	37	5	666	45	118	106¼	18½
Pharmaceutical	14	665	611	52	2	520	145	253	300½	40
Kenny technique (technicians, nurses)	38	537	29	476	32	10	527	261	7,062	1,140
National defense	6	506	505	1	0	450	56	147	155	22
Kenny technique (physicians)	24	441	46	376	19	414	27	188	699	136½
Totals	937	47,906	37,219	10,212	475	29,677	18,229	15,047	34,558	6,756½

TABLE VII. BIENNIAL ATTENDANCE BY TYPES OF COURSES, 1936-50

Course	1936-42		1942-44		1944-46		1946-48		1948-50		Totals		Average Attend- ance per Course
	No. of Courses	Attend- ance											
Medical	83	2,515	10	510	14	762	37	1,929	47	2,303	191	8,019	42
Hospital service and public health	41	2,477	16	1,143	27	1,565	22	1,232	16	727	122	7,144	59
Educational	45	2,181	12	926	17	879	17	1,085	25	1,430	116	6,501	56
Commercial	12	1,537	9	514	10	926	13	808	18	1,222	62	5,007	81
State-municipal functions	29	1,417	11	506	14	691	15	867	15	1,045	84	4,526	54
Technological	13	558	3	314	4	394	6	992	9	1,584	35	3,842	110
Social welfare	8	370	1	48	15	696	9	449	19	1,345	52	2,908	56
Dental	6	194	3	103	3	49	43	749	46	1,328	101	2,423	24
Civic and cultural	15	424	6	442	8	503	3	167	10	782	42	2,418	58
Nursing									27	1,510	27	1,510	56
Legal	4	197	3	175	2	164	3	164	1	48	13	748	58
Labor							5	472	5	239	10	711	71
Pharmaceutical	6	318	1	46	2	92	2	89	3	120	14	665	48
Kenny technique (nurses, technicians)			38	537							38	537	14
National defense	1	105	5	401							6	506	84
Kenny technique (physicians)			21	406	3	35					24	441	18
Totals	263	12,393	139	6,071	119	6,756	175	9,003	241	13,683	937	47,906	51

function of the department is to furnish to schools and communities of Minnesota audio-visual materials for use in connection with educational curricula and entertainments of various kinds. In order to make this program effective it is necessary not only to distribute audio-visual materials but also to assist in the task of instructing those who are to present such materials both in the mechanical operation of audio-visual projectors, and so on, and in the more effective methods of using audio-visual aids in teaching. The use of audio-visual materials has increased at a very rapid rate during the past decade, and the demand from schools and colleges in Minnesota is now so great that it is not possible, with the present facilities, to cope with it. There is a great need for many more educational films, and the film library of the Audio-Visual Extension Service should be doubled or tripled in size. In addition to the demand from schools and colleges there is a growing pressure upon the University to supply audio-visual films for miscellaneous community entertainments of all sorts. The most important need of the state is probably for the educational or scholastic films, but the importance of instructional entertainment films for general use should not be minimized. The department is seeking funds with which to make additions to its film library and to make more effective the work of instruction in operation of projectors and in the use of visual aids in the classroom. The statistics of the department are shown in Table VIII.

TABLE VIII. AUDIO-VISUAL EXTENSION SERVICE

	1948-49	1949-50
Number of communities served	1,907	2,310
Number of visual programs furnished	31,705	26,142*

* This figure for 1949-50 is for the number of bookings, many of which are for more than one program. Bookings in 1949-50 were 3,256 more than in 1948-49.

Radio Station KUOM—It is the purpose of KUOM, the University radio station, to extend the educational resources of the University and to advance the University's instructional objectives by broadcasting to a widespread audience in the Upper Midwest educational programs based upon both University and non-University resources. KUOM is on the air 2,368 hours each year and broadcasts annually 6,760 programs. The wave length assigned to KUOM is 770 kilocycles, and the broadcast hours, Monday through Friday, are from 10:30 a.m. to sunset and on Saturday from 10:30 a.m. to 12:30 p.m. and from 2:00 p.m. to sunset. Radio station KUOM shares its wave length with station WCAL of St. Olaf College at Northfield, Minnesota, and the remaining weekday daylight time and all of Sunday daylight time are assigned to the latter. During the biennium, at the request of the Federal Communications Commission, KUOM analyzed its programs and discovered that 41.3 per cent of its broadcasting time is devoted to serious and semi-classical music, while 41 per cent, in addition, is devoted to educational programs (most of them definitely directed at school and college students), that 9.5 per cent is devoted to news broadcasts, 5.6 per cent to agricultural programs, and the remainder, or 2.6 per cent, to miscellaneous features. The biennium has been marked by increased emphasis on adult education programs and a broadening of KUOM's extension function via the medium of tape transcriptions of special programs. The latter has been made possible by the co-operation of the Minnesota State Department of Education, which operates a tape transcription exchange and makes it possible for the University to distribute many KUOM programs both at the school level and at general adult level to hundreds of schools and organized listening groups throughout the Upper Midwest. During the biennium the University continued to operate its now nationally known educational features, *University of the Air* and the *School of the Air*. It has also provided a significant news broadcasting service chiefly in cooperation with the University's School of Journalism. Broadcasts of University of Minnesota football games were "fed" by KUOM to a total of 35 stations in the Upper Midwest. Another project which has become an established KUOM feature is the annual fall series of broadcasts from the Minnesota State Fair. During the year 1949 the State of Minnesota celebrated its Territorial Centennial, and the University broadcasting station produced 13 special programs entitled *Tales of Minnesota* and dealing with the history of the commonwealth. These programs were broadcast by transcription by more than 20 Minnesota stations. In addition to this series the station conducted a similar series on the activities of the University itself, entitled *The University Reports to the People*. It also produced special broadcast programs summarizing several important events in the current history of the state during the biennium.

That the service of the station has been well received and is highly regarded has been shown by the results of a survey recently made which indicates that the station is heard at least once each week by 20 per cent or more of the available daylight audience within its listening range and by the fact that those qualified to judge radio programs have presented the station with several awards during the biennium. In fact, eight awards of national note were received by KUOM between July 1, 1948 and June 30, 1950. Among these were awards from *Billboard* magazine, from the Chicago School Broadcast Conference, from the Institute for Education by Radio, from the Twin Cities Newspaper Guild, and from *Variety* magazine.

The University has not succeeded in finding any feasible way of increasing its geographical coverage or of securing permission to broadcast during the evening hours. At present it does not appear that frequency modulation broadcasting is the answer to either of these problems, and the station finds itself greatly handicapped in trying to reach the audience naturally tributary to the University. The needs of the station include this great need for more time on the air and wider geographical effectiveness, some arrangement for remunerating the many University of Minnesota staff members who devotedly give free time to KUOM broadcasts, more space for offices and studios, and a larger staff and better equipment. The University authorities and the people of the state should have under consideration seriously the question of University of Minnesota participation in television, both from the standpoint of electronic research and from the standpoint of utilizing an increasingly popular educational facility.

State Organization Service—This department was organized in 1948 and exists to provide ordinary clerical and office services to various state-wide organizations and associations whose purposes are to promote the health, safety, education, civic information, and welfare of the people. The department was organized in response to the increasingly heavy demand on the University for services of this kind and as a result of increasing evidence that little is known about the effectiveness of associations thus working for the public good. The period since the establishment of the department is too short to make possible a report of any value, but it is interesting to note that at the start of the second biennium there are 12 associations now utilizing the services of the new facility. In brief, the function of the department is to act as a cooperative office and to allocate ratably the expense of the establishment among those who take advantage of its services. The University does not seek in any manner to influence the character of the programs offered by its constituent members or clients but merely to try to increase the effectiveness of the associations in their several fields and to do so economically and efficiently.

One of the functions formerly performed as a separate unit or subdivision of the Extension Division was that of providing a general library of information on current affairs. This bureau was formerly known as the Bureau of Current Affairs. During the 1948-50 biennium it was placed under the general supervision of the State Organization Service and is now operated as the Current Affairs Room of that organization. The room itself is situated in the University Library and has performed its task of providing sources of information about current affairs for students of the University and for the general public. During the biennium the room assisted in the preparation of 14 exhibits dealing with current matters and with the preparation of 23 short bibliographies of important and timely subjects. Many of the University subject matter departments make use of the reading room as a library resource. It is visited by over 10,000 persons annually.—JULIUS M. NOLTE, dean.

SUMMER SESSION

With the rapid graduation of veterans which began in this biennium, enrollment in the Summer Session of 1949 declined from 13,000 in the first term of 1948 to 10,316 in the first term of 1949 and from 10,000 in the second term of 1948 to 7,549 in the second term of 1949. The enrollment in the College of Education and in the Graduate School maintained a steady level, the major decreases coming in those colleges and departments connected with the professional schools where the percentage of veteran enrollment was especially large.

Curriculum—With declining enrollment and income, no major changes were or could be incorporated in the curriculum. Workshops were continued in the College of Education, including the Curriculum Workshop which is held in cooperation with the public schools of the Twin Cities. There was added a Workshop in Economic Education which was continued through the first term of 1949 and planned again for 1950. A new Workshop in Marriage and Family Life was incorporated in the Summer Session of 1949 and was to be offered again in the Summer Session of 1950. This course involves

several departments including sociology, child welfare, public health, counseling, psychology, education, home economics, and others and has proved of much interest to the students. The Spanish Institute was continued through the first term of the 1949 Summer Session and was to be expanded into a Modern Languages Institute including Spanish, French, and German language houses in the first term of the 1950 Summer Session. The Modern Languages Institute was to be housed in the Winchell cooperative cottages. Interest in the modern languages as well as in the classics and comparative philology appears to be increasing at the University of Minnesota.

The curriculum in the Biological Station at Itasca has been continued throughout the biennium. With the reconstruction of the physical plant at the station the enrollment is growing. SPAN continued throughout the biennium. The curriculum at the Duluth Branch is expanding and now includes a special course in business administration for Naval officers throughout the summer.

One of the innovations planned for the 1950 Summer Session was a symposium entitled, "Cultural Relations—Instrument of Peace or War?" which proved to be particularly timely in view of the outbreak of the Korean war in June. A number of visiting lecturers including Professors Hans Kohn, Linden A. Mander, Louis Wirth, and Allen L. Edwards were invited to take part in the symposium and credit was given in several departments. An Opera Workshop was to be offered in the first term of 1950 for the benefit of the teachers of music, and a Children's Theater Workshop was scheduled for the second term of 1950 for teachers of the drama. The Rural Education Workshop continued through both years of the biennium. The Child Study Center was in operation throughout the biennium operating classes in remedial reading for children for whom such work was recommended. A new course in Thomas Natural Shorthand was incorporated in the curriculum of the School of Business Administration.

Student Personnel—The number of students in the upper classes continued to decline throughout the biennium, and the influx of students in freshman classes is still insufficient to balance the decline of enrollment in the upper classes. Exceptions are to be noted in the College of Education and in the Graduate School where enrollments are maintained at a normal level.

Recreation—During the summer of 1949 the University Theatre presented *Cast, The Play's the Thing*, and *Scarecrow*. During the Summer Session of 1950, the plays to be presented are *Antony and Cleopatra*, *The Guardsman*, *Peter Pan*, and *Arthur and the Magic Sword*. Three operettas, *Down in the Valley*, *Maid as Mistress*, and *Don't We All*, are to be presented in cooperation with the Opera Workshop.

The recreation program included in its scope various excursions to places calculated to be of interest to out-of-town students, social dances held each Friday evening, swimming at the various pools on the campus, tournaments in athletic sports, newsreels and foreign feature films, as well as convocations, lectures, and musical concerts of special interest. One of the special features was the Summer Session orchestra which presented three concerts each summer.

The Graduate School—The Graduate School continued to maintain an enrollment in excess of 2,000 students throughout the biennium. This school is an important feature of the Summer Session and deserves special mention.

Trends—While the enrollment in the past biennium has been declining, the total enrollment of the two terms of the Summer Session is still (1949) almost 18,000 students—10,316 in the first term and 7,549 in the second term on the Minneapolis and St. Paul Campuses. This enrollment constitutes a large university in itself as measured by prewar standards. Although the Summer Session originally was operated as an institution separate from the academic year, the trend is definitely toward making it a fourth quarter of the academic year, and rightfully so because the student body is no longer made up entirely of teachers in training but largely of students of the academic year who wish to continue their education through a fourth quarter.—THOMAS A. H. TEETER, dean.

DIVISION OF LIBRARY INSTRUCTION

The enrollment in the Division of Library Instruction underwent a sharp upturn during the current biennium. Compared with 148 registrants in both years of the 1946-48 biennium, the current biennium showed a total enrollment in the regular year (excluding Summer Session) of 243 registrants. This increase may be attributed to several factors. *First*, the postwar enrollment bulge reached the junior, senior, and graduate classes, and thus spread out into such professional programs as library science. *Second*, the serious shortage of librarians which has existed continually since the war has attracted many

recruits into the profession. *Third*, wartime experience with Army or veterans' library service and counseling services have directed many veterans into library science. As further evidence, the increase in the percentage of men enrolled may be cited; whereas normally eight to ten or twelve men would be enrolled in library science, during the 1948-49 school year there were 18 men and in 1949-50 there were 53.

Placement prospects for librarians continued to be excellent. Even with the record class in 1950 of 155 enrolled during the regular academic year, practically all who successfully completed the course found positions readily and were able to select from among many vacancies reported those in which they were most interested.

The great increase in enrollment for 1949-50 necessitated some adjustments in the curriculum and thanks to the financial assistance of the administration, additional help was provided for the teaching program. The surge in enrollment, however, came too suddenly to enable sectioning of all of the fall and winter quarter classes. As a result, some of the courses had enrollments of close to 100 when normally 40 students would be considered a very large class.

In 1949-50, the division inaugurated for the first time a program leading to the Master's degree in library science. This program, a part of the Graduate School, requires as a prerequisite for entrance a Bachelor's degree plus basic competence in the major areas of library science. The course program consists primarily of seminars built around three major areas of librarianship: administration, bibliography and reference, and work with children and young people. Eight students were enrolled during this first year of the Master's program.

Faculty changes were numerous. Donald Strout resigned to accept the position as director of libraries and associate director of the School of Librarianship, University of Denver. His place was taken by Raymond H. Shove, formerly head of the Acquisitions Department of the University of Minnesota Library. During the biennium also, a third full-time member of the faculty was added, Mildred L. Methven, formerly assistant librarian of the St. Paul Public Library. Miss Methven, in addition to teaching courses in the regular professional program, taught the new sequence of courses for library technicians, operated in connection with the General College. Ray O. Hummel, chief catalog librarian, left the University to become assistant librarian at Virginia State Library. His place was taken and his courses taught by Wesley Simonton, formerly of Columbia University Libraries.

With the continuing shortage of librarians, it seems apparent that the facilities of the Division of Library Instruction will be taxed to provide for the increased enrollment. Barring unforeseen circumstances, it will be many years yet before there is an adequate supply of librarians for positions in the Upper Midwest, as well as the nation as a whole. Placement opportunities will continue to be good and this, of course, will attract young men and women into the profession.

With the inauguration of the Master's program the Division of Library Instruction now seems to be providing the most important services in the education of librarians needed in the Upper Midwest. Both its Bachelor's degree program and the Master's program are, however, operated on a minimum basis. The next few years might well be devoted to strengthening those programs and making them outstanding educational services of the University of Minnesota.—ERRETT W. McDIARMID, *director*.

INSTITUTE OF CHILD WELFARE

Research—In the biennium, 27 new research projects were undertaken. These, added to 14 projects carried over from earlier years, make a total of 41 active projects. Twelve research projects were completed.

Nursery School and Kindergarten—The Nursery School was in session during 1948-49 with an enrollment of 42, and in 1949-50 with an enrollment of 47. The Kindergarten enrollment was 24 in 1948-49, and 25 in 1949-50. Both schools were in session during the first summer term each year.

Instruction and Enrollments—For 1948-49 the total enrollment in institute classes on the campus, both undergraduate and graduate, was 2,749, and for 1949-50, 3,120. One student received the Ph.D. and fifteen received M.A. degrees with majors in child welfare.

Parent Education—The parent education program is summarized in the accompanying table.

Publications—During the biennium, 21 scientific and professional articles, 2 scientific monographs, 2 books, and 9 popular or semiprofessional articles, exclusive of book reviews, were published.

SUMMARY OF PARENT EDUCATION ACTIVITIES

	1948-49		1949-50	
	No. groups	Enrollment	No. groups	Enrollment
Extension courses				
Credit	7	239	8	206
Correspondence courses				
Credit	4	95	4	90
Noncredit	2	61	2	76
Study groups for parents	16	253	14	278
Lectures to parent groups	54	.....	54	.....
Radio talks	12	.....	35	.....

Other Activities—During the biennium, members of the staff gave 320 lectures or addresses to various groups, societies, and organizations, both lay and professional. Exhibits for organizations, radio programs, and a newspaper feature going to many Minnesota weeklies, were made available as in previous years. Tape recordings of discussions on the guidance of children were prepared for use by radio stations and study groups. Members of the staff continued to advise private and public agencies, and to participate in national, state, and local programs for the betterment of children.—JOHN E. ANDERSON, *director*.

BUREAU OF INSTITUTIONAL RESEARCH

Committee Membership and Activities—During the biennium the University Committee on Institutional Research continued under the chairmanship of Russell M. Cooper, assistant dean, College of Science, Literature, and the Arts. With three exceptions, which are noted in the listing, the following persons served on the committee throughout the biennium: Helen G. Canoyer, Russell M. Cooper, John G. Darley, Ruth E. Eckert, Carl J. Eide, Ruth Harrington, Palmer O. Johnson, Theron A. Johnson (1949-50), T. L. Joseph, Robert J. Keller, Clifford Kirkpatrick (1948-49), Elio D. Monachesi (1949-50), Horace T. Morse, Maynard E. Pirsig, Edward B. Stanford, R. E. Summers, and Malcolm M. Willey.

By action of the University Senate in May, 1950, the Committee on Institutional Research was brought into a more direct relationship with the faculty when it was reconstituted as a standing committee of the University Senate.

During the period covered by this report the committee devoted its principal attention to identifying the University's major educational problems and to developing a broad outline of research for their systematic study. This outline of problems recommended for study has helped to guide the research program of the bureau during the second half of the biennium just past and will serve a similar purpose during the coming biennium.

Studies of Students and Former Students—Studies of student populations have been helpful in evaluating outcomes of the programs offered in various divisions of the University and in exploring the need for possible changes. Follow-up studies of former students of the General College (1939-41) and the College of Science, Literature, and the Arts (1939-40) were completed during the biennium. A similar study, concerned with the postcollege status and present educational attitudes of former students in the College of Agriculture, Forestry, Home Economics, and Veterinary Medicine, was initiated early in 1950. A study of the social activities and needs of students, undertaken in cooperation with the Office of the Dean of Students and at present nearing completion, seeks to appraise the University's contribution to students' personal and social development through its various personnel services. An intensive follow-up survey of all recent Ph.D. graduates (1935-50), which also was begun during the biennium, has two purposes: to secure information for a directory of persons awarded the University's highest degree in the past fifteen years, and to obtain evidence for a Graduate School appraisal of its programs, with special reference to graduate education of prospective college teachers.

Examination and Prediction Studies—Several studies have been concerned with the improvement of examinations and with the prediction of student achievement. The 800-item comprehensive examination developed by the faculty of General College to measure their students' general educational development has twice been carefully analyzed and revised. Experimental use of the Aliferis test of musical abilities, which holds promise of becoming an important new measure of instructional outcomes in this field, has progressed through administration to beginning music students in ten widely separated colleges and universities as well as to local music classes. Studies necessary to the building

of valid measures for predicting success in elementary engineering physics courses and in the lower-division program at the Duluth Branch have been completed. A similar study, concerned with factors affecting student success in veterinary medicine, has been undertaken in cooperation with the Student Counseling Bureau and the School of Veterinary Medicine. A survey of changes in attitude that occur among freshman and sophomore medical students taking courses in psychiatry represents still another type of inquiry designed to find out how students are affected by the University's instructional program.

Studies in Improvement of Instruction—Research in methods of University instruction, characterized by the committee as a most important area of inquiry and given first priority on its program of recommended studies, got under way with two pilot studies designed to identify factors that contribute to successful learning in college classroom situations. The first of these studies, carried on with the active cooperation of the Physics Department, sought to evaluate the comparative effectiveness of regular laboratory experience and laboratory demonstration taught by different instructors. The second study, involving an introductory course in secondary education, was aimed at appraisal of discussion techniques in class groups of various sizes.

The bureau also cooperated in the development of several forms for obtaining student ratings of instructional practices and handled the analyses of results. In the most extensive study of this type, which was sponsored in the spring quarters of 1949 and 1950 by the Committee on Improvement of Instruction in the College of Science, Literature, and the Arts, students in a majority of the classes in that college anonymously supplied ratings that were analyzed and reported in confidence to the individual instructors concerned. Other rating forms of a similar nature were devised for use in mechanical and electrical engineering classes and for securing a more extensive analysis of student reactions to the communication and humanities sequences in the College of Science, Literature, and the Arts.

Studies of State Educational Problems—The work of the Bureau of Institutional Research extended beyond the boundaries of the University in several instances, bringing University research facilities to bear on state-wide problems of higher education. Among the studies which the bureau conducted in cooperation with the Minnesota Commission on Higher Education were an analysis of curriculum trends in Minnesota junior colleges, a survey of feasible locations for new junior colleges, and follow-up studies of the present activities, needs, and interests of young adults who have attended Minnesota high schools and colleges. The populations surveyed in the latter group of studies included all the Minnesota high school graduates of 1945, a second sampling of the high school graduates of 1938 for a follow-up of a study made eight years earlier, young people who had been students in the state's public and private junior colleges in 1939-41 and in its private liberal arts colleges in 1939-40. Two reports, outlining Minnesota's needs and problems in the field of post-high-school education, were prepared mainly by members of the bureau's central staff: a summary bulletin entitled "Tomorrow's Resources," and a book-length report for the commission, *Higher Education in Minnesota*, which is to be released by the University of Minnesota Press in September of 1950.

Miscellaneous Studies—Bureau personnel during this biennium also assisted in the investigation of teaching loads in the newly developed communication courses and cooperated with the library staff in a survey of student and faculty attitudes toward services currently provided by the University Library. A preliminary survey of faculty promotion policies and practices, undertaken at the request of the Senate Committee on Education, paved the way for a more searching inquiry which is to be launched in the fall of 1950. Another survey completed for the same committee involved a comprehensive tabulation of student grades and an analysis of marking practices at the University. The Senate Committee on the Relation of the University to Other Institutions of Learning also enlisted bureau assistance in evaluating a pilot conference on problems of high school-college articulation, which was held on the campus in May of 1950.

Organizational Changes—Coordination of the work of the two bureaus—the Bureau of Institutional Research and the Bureau of Educational Research—has since 1940 been the special responsibility of Ruth E. Eckert. Because of the press of instructional duties Professor Eckert requested in the fall of 1949 that she be relieved of the duties of coordinator at the end of the biennium. A special committee was thereupon appointed by President Morrill to study the programs of the two bureaus and to devise a suitable organizational plan for their continuing operation. On the basis of this committee's recommendations Robert J. Keller was promoted from associate director to full directorship of the Bureau of Institutional Research and Cyril J. Hoyt from associate director to full directorship of the Bureau of Educational Research, effective July 1, 1950. Coordination

of the work of the two bureaus, which will continue to share offices and research facilities in 211 Burton Hall, has been vested in a new committee composed of the two bureau directors, the chairmen of the two advisory committees, and the vice president of Academic Administration.

Additional budgetary provisions during the biennium made possible the addition of a professional staff member to serve primarily as a consultant on examination problems. Mr. Hoyt devoted half time to this function in 1948-49. Robert B. Sutton was appointed in December of 1949 to expand this consultative service for University staff members and to assist Mr. Keller in the regular research activities of the bureau.

Cooperation of University Departments and Other Educational Agencies—Many departments and agencies, both within and outside the University, have cooperated in making possible the research outlined in the preceding paragraphs. Some studies have been initiated by individual staff members, others by departmental faculties, and still others by all-University or state-wide committees. This cooperative approach to the solution of educational problems, which has characterized the University's research program since its institution twenty-five years ago, has again demonstrated its essential validity.—ROBERT J. KELLER, *associate director*, and RUTH E. ECKERT, *coordinator of educational research*.

DEPARTMENT OF PHYSICAL EDUCATION AND ATHLETICS

This biennium should be known as the "Building Era" as the department made progress in furthering the expansion plan adopted in 1946. Its objective was to provide the students and staff members an expanded program of recreation and athletics with adequate facilities. The following facilities have been completed in the past two years:

Remodeling Williams Arena to include a basketball arena seating 18,025 and an ice rink seating 6,858 at an approximate cost of \$1,000,000; Indoor Sports Building at a cost of about \$650,000; repairs, and putting new seats in two thirds of the stadium at a cost of \$150,000; remodeling press and radio booth at a cost of \$35,000; building a golf driving range at the approximate cost of \$50,000; completing Intramural Field with a building and dressing room and a foot bridge across the railroad tracks at an approximate cost of \$50,000; establishing a golf gymnasium in the south tower of the stadium.

All the recommendations of the 1946 plans have been completed with the exception of enlarging the stadium. No progress has been made on that item during the past two years.

The Henry L. Williams Arena was dedicated on March 4, 1950, with an impressive ceremony between halves of the Minnesota-Wisconsin basketball game. At that time Dr. Henry L. Williams, Jr., son of the famed Dr. Henry L. Williams, who was head football coach at Minnesota from 1900 to 1921, acknowledged the naming of this vast structure in honor of his father. Short talks were made by State Senator Gerald Mullin, Kenneth L. Wilson, commissioner of the Western Conference, and Frank G. McCormick, director of athletics. Bert Baston, All-American end under Dr. Williams, Sr., in 1916 was master of ceremonies. The list of special guests included all captains of Minnesota football teams coached by Dr. Williams, all hockey captains from 1922 until the present, captains of all Minnesota basketball teams since 1896, members of the Board of Regents, members of the Senate Committee on Intercollegiate Athletics, the University of Minnesota Administrative Committee, representatives of press and radio, directors of the "M" Club, athletic directors and faculty representatives of the Western Conference, Governor Luther Youngdahl, state legislators and officials.

Another forward step was made in the building of a better recreation program when the Board of Regents adopted a fee of \$1 per quarter per student for recreation purposes. This will give to all students, both men and women, free skating, free golf, and free tennis. This will greatly increase participation in these activities.

There were some major changes in personnel during the biennium with the creating of a new position of business manager of athletics which was filled by the assignment of Marshall Ryman. Thomas H. Swain was appointed athletic ticket manager and the position filled by Robert E. Johnson, assistant business manager of athletics, was eliminated. George A. Nash replaced Russell Johnson as athletic scholastic adviser; Osborne B. Cowles replaced Dave MacMillan as head basketball coach; Joe Vancisin replaced Max Mohr as assistant basketball coach. Dave MacMillan resigned effective June 15, 1950, and his duties were absorbed by other members of the staff. Hershel R. Giles replaced Thomas H. Rickman, Jr., in the recreation teaching field. Frank McCormick resigned as athletic director effective June 30, 1950, and was replaced by the appointment of Isaac Armstrong.

Each year the department conducts a number of special events in addition to the regular scheduled activities. Some are conducted by the department but others are carried on in cooperation with the state or Twin Cities school boards. A list of these special events follows:

1948-49

1. Intersectional ice hockey series with Fort William and Winnipeg Canadiens.
2. State high school championship meets in basketball, golf, tennis, wrestling, swimming, track, gymnastics.
3. Basketball tournaments: District 18, Region V, Twin Cities, Minneapolis high schools.
4. Twin Cities high school football game.
5. High school swimming meets, AAU swimming meet.
6. Northwest gymnastic meet.
7. Metropolitan area and Twin Cities track championship meets.
8. State high school coaches' clinic.
9. State badminton tournament.
10. Baseball and golf clinics.
11. American Red Cross life saving course.

1949-50

1. State high school championship meets in basketball, gymnastics, tennis, track, golf, wrestling, swimming.
2. Basketball tournaments: District 18, Region V, Twin Cities, Minneapolis high schools, District 17, Region IV.
3. Twin Cities high school football game, swimming meet.
4. Northwest gymnastic meet, Minneapolis high school gymnastic meet.
5. Metropolitan area and Twin Cities track championship meet, District 18, Minneapolis high schools, NCAA track and field meet.
6. NCAA fishing party.
7. Region 2 hockey.
8. YMCA swimming championships, International YMCA swimming meet.
9. Red Cross water safety course.
10. State badminton tournament.
11. Professional golf clinic, Region V golf meet.
12. Minneapolis Chamber of Commerce luncheon.
13. St. Paul Association of Commerce luncheon.

There was a slight increase in participation and the number of games played over the year 1947-48. However, in a close examination of the statistics for the past two years they are nearly identical with the record of 1947-48. The details are found in Table I.

The University can boast of an unusually strong coaching staff in the 12 sports in which they participate. The teams were under-manned in their competition with other institutions in the Western Conference. The building program also interfered with some of the teams such as hockey, baseball, and tennis.

The football teams ranked with the leaders in the Western Conference in both years, winning 7 and losing 2. They also had several men who received national honors for their individual playing.

The basketball team had an outstanding season in 1948-49 with the boys not so strong in 1949-50.

Minnesota made an outstanding showing the past two years in track and won the conference championship in 1948-49 and placed second in 1949-50, one point behind the winner.

Boxing has made great strides with strong teams both years and Colin Connel was national middleweight champion in 1949-50.

Our gymnastic team which is always one of the leaders in the conference won the conference championship in 1948-49 and was runner-up in 1949-50.

We had a strong wrestling team in both years and a fair golf team. Baseball, swimming, and tennis were weak.

The cost of operating the intercollegiate sports program was decreased some due to saving on the purchase of supplies and equipment. There is every indication, however, that costs of operating intercollegiate athletics will increase during the coming biennium.

Physical Education—The physical education division has continued to operate programs in the three main areas of intramural athletics, organized class physical activity

TABLE I. STATISTICS ON INTERCOLLEGIATE ATHLETICS, 1948-50

Activities and Head Coaches	Total No. Games		No. Confer- ence Games		No. Non- Conference Games		Total No. Receiving Ath. Instr. Including Freshmen		No. Varsity Candidates		No. Varsity Cand. Elig. for Intercol. Competition.		Number Competing		No. "M" Awards		No. Varsity Plain Garment Awards		No. Freshman Candidates		No. Freshman Numerals Awarded		No. Games Won		No. Games Lost		No. Games Tied	
	48- 49	49- 50	48- 49	49- 50	48- 49	49- 50	48- 49	49- 50	48- 49	49- 50	48- 49	49- 50	48- 49	49- 50	48- 49	49- 50	48- 49	49- 50	48- 49	49- 50	48- 49	49- 50	48- 49	49- 50	48- 49	49- 50	48- 49	49- 50
Baseball																												
Siebert	30	28	12	9	18	19	117	120	55	54	33	26	21	20	17	14	12	12	62	66	18	20	14	10	15	18	1	0
Basketball																												
Cowles	21	22	12	13	9	9	195	145	46	21	14	14	13	13	11	11	3	2	149	124	17	24	18	13	3	9	0	0
Boxing																												
Chisholm	7	9	1	2	6	7	113	107	78	82	16	16	11	10	11	9	9	8	35	25	6	7	3	4	4	3	0	2
Cross Country																												
Kelly	4	4	3	3	1	1	12	10	9	7	7	7	6	7	6	6	1	1	3	3	2	2	3	3	1	1	0	0
Football																												
Bierman	9	9	6	6	3	3	235	197	116	78	66	73	52	50	45	45	36	37	119	119	42	42	7	7	2	2	0	0
Golf																												
Bolstad	8	6	4	3	4	3	77	33	56	19	15	17	15	16	10	8	8	9	21	14	10	10	6	3	2	3	0	0
Gymnastics																												
Piper	6	7	4	5	2	2	46	44	25	25	10	10	5	7	4	5	3	3	21	19	3	7	5	5	1	2	0	0
Hockey																												
Romnes	23	16	4	8	19	8	140	127	76	53	19	19	19	18	14	15	4	3	64	74	15	19	12	5	11	11	0	0
Swimming																												
Thorpe	8	8	6	6	2	2	41	58	15	29	15	24	11	17	10	13	1	4	26	29	18	15	5	4	3	4	0	0
Tennis																												
Brain	7	4	4	3	3	1	54	39	33	22	9	18	8	8	6	6	2	3	21	17	8	4	4	1	3	3	0	0
Track																												
Kelly	8	6	5	4	3	2	49	73	23	37	26	26	20	21	19	13	3	10	26	36	14	15	4	3	4	3	0	0
Wrestling																												
Bartelma	14	12	5	5	9	7	73	70	47	33	17	19	17	14	9	12	9	2	26	37	10	10	11	7	3	5	0	0
Totals	145	131	66	67	79	64	1,152	1,023	579	460	247	269	198	201	162	157	91	94	573	563	163	175	92	65	52	64	1	2

programs, and teacher education, with expanded programs in recreation leadership and on the graduate level.

Although there was some slight increase in the number of students who elected physical education it is still apparent that if the University is to be of service to the students in this area some requirement is necessary. A questionnaire study conducted in the spring of 1950 shows very definitely that those men who take the course find it interesting, enjoyable, and worthwhile. They seem to feel that they receive real benefit from the work not only physically but from a social and recreational standpoint as well. The expanded facilities will make it possible to extend the offerings, especially in the winter sports areas. This department still believes that some physical activity program should be required of all students for at least one year.

In the teacher education area a minor in camping and outdoor education was added to the offering in the recreational leadership division. There is a definite need for such a course and the University can perform a service to the state by training leaders in this field. There is an apparent need for more training in hospital recreation and plans are under way to inaugurate a program on the graduate level in this area in conjunction with some departments in the College of Medical Sciences.

The enrollment in teacher education has shown a slight downward trend. This is a healthy situation because the demand for physical education teachers is far below the supply. It is felt that a better service can be rendered if fewer students of higher quality are trained. It is hoped that the more efficient screening process now being developed will prove to be beneficial.

On the graduate level work has progressed favorably. Seven students are pursuing courses toward the Ph.D. degree and three of these are hoping to finish their work during the coming year. An increasing number of men who took their undergraduate training in

TABLE II. INTRAMURAL PARTICIPATION*

Activity	Number of Men Participating, 1948-49	Number of Men Participating, 1949-50
Archery	C	C
Badminton	126	128
Baseball	210	192
Basketball	2,112	2,341
Bowling	2,096	2,315
Boxing	120	132
Diamondball	1,100	1,321
Fencing	80	97
Golf	214	176
Handball	76	70
Hockey	285	272
Horseshoes	55	58
Skiing	.....	.....
Squash	32	36
Skating	.....	.....
Swimming	242	265
Tennis	258	292
Touchball	822	800
Track	200	232
Volleyball	342	367
Total number participants	8,370	9,094

C=class only.

* These figures include tournament play only. A large number should be added to bowling, golf, and tennis because we accommodated many who did not enter tournament play.

other institutions are enrolling for the graduate degrees. It is evident that the work in this area is now well established.

In the recreational activity area the intramural department has continued to promote a wide and varied program. The addition of skating facilities will make it possible to further extend the offerings of this division. Table II presents statistics showing the extent and kind of participation.—FRANK G. McCORMICK, *director*.

DEPARTMENT OF PHYSICAL EDUCATION FOR WOMEN

Enrollment—The average total number of individuals handled by the department during the biennium, 2,333, is about 9 per cent higher than the figure for the previous biennium; similarly the average number of registrations, 8,194, is about 10 per cent higher

than that of 1946-48. One explanation for these increases is the fact that the department is serving an increasing number of University departments.

The greatest single increase occurred in the professional program; in 1949-50 the total number of professional women students increased one third over the figure for 1948-49.

The second greatest increase is shown in the number of individuals participating in the department's recreation program; the increase is one sixth greater than the figure of the previous biennium.

Chief Accomplishments—During the biennium, the staff made a second joint study which was published in a professional journal. Four studies by two staff members respectively are either already initiated or the preliminary work is being done for them: the evaluation of obesity in women, a study of energy costs of women engaged in three types of activity, a school health education curriculum study, and an investigation of the health needs and problems of professional women students. Three of the staff are starting manuscripts for textbooks.

During the biennium, 10 of the 13 full-time staff members have given 32 different types of service—by doing research, holding office, or serving on committees—in connection with national, district, state, and local organizations.

Since the spring of 1949, it has been possible for a student to use the advanced offerings of the department toward the M.A. and Ph.D. in addition to the M.Ed. degree. The advanced offerings have been expanded from five courses to ten by adding four new courses and restoring one given some years ago.

The reorganization of the four-year major professional program affected a large saving of hours, provided for greater flexibility, and more closely integrated the program from the freshman through the senior years.

Honorary recreational clubs for the above-average girl were increased from four to eight.

The College of Science, Literature, and the Arts and the College of Education, and the Department of Home Economics have given greater recognition in the form of more elective credit for the college instructional offering.

An attendance of approximately 2,500 has been estimated for department workshops and institutes. About one third of this number constitutes persons from the Twin Cities, the state as a whole, and adjacent states; the remaining two thirds consisted almost entirely of University staff and students. In addition many students and staff from other colleges in the state and from local high schools have attended department-sponsored symposiums and clinics.

Problems and Plans—Considerable space in the shower and dressing room area is wasted. With proper remodeling, a needed research laboratory could be started, several much-needed offices could be made, and the women students could have more efficient dressing and shower facilities.

The critical need for outdoor space can be met for the present by some enlargement of the field between the temporary building adjacent to the University High School and the tracks.

With the Graduate School recognition of the department's advanced offering toward the M.A. and Ph.D. degrees, the three staff members who are carrying the graduate program believe that a research laboratory is needed now. One of the graduate faculty members has already done considerable research in cinematographical research in mechanics of movement and in physiologic research in the Medical School at the State University of Iowa and is interested in carrying on research in analysis of movements involved in the execution of the sports, dance, functional exercise, posture, and carriage in an attempt to determine the most efficient and effective means of performance.—GERTRUDE M. BAKER, *director*.

MINNESOTA GEOLOGICAL SURVEY

General—The biennium has been one of greatly increased activity by the Minnesota Geological Survey. This, in part, is a result of decreasing reserves of iron ore brought about by the large production during the war years. In attempting to help solve this problem, the Minnesota Geological Survey has joined with the United States Geological Survey in a program of surveying the state with the airborne magnetometer. This program was initiated in 1947 and was continued during the biennium. A month each season was spent in flying with the magnetometer and a year is required to compile the results. The maps of 22,000 square miles were made available in March, 1950, and the results have inspired a great increase in exploration activity on the part of the mining companies.

At the suggestion of a member of the Raw Materials Division of the Atomic Energy Commission, a contract was made between the University and the commission to carry out, under the supervision of the Minnesota Geological Survey, a reconnaissance of the state for possible uranium deposits. This was done during the summer of 1949 with largely negative results.

Professor Frank F. Grout was retired by the University July 1, 1948, after nearly 40 years of service to the Department of Geology and the Minnesota Geological Survey. Professor Grout has continued work, without pay, on manuscripts of reports on the geology of the Cuyuna iron-bearing district and on the geology of Cook County. During the biennium, his report on the "Titaniferous Magnetites of Minnesota" was published by the Office of Commissioner of the Iron Range Resources and Rehabilitation. The report summarized work by the Minnesota Geological Survey dating back to 1917, as well as more recent work supported by the commissioner. The Minnesota Geological Survey is deeply indebted to Professor Grout for his generous contribution of time and effort in the completion of reports of his field work of earlier years.

Professor W. C. Bell has continued the study of the Cambrian and Ordovician rocks and fossils of Minnesota. A complete revision and modernization of the Paleozoic stratigraphy will result from his work.

During the biennium, it was the good fortune of the University to be able to purchase, at a modest price, the entire private fossil collection of Dr. Frederick Sardeson who spent the major part of a lifetime working on Minnesota geology. The collection is housed in Pillsbury Hall and is available for research by the members of the survey and all others who may be interested. The members of the Department of Geology and the Minnesota Geological Survey are indebted to President Morrill for his support in obtaining this priceless collection.

Professor Herbert Wright, Jr., has carried out studies in several parts of the state as a background for the revision of the glacial geology of Minnesota. Cooperation in setting the standards for revision has been had from the United States Geological Survey and the Iowa Geological Survey.

Considerable work on the clays of Minnesota has been done during the biennium. Edward Bradley collected samples from many localities for detailed chemical and petrographic study. He completed a Master's thesis on the petrography of some of these samples in December, 1949. Charles Riley investigated the possible occurrence of bloating clays in the field and made extensive laboratory tests. A thesis for the degree of doctor of philosophy was presented in June, 1950, and a mimeographed summary has been issued.

James H. Zumberge carried on an investigation of the origin of Minnesota lakes and presented the results of his work in a thesis for the degree of doctor of philosophy in July, 1950. This thesis will be revised for publication as a bulletin of the survey.

Ernest Lund completed the detailed mapping of the rock exposures of the Minnesota Valley from New Ulm to Ortonville and the results are available in a doctorate thesis presented in June, 1950.

During the summer of 1949, Edward Bradley carried on an exhaustive study of the artesian water levels in the Twin Cities artesian basin, with particular reference to the rather great summer drawdown in the business section of Minneapolis. Mr. Bradley's report was mimeographed for distribution by the Minneapolis Civic and Commerce Association. The results of this study furnish a foundation for future control of the levels and to a large degree eliminated the misunderstanding regarding the significance of the draw-down.

In 1948 Governor Youngdahl appointed the director of the survey to act as chairman of a Committee to Coordinate the Topographic Mapping Program of the State of Minnesota. As a result of the report of this committee, the 1949 Legislature appropriated \$50,000 per year to carry on topographic mapping of Minnesota in cooperation with the United States Geological Survey. A State Mapping Advisory Board was established by the Legislature to advise the Department of Conservation which administers the funds. The director has served as chairman of the board since its establishment. This has involved much work in directing the technical aspects of the program, but as a result, Minnesota now has one of the best topographic mapping programs of all of the states, whereas, prior to 1949, Minnesota was last in the list of states in percentage of area covered by topographic maps.

During the biennium, Theodora Melone, librarian of the Winchell Library of Geology, with the assistance of Leonard Weis compiled a complete bibliography of the geology of Minnesota. This has been published by the University of Minnesota Press as Minnesota Geological Survey Bulletin 34.

Publications—The following publications have been issued during the biennium: George M. Schwartz, *The Geology of the Duluth Metropolitan Area*, Minnesota Geo-

logical Survey Bulletin 33, 1947; Clinton R. Stauffer and George A. Thiel, *The Iron Ores of Southeastern Minnesota*, Minnesota Geological Survey Summary Report No. 3, February, 1949 (mimeographed); Clinton R. Stauffer, *The High Magnesium Dolomites and Dolomitic Limestones of Minnesota*, Minnesota Geological Survey Summary Report No. 4, January, 1950 (mimeographed); Charles M. Riley, *The Possibilities of Bloating Clays in Minnesota*, Minnesota Geological Survey Summary Report No. 5, July, 1950 (mimeographed).

Four articles on the State Parks, prepared under the auspices of the Minnesota Geological Survey, were published in the *Conservation Volunteer* between July 1, 1948 and July 1, 1950.

Other Activities—The wide publicity which the work of the Minnesota Geological Survey received during the past two years has assisted greatly in bringing to the attention of the people throughout Minnesota and other states as well, the nature and scope of the work done by the survey. As a result, a great many letters and personal calls are received from people who own property in the state. Since 1911 all of the work on ground water in Minnesota has been done by the survey. The organization is, therefore, called on almost daily, for information on ground water supplies. It is anticipated that in the near future some of this responsibility will be transferred to the Department of Conservation in accordance with a law passed by the legislature delegating authority on ground water to that department.—GEORGE M. SCHWARTZ, *director*.

THE MINNESOTA ALUMNI ASSOCIATION—DEPARTMENT OF ALUMNI RELATIONS

The years, 1948-50, are characterized by the reorganization of the Minnesota Alumni Association. The constitution was revised and broadened so as to emphasize alumni membership. Mr. Edwin L. Haislet, Education '31, was appointed director of Alumni Relations, succeeding E. B. Pierce who retired in June, 1948. The year, 1948-49, was a year of planning and the year, 1949-50, a year of implementation devoted to the establishment of new procedures, new methods, new mechanics, new relations, and new services.

Officers—The officers were as follows: 1948-49—President, Arthur R. Hustad, Arts '16; first vice president, Arthur O. Lampland, Business '30, Law '34; second vice president, Rewey Belle Inglis, Arts '08, '23; treasurer, Arnulf Ueland, Arts '17; secretary, Ben W. Palmer, Arts '11, Law '13. 1949-50—President, Arthur O. Lampland, Business '30, Law '34; first vice president, Harvey Nelson, Medicine '25; second vice president Rudolph Elstad, Engineering '19; treasurer, Arnulf Ueland, Arts '17; secretary, Maynard E. Pirsig, Law '25.

Office—The Alumni Office staff is now organized to give quick and efficient service to alumni through its various divisions—the field services, publications, membership, records, mailing, and undergraduate offices.

Minnesota, Voice of the Alumni—The name of the alumni publication was changed from the *Minnesota Alumnus* to the *Minnesota, Voice of the Alumni*, to show alumni participation. A new format with color and added features was launched. Class correspondents were appointed for all classes beginning with the Class of 1890.

Field Service—William S. Gibson took over the duties of field secretary in February, 1949. During that year the state was divided into 18 alumni districts and a start was made on district organization. Forty-nine meetings were held in 45 different communities of the state with 26 meetings held in 21 different cities outside Minnesota. Vincent Reis succeeded Mr. Gibson in October, 1949.

Well-organized clubs are now functioning in 18 communities in the state and 24 temporary groups have been formed. The association now has 37 Minnesota clubs outside the state and 18 out-of-state meetings were held with a representative from the Alumni Association in attendance. President Morrill visited seven such clubs. During the fall of 1949 football films were shown 37 different times in 28 Minnesota communities to over 1,000 alumni, 6,000 guests, and 26 high school football squads. During University of Minnesota Week seven alumni clubs in Minnesota held special Charter Day programs featuring speakers from the campus. President Morrill visited 11 of the 18 alumni districts this last spring. Forty-nine alumni meetings were held in Minnesota during the last year.

Alumni Scholarships—The Minnesota Alumni Scholarship Plan was put into effect in the late spring of 1949, but without alumni participation. Forty alumni scholarships were awarded. During 1949-50, over 100 alumni participated in the program. Alumni representatives were appointed in 154 communities where there were high schools. Eighteen alumni district scholarship meetings were held, screening 196 scholarship applications,

with 54 applications being turned in to the University Scholarship Committee. Forty-seven alumni scholarship winners were named in June.

Membership—The paid audited membership of the association has increased from 5,506 in 1949 to 15,220 as at the end of this year, or an increase of 176 per cent. The association now has 1,664 life members and a life membership endowment fund of \$103,631.12. Life memberships have increased by fifty during the last two years. The new automatic renewal system shows a 22.5 per cent return, with the special membership drives yielding a 6 per cent return.

Records—The accuracy of addresses in the master record files which consist of all former students and graduates numbering 350,000 has increased from 35 per cent to 60 per cent. The geographic record file of 100,000 names has increased in accuracy from 55 per cent to 75 per cent. The class file of 100,000 names has increased in accuracy from 60 per cent to 80 per cent.

Mailing—In 1948 the mailing room was taken over from the Greater University Fund. The mailing operation has expanded from 150,000 pieces of mail to 500,000. The number of alumni plates has increased from 12,000 to 47,000. New addressograph equipment has been installed.

Homecoming—Because of the conflict with the student program the traditional homecoming banquet Friday night was dropped in favor of a homecoming mixer held Saturday morning preceding the homecoming game in the Women's Lounge of Coffman Memorial Union. Over 300 attended this first mixer in 1949.

Alumni Reunion Celebration—For the first time since 1929 the pattern of alumni reunions was changed. The 1950 reunion celebration started Cap and Gown Day, May 18, with special emphasis on the golden anniversary celebration of the Class of 1900. May 19 was the time of the class reunions of the classes of 1925 and 1935 and the traditional alumni banquet attended by more than 700 alumni who saw President Morrill present Harold Stassen with the outstanding achievement medal. The annual meeting of the association was held May 20, after which the members attended the annual spring football game. The total number of alumni participating in the Alumni Reunion Celebration was estimated at 2,500.

Christmas Reunion Party—This event was sponsored for the first time by a combined class committee of classes 1939-49.

Undergraduate Secretary—This position was created for the purpose of bringing student groups into closer contact with the Alumni Association and developing in students an awareness of alumni work.

Alumni Committees—The Standing Committee on Athletics had a tentative Rose Bowl ticket plan in readiness. The chairman of the committee served as the alumni representative on President Morrill's Advisory Committee for the selection of a new athletic director. At the present time the Standing Committee on Athletics is in the process of preparing an alumni ticket priority system. The Student Affairs Committee has been actively in contact with student affairs of interest to alumni.

Constituent Alumni Groups—The Alumni Association assisted the Band Alumni Association to get started, subsidizing it in its early activity. The Band Alumni Association is now 500 members strong, with a fine program. The Alumni Office worked in close cooperation with the Institute of Technology, the School of Agriculture, and the Law School Alumni Associations, also with the Thirtieth Reunion Celebration of the School of Business Administration.—EDWIN L. HAISLET, *director*.

GREATER UNIVERSITY FUND

During the biennium the Greater University Fund developed into an operating department of the University. The fund office opened on November 1, 1947. By November, 1948, the first annual campaign had been launched and was almost completed. During 1948 the fund received a total of \$33,424.79 in gifts from 1,180 donors. Of the total, \$19,340.00 was given without restrictions and was assigned on the following basis: 50 per cent to freshman scholarships, 25 per cent to graduate fellowships, 25 per cent to Graduate School research.

During this first operating year the fundamental design of the Greater University Fund program took form. Our campaigns would be directed essentially at alumni and only incidentally at friends of the University. These campaigns would be based on two types of giving: without restrictions, and with restrictions.

Gifts without restrictions would be used for student aids and research with allocations to be made by the Board of Trustees on the basis of an annual review of relative

need. The 50-25-25 formula referred to above was adhered to throughout the biennium.

Gifts with restrictions would be promoted through a special project program. These would be projects of special interest to particular departments, alumni groups, etc. During the biennium the following projects were included in this promotion: Agricultural Judging Team Support Fund, Bell Memorial of the Minnesota Medical Foundation, Ferguson-Lindsay Music Development Fund, Friends of the Library, Milling Engineering Scholarship Fund, School of Nursing 40th Anniversary Fund, Fred B. Snyder Fund (President's unrestricted fund), University Press Publication Fund, Henry L. Williams Memorial Scholarship Fund.

In 1949 the fund received \$86,953.18 from 2,200 donors. Of the total \$19,682.71 was given without restriction. For the 1949 campaign a National Executive Committee was established with John F. McGovern, '11, industrial relations director of the Green Giant Company, as national chairman. The campaign consisted of a limited special gifts personal solicitation program, headed by Dr. William F. Braasch, '00, '03, and a direct mail campaign. New York City and Minneapolis were the areas where most special gifts progress was made.

The direct mail campaign consisted of four mail pieces: "Three Questions about the Greater University Fund," an eight-page pamphlet on the fund's 1949 program; a spring quarter "Greater University Report," listing all 1948 donors; a fall quarter "Greater University Report," reporting on various fund projects; and an end of the year letter from the national chairman. Each mailing totaled approximately 35,000 pieces. During 1949 an estimated 185,330 pieces of mail were sent out by the fund.

A bequest program was started with a systematic mail contact with all trust officers and banks, and 150 selected attorneys in the state. Each received a file folder of materials on the fund and needs of the University that can be met by private gifts. A system of follow-ups was also effected.

The general picture of the fund improved as understanding of its purposes spread. A great number of techniques, including talks by key fund people to interested groups, luncheon and dinner meetings, radio programs, spot announcements, concerts and lectures program and football program ads, materials in the alumni magazine, articles in campus publications, to name only selected ones, were used to keep the name of the fund prominent while the slower process of interpretation took place to build up acceptance.

While the program of the fund is essentially alumni, being sponsored by the Alumni Association, interest of friends of the University was also invited. As a result receipts for the biennium were approximately half from friends and half from alumni.

In summary, the fund, during the biennium, concentrated on educating the public, and alumni in particular, on the purposes and objectives of the Greater University Fund. This will continue to be the primary activity of the fund for the next biennium.—STANLEY J. WENBERG, *director*.

INDUSTRIAL RELATIONS CENTER

The Industrial Relations Center, established on February 21, 1945, as an interdepartmental University agency, is devoted to co-disciplinary training, research, and service in the broad area of employment relationships.

The Center's purpose is to develop and operate a program designed to improve the full development, conservation, allocation, and utilization of our human resources through improved industrial relations and effective cooperation among labor organizations, managements, and the public.

Training Program—Training in industrial relations is of several types. Day and night school courses taught in several departments of the University in the broad area of industrial relations are coordinated. Short courses, conferences, and institutes are sponsored in the Twin Cities, Duluth, or elsewhere in the state. Twelve conferences held in the biennium dealt with such topics as: community of interests between managements, employees, and investors; wages and hours; union accounting; conducting wage surveys; job evaluation; and union participation in community affairs.

An annual two-day industrial relations conference presents recent developments in manpower management. An annual conference in early summer brings staff members of industrial relations centers in other universities to our campus to discuss current research projects and plans.

Research—Current research in the Industrial Relations Center emphasizes several major problems. One project is directed toward evaluation and appraisal of industrial relations policies and practices in industry, labor organizations, and government under a

research design described as the "triple audit" approach. Another important area now being studied is concerned with one of the nation's most crucial problems: postretirement utilization of older employees.

Among the research projects completed within the biennium are: (1) a critical analysis of the "aggregative" as compared with the "local" approach to labor market research and full employment; (2) a study of differential short-run labor mobilities in St. Paul, contrasting six types of mobilities, annually and seasonally, and comparing findings with those of earlier studies; (3) analysis of patterns of labor mobilities in Minneapolis, with emphasis upon changing employers but also including occupational and industrial mobility; (4) analysis and completion of the Minnesota Industrial Relations Classification and Placement Test to be used in selection, guidance, classification, and placement of potential and present industrial relations job holders; (5) methods of obtaining productivity data with special attention to problems faced in collecting physical product output data for individual employees; (6) an extension of an earlier study on industrial relations jobs and job requirements, with special reference to the educational, experiential, and personal qualifications required; (7) development of merchandise knowledge trade tests in three specialized selling lines; (8) a critical appraisal of effects of the Minnesota Labor Relations Act and related statutes; (9) a study of University curricula in industrial relations; (10) adaptation of simplified methods of factorial design (based on variance analysis) to industrial relations research; (11) a questionnaire survey of reading and association and habits of professional manpower managers; (12) an analysis of the validity of weighted application blanks.

Other research projects in process, in addition to the triple audit and the study of utilization of older employees already mentioned, include: (1) participation in a nationwide study of labor mobilities; (2) a pilot study of sociometrics in industrial relations; (3) a survey of salaries and personnel ratios of manpower managers; (4) a study of labor-management relations on the Mississippi River Waterways System; (5) development of a standardized morale or job satisfaction scale to be used in the appraisal of employee attitudes; (6) study of interest item responses by department store personnel, using the Strong Vocational Interest Test and comparison with clerical employees.

Service Activities—An ever increasing demand is made on the staff and its facilities to perform services for representatives of employers, unions, government agencies, and citizens, as well as for interested faculty and students. Counseling on course work and career opportunities has continued as our major type of service.

The Industrial Relations Reference Room is a central source of materials in the field and is widely used by many from off the campus as well as by faculty, students, and the Center's research staff. Approximately 1,500 books, 100 professional journals, 20 technical and specialized reporting services, and many psychological testing materials are available for reference use. A bibliographic service for persons desiring to study special problems is available. Requests for information have been sought by mail and telephone from all 48 states and several foreign countries.

Members of the staff have made some fifty addresses in many parts of the country. Many more requests for talks necessarily have been unfulfilled.

Publications—Results of research and conference proceedings are available in several publications series. To date there have been nine *Bulletins*, published and distributed by the University of Minnesota Press; five *Research and Technical Reports*; two *Releases*; and six *Reprints*.—DALE YODER, *director*.

DIVISIONS OF ACADEMIC ADMINISTRATION

OFFICE OF THE DEAN OF STUDENTS

This biennium has been characterized by the consolidation of services developed during the preceding biennium. The activities under the supervision of this office have been brought together physically in Eddy and Shevlin halls. This physical grouping has greatly increased the effectiveness of the work with students. In spite of the decline in enrollment, the direct services to students have increased in volume and in effectiveness.

Interdepartmental programs have developed in a number of areas. Resident counseling in dormitories, fraternities, and sororities is one example. This office supervises, coordinates, and trains the counselors who as members of a living group contribute effectively both to the personal development of the individual and also to the residence unit as a group.

Another significant development is the orientation-loyalty program. This activity started as a more effective means of presenting the University to the entering student. It has now grown into an effective way to achieve personalization of the University, and as such, has an important influence on the attitudes of students and parents toward the University.

During the biennium the staff has engaged in a number of research projects that have importance for student personnel work. For example, a study has been made of the activities and interests of students. This study has been conducted with the assistance of the Committee on Educational Research and the Graduate School. Another study concerns the social perception of relationships of members of organizations, particularly social and professional fraternities, to the University as a supervising organization.

Significant advances have been made in incorporating students into the developing University program. The president of the University meets quarterly with the All-University Congress, the Senate Committee on Student Affairs, and the Student Activities Bureau staff. In the fall of 1949 the first "Dean's Retreat" was held for student leaders and University staff to review the areas of concern for the coming year.

Student Activities—The volume of services performed shows considerable stability during the biennium. The decrease in off-campus speakers reflects the greater use of campus resources.

	1948-49	1949-50
Number of Recognized Student Organizations		
New student organizations recognized	27	49
Organizations declared inactive	7	11
Total number of organizations	337	375
Volume of Services Performed by the Student Activities Bureau		
Administered Approval		
Off-campus speakers	657	178
Published circulars	1,238	1,216
Social programs	536	630
Membership eligibility	2,032	1,671
Conferences with Student Leaders	14,618	14,270
Financial Services		
Printing and mimeograph approvals	400	310
Budgets	669	568
Orchestra contracts	198	178
Financial reports completed	805	896
Deposits made	2,538	2,200
Checks countersigned	8,739	8,049
Individual Counseling Interviews	130	90

During the biennium certain programs concerned with developing student citizenship and loyalty have been instituted. In addition, the orientation program of the orientation-registration, New Student Week, Freshman Camp, and leadership institutes have become more effective. The Social Service Council, the campus group which stimulates and coordinates social service projects and charitable giving, has been reorganized and made more effective. Our studies show that the total amount of charitable contributions by students was \$34,117.40 for the first year of the biennium and approximately \$29,500 for the second year.

In cooperation with the Student Housing Bureau, progress has been made in bringing many noncurricular programs to the rooming-house students. To date twenty clubs from as many different rooming houses have been recognized by the Senate Committee on Student Affairs as permanent activity organizations. The Minnesota Association of Rooming House Students has developed into an important student program.

Foreign Student Adviser—The number of foreign students has continued to increase. There were 373 in 1948-49 and 386 in 1949-50. During 1948-49 the counselor had 2,869 interviews with 404 foreign students, an increase of 28 per cent over the previous year. In 1949-50 there were 3,501 interviews with 431 students, an increase of 22 per cent over 1948-49.

Canada, China, Norway, and India continued to have the largest nationality groups on campus. The Chinese group decreased from 93 to 78. One significant change is that the German student group is now the fifth largest group on campus.

The United States Department of State aid program resulted in providing \$32,345 in cash and \$10,447 in travel grants to 67 Chinese students.

A total of 598 community contacts by foreign students was arranged during this past year, with 434 during 1948-49.

Disciplinary Counseling—There has been a slight increase in cases handled by the Disciplinary Counseling Office this year. During the biennium the number of students involved in disciplinary situations was 224 (183 men and 41 women) and 250 (215 men and 35 women), respectively.

In addition to these individual cases there were two student organizations involved in disciplinary incidents in 1948-49 and eighteen in 1949-50. There were two nonstudent cases in 1948-49 and nine in 1949-50.

There has been a continued increase in the number of interviews each year: 527 in 1948-49 and 608 in 1949-50. The average number of conferences per case was 1.47 for men and 2.2 for women.

Student Housing—The residential status of each student enrolled in the University during the fall quarter of the corresponding years appears in the accompanying table.

	1948-49		1949-50	
	Number of Students	Per Cent of Total Student Body	Number of Students	Per Cent of Total Student Body
Parents' homes	10,827	42.7	9,690	41.8
Relatives' homes	773	3.1	701	3.0
Friends' homes	210	.8	331	1.4
Dormitories	2,779	11.0	2,857	12.3
Fraternities and sororities	1,249	4.9	1,135	5.0
Apartments	2,749	10.9	3,312	14.3
Rooming houses	4,891	19.3	2,796	12.1
Own or rent own home	1,683	6.6	1,584	6.8
Employers' homes	182	.7	762	3.3
	25,343	100.0	23,168	100.0

The percentage of those living in their parents' homes has remained relatively stable during the last four years. One change worthy of note was the increase of students living in employers' homes from .7 per cent in 1948-49 to 3.3 per cent in 1949-50. An additional point of interest is the reduction of students in rooming houses from 19.3 per cent in 1948-49 to 12.1 per cent in 1949-50. This trend toward increases in the renting of apartments and in the owning of homes is seen in the accompanying table.

	1943	1945	1947	1948	1949	1950
Number of students in apartments	233	208	1,933	2,445	2,749	3,312
Number of students owning own home			959	1,386	1,683	1,584

The emphasis upon an active, aggressive attempt to locate and maintain adequate facilities has been continued.

Health Service inspections requested were 1,953 during 1948-49, and 1,556 during 1949-50.

Student Counseling—The program of the Student Counseling Bureau has continued to develop in extensiveness. The following table summarizes some of the essential services:

	1946-48	1948-50
Total number of cases	9,007	10,647
Number of interviews	27,081	36,511
Case reports to other counselors	5,476	9,676
Number of psychological tests administered	312,435	287,156
Educational Skills Clinic student visits	5,348	12,039
Case reviews and consultations	252	855

The average number of interviews per case rose from 2.0 in 1948-49 to 2.13 during 1949-50.

The Educational Skills Clinic has continued to grow rapidly since the space allotted to it was increased in 1947-48, until now the number of individuals it is able to serve is severely limited by the space factor. In 1948-49 there were 4,954 student visits to the clinic, while in 1949-50 this increased to 7,085—an increase of 43 per cent over the preceding year.

On July 1, 1948, a senior student counselor was employed to work especially with physically handicapped students. During 1948-49, 56 students were counseled. In 1949-50, 71 additional handicapped students were seen. A total of 289 interviews were held with these 127 students, and 179 reports about them were made to various people and agencies. In addition to providing vocational, educational, and personal counseling for these students, arrangements were made for special parking permits, longer time at examinations, changing classes and classrooms, and obtaining readers for blind students.

Student Loans and Scholarships—The Bureau of Student Loans and Scholarships has experienced greatly increased functions despite limitations of space and staff. In spite of the decreasing enrollment, there is an increased demand for services. The accompanying table summarizes the extent of services provided.

	1948-49	1949-50	1948-50	1946-48
Number of students.....	2,067	2,235	4,302	2,678
Number of interviews.....	4,940	5,221	10,161	6,958
Number of conferences.....	206	194	400	338
University loans.....	\$41,784.70	\$52,951.53	\$94,736.23	\$70,753.40
Loan referrals.....	1,150.00	1,755.00	2,905.00	1,952.00
University scholarships.....	39,894.30	59,819.28	99,713.58	36,987.00
Scholarship referrals.....	1,450.00	1,500.00	2,950.00	4,026.00

During 1948-49, 474 students filed 606 applications for loan assistance. Of these, 539 applications from 418 students were approved for the amount of \$41,784.70. The following year 568 students filed 712 applications for loans. Of these 644 applications from 509 students were approved in the amount of \$52,951.53.

Certain highlights of this period are worthy of note. Requests for short-term emergency loans increased. The problems of foreign students, particularly of Chinese students, were extremely pressing. The United States Department of State forwarded cash payments to 51 students totaling \$32,345, exclusive of the monetary value of travel grants.

The freshman scholarship program has grown. For example, during 1949-50, 218 applications were reviewed for freshman scholarships from the 18 alumni districts of the state. There were 87 entering freshmen who were recipients of either the Greater University freshman scholarship or Merriam scholarships, averaging about \$200 each. In addition, 9 entering freshmen were granted Milling Engineering freshman scholarships of between \$200 and \$300.

In addition, the Tozer Foundation supports approximately 70 undergraduate students annually with scholarships averaging \$300 per year. This latter organization has thus far appropriated \$5,000 to provide general scholarship aid to graduate students.

Speech and Hearing Clinic—The name of this bureau was changed from Speech Clinic to Speech and Hearing Clinic to give a more accurate indication of the functions performed. During the biennium, the clinic examined 9,936 individuals for speech and hearing difficulties. Intensive remedial services were given to 225 students during 1948-49 and 309 during 1949-50.

During this period, in addition to the speech examinations, a routine speech-hearing examination was initiated for all new students. Also a comprehensive speech examination was developed for all students entering the College of Education.

Counseling Veterans—The veteran enrollment that started to decline during 1947-48 continued this trend during the biennium. Nonetheless, the unpredictable changing of policies of the U. S. Veterans Administration has kept the work load of the bureau at a higher level than would be expected from a review of enrollment figures. The program of the Bureau of Veterans' Affairs remains essentially the same: orientation and induction interviews for new veterans at the time of admission to college; continued counseling and assistance at any time the veteran desires and needs assistance supplementary to that offered by other campus agencies; exit interviewing to those veterans who wish to or must leave the University; the issuance of vouchers for the necessary books and supplies; serving as the liaison office between the Veterans Administration and the University.

During the first year of this biennium there were 16,834 interviews with veterans. This number decreased to 12,553 during 1949-50. There were 66,205 book and supply requisitions approved during 1948-49, and 56,062 in 1949-50.

This biennium has provided several changes affecting the veteran and the Bureau

of Veterans Affairs. General Gray's interpretation of Veterans Administration Instruction I-B has increased the work of all counselors. The policy of the Veterans Administration of considering both Summer Session terms as one quarter has necessitated additional interviewing to assist students in staying within the reduced allowance of \$152.78.

The terminal date of July 25, 1951, seems to have been the underlying cause of an increase of 35 per cent of the number of reactivated files during the first Summer Session, 1950, over the number in 1949.

A recent Veterans Administration ruling makes it necessary to interview almost every graduate-student veteran in order to comply with reports on thesis cost and terminal date. The number in the category was 20 per cent greater in 1949-50 than in 1948-49.

University Veterans Counseling Center—The Veterans Counseling Center had 1,393 cases during the first year of the biennium and 1,408 cases the second year.

Coordinating Religious Activities—The position of coordinator of students' religious activities was incorporated into the support budget of the Office of the Dean of Students during the second year of this biennium. The coordinator has continued his effective work of coordinating the work of the 25 religious groups on the St. Paul and Minneapolis campuses. The general University policy of encouraging a multiplicity of well-rounded programs to serve the varied needs of its students has been promoted through a conference on Religious Problems in State Universities, a series of excursions through Twin Cities churches and synagogues, and by the development of student programs of brotherhood and religious emphasis.

In looking forward to the next biennium, certain critical problems are anticipated. The Bureau of Student Loans and Scholarships is faced with a particularly urgent need for additional staff. The Student Counseling Bureau and the Speech and Hearing Clinic face increased demands for services with a reduced budget and increased costs of maintaining a capable staff. The unique and significant problems of women students need attention and special facilities. The continued expression of 31 University departmental needs in the area of recreation warrants consideration. Finally, special plans are being made to provide needed services for students on the St. Paul Campus and to develop closer working relationships with the staff of the Duluth Branch.—EDMUND G. WILLIAMSON, *dean*.

UNIVERSITY OF MINNESOTA LIBRARY

On June 30, 1950, the total number of accessioned volumes in the University of Minnesota Library was 1,521,863. Thus, during the biennium the University of Minnesota Library passed the million and a half mark in accessioned books.

As compared with 97,065 volumes added during the biennium 1946-48, only 49,974 volumes constituted the *net* addition during 1948-50. This decrease of nearly 50,000 volumes in the rate of growth of the University Library was due to four factors:

1. Revision of the accession figures to correct for about 31,000 volumes previously counted twice in library total figures.
2. Withdrawals of over 20,000 volumes previously accessioned but now found to be duplicates or outside the collecting interests of the University of Minnesota.
3. Continued scrutiny of acquisition policies and emphasis on acquiring books of major interest and importance, in contrast with materials of borderline value.
4. The increased cost of library materials. Library book and periodical funds will not purchase as many volumes at today's prices.

Despite the reduced rate of growth, the University Library materials were greatly strengthened in many areas.

1. Foreign books and periodicals were acquired in increasing number as sources for supply improved.
2. Microfilm purchases, chiefly of newspaper and magazine files, have more than doubled during the biennium.
3. A collection of 17 Incunabula, formerly the property of Dr. Looe Baker, was added to the Library, greatly increasing the Library's collection of early printed books.
4. Careful selection resulted in the improvement and completion of many periodical and monographic sets such as:

Rerum italicarum scriptores.

Russia. Arkheograficheskaiia kommissiia. Polnoe sobranie russkikh lietopisei.

Finska vetenskaps societeten, Helsingfors Acta, etc.

5. Notable additions to the Library's collection of Americana were made, such as early editions of Ptolemy's geographics, atlases of Mercator, Ortelius, Jode, Apianus, etc.

6. An outstanding gift was the Kerlan Collection of American children's books, including first editions, autographed and original drawings, manuscripts and letters of authors and illustrators of children's books.

Through the gift of Regent James Ford Bell, the Library added early editions of Ptolemy, Montalboodo, Champlain, and Thevet—all significant names in the early explorations and history of America.

Again during the biennium the Library gave special attention to reviewing and revising its collecting policies. Material received in previous years was carefully screened and added to the Library or disposed of to more appropriate places. Subscriptions were carefully reviewed and, although subscriptions increased by 328 during the biennium, this was only half the number of new subscriptions added during the previous biennium. As of June 30, 1950, the Main Library was receiving by purchase, gift, and exchange 24,831 serial publications.

Continued improvement in the processing of books characterized the years 1948-50. Revised methods of cataloging enabled the Catalog Department to keep up with the flow of material coming in. Thus, 86,693 volumes were cataloged in 1948-50 as compared with 79,151 volumes in the previous biennium. Special funds granted first in 1949-50 enabled the Library to sort and select from among its thousands of volumes of arrears, those titles most desirable for addition to the Library, and as of June 30, 1950, 5,475 volumes of these arrears have been cataloged for the Library while thousands more have been identified as duplicates or discarded.

Special funds granted for binding also enabled the Library to put into good condition close to 5,000 volumes which had been in need of attention for many years.

Total recorded use of the Library declined slightly during the biennium 1948-50. Comparable figures of total circulation for the past four years are: 1946-47—984,458; 1947-48—1,007,820; 1948-49—958,757; 1949-50—867,581. This decrease was not uniform, however, for several departments showed little change and some showed actual increases. The use of government documents, periodicals, and related materials increased substantially. Loans from the general circulation department decreased only slightly, while loans of reserved books dropped sharply. Thus, the decline in enrollment has brought certain shifts in the use of the Library. Whereas during the peak years, large classes necessitated the use of many reserved books, now classes are making more use of the general collection, of periodical materials, of documents, etc. The large decline in reserved books also reflects the greater availability of textbooks. In many courses immediately following the war, reserved books were used instead of textbooks. As is true in every year, circulation figures represent only a small proportion of the total use of the Library.

Better access to library materials was accomplished in several ways. Many of the most popular current magazines were placed on open shelves, thus making it easier for students and staff to consult them and, incidentally, removing this class of material from the category of recorded loans. The Arthur Upson Room was stocked with an extensive collection of recent books, thus making it possible for students and staff to see and handle many titles. Rearrangement of materials in many departments resulted in greater service to the University.

During the biennium the University Library was "surveyed" by Keyes D. Metcalf, librarian of Harvard, and David Clift, associate librarian at Yale. After investigating all phases of the Library's activities and services, the surveyors presented a report of findings and recommendations, chief of which highlighted the limited services which the Library is able to give to undergraduate students and the limited access which most University of Minnesota students have to actual open-shelf collections of books. The results of the survey are under study by the library staff and the Senate Library Committee and as a follow-up an extensive investigation of student and faculty experience in use of the Library is under way.

Several other events of the biennium deserve mention. The Midwest Inter-Library Corporation became a reality with thirteen member Midwest institutions. This organization will serve to provide cooperative housing and servicing of little-used publications and enable the University of Minnesota Library to give better attention to materials that are needed in its active research and teaching programs.

Improvements in communication among the library staff were the result of regular department heads' meetings and a regular staff bulletin to keep staff members better informed of library activities outside their departments.

The Snead Automatic Book Conveyor and the pneumatic tube system were installed and put into operation, resulting in improved service from the central book stacks. Extensive rearrangement of materials in the stacks will provide still better library service to users.

Staff turnover during the biennium was somewhat less than in previous years, although there were several important changes. Harald Ostvold was appointed librarian

of the Department of Agriculture Library; Wesley Simonton, chief catalog librarian; and Stanley McElderry, following the retirement of Helen Smith and a period as acting head by Elizabeth Henderson, became circulation librarian. Raymond Shove, formerly head of the Acquisitions Department, joined the faculty of the Division of Library Instruction and during the current biennium the university librarian has served as head of the Acquisitions Department.

The biennium, as far as the University Library is concerned, has been characterized chiefly by two things—tightening of the belt and modest improvements in organizations and services.

Improvement has been the result of study and change initiated by the staff and contributed to by a somewhat less drastic turnover of personnel. Assistance by the administration in funds for the conveyor, for special purchase of books, and for other physical improvements has been important and encouraging.

Library funds, however, will not purchase either as many materials as before or as many hours of service. Hence, the Library has extensively reviewed the things it has been doing, the materials it has been acquiring, and modifying both of these in the interests of better service and greater economy. Some things more can be done, but they are limited.

The Library's great need is to expand its services so that it may be used by all the University community instead of the relatively small number it now serves. For example, there are now seats in library quarters for somewhat less than 10 per cent of the student body of the University. This means that many who would like to use the Library are unable to do so. Until the Library can seat 25 per cent or more of its clientele it will be failing to do the job it should.

Limited space and staff further circumscribe the access which students may have to books themselves. Now the Library can serve reasonably well those who have a specific need for a specific book. For the student in quest of information, wishing to consult several books or have assistance in determining where to find information, the Library offers little. As a result, the educational values of handling books, of dipping into many, of seeing what information is available in books, are largely absent.

Improvement in facilities for access to books and increased staff to make them meaningful would do much to raise the quality of the University's educational program.—ERRETT W. MCDIARMID, *librarian*.

OFFICE OF ADMISSIONS AND RECORDS

Policy and Procedure—In the Office of Admissions and Records, the 1948-50 biennium was a time to examine policies and improve practices. Our improvements were made possible by a gradual decline in student (especially student-veteran) attendance and were facilitated by methods and equipment first introduced when enrollment was at the post-World War II maximum.

Individual Attention—First, there was a personalization of contact with applicants and students which represented progress beyond former practices and a recovery from the improvisation necessary during great veteran enrollment.

Admission Procedure—The colleges of the University were urged to broaden the rules for the awarding of advanced standing credits in order that all students regardless of place, time, or manner of academic achievement could have their work adequately evaluated. Automatic award of credit for service-connected experience was discontinued. This office made it clear that the University offered no barriers to the consideration of students from the common learnings programs just being developed in some secondary schools. The Board of Admissions gave serious attention to possibilities in the use of intermediate tests or transfer examinations. Procedures for dealing with displaced persons were clarified, and special attention was given to "exit interviews" with students leaving the University before completion of their programs.

Out-of-State Students—There was also some relaxation of emergency restrictions applied to out-of-state students. For students whose homes were not in Minnesota, action in the Administrative Committee and the Senate tended to re-establish an undergraduate requirement approximating the prewar norm. The Board of Review saw many persons from out of state, most of them veterans, who intended to acquire an education and then remain here as permanent residents.

Departmental Coordination—The staff became more stable and employment somewhat more continuous. On-the-job employee training was promoted, and manuals of office procedure were prepared and incorporated in this training. The office joined, too, in prepar-

ing a manual of admission requirements which was circulated to the high schools of the state by the Association of Minnesota Colleges. A much closer and more consistent working relationship with the Duluth Branch evolved.

New Directions—Some research was done and special projects were undertaken. Follow-up studies were begun or completed on certain groups of students such as non-matriculants, nonresidents, and transfers within the University. Academic grades and grade distributions were analyzed. The office helped to prepare a study of the all-University work-load for the report to the Minnesota Efficiency in Government Commission, and it gathered statistical information on many of the teaching and research activities of the University. It was necessary, for instance, to have an improved over-all knowledge of scheduling and better clearance on class sizes, for, as the student body shifted primarily to the senior colleges and the Graduate School, demands for building areas for teaching and research became more acute than ever before. The Room Scheduling Office, called on to help gather this information, began to perform more and more important tasks. Finally, a new *Class Schedule* developed which was prepared quarterly by the supervisor of classroom scheduling.

Annual Enrollment—Freshman admissions decreased in number, but the work with advanced standing applicants and matriculants remained at a high level. For the second consecutive biennium, the University gave instruction to the largest group enrolled in any previous biennium. In 1948-49 it served 69,371 different persons, and in 1949-50 the total was 71,941 (Table VI). Of these two groups, 35,935 in 1948-49 and 35,174 in 1949-50 were collegiate students enrolled during the regular year or in Summer Session (Table I). The mean annual enrollment for this most recent biennium was 35,554 University students, an increase of exactly 200 over the annual mean of 1946-48 (Figure 1). One reason for this general increase was the gain in attendance on the Duluth Campus. There, each year of the biennium, the enrollment exceeded 2,000 (Table I).

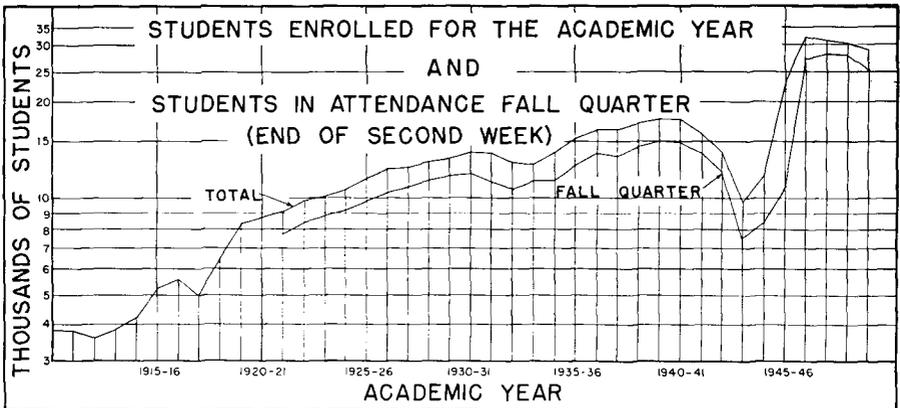


Figure 1

Fall quarter collegiate enrollment averaged 26,619 in the years 1948 and 1949. This exceeded by 67 per cent the prewar record of 15,905. Many years before the war, the ratio of 40 per cent women to 60 per cent men (in the collegiate student body) had gone relatively unchanged. During this biennium (excluding Summer Session) the ratio was 78 per cent men to 22 per cent women.

Veteran Element—Veterans receiving educational benefits constituted 54 per cent of the collegiate student body in the fall of 1948 and only 42 per cent during the fall of 1949. The holding power of students in the University was almost the same for veterans under benefits as for nonveterans.

New Matriculants—The postwar high in matriculation of new students was reached in 1946-47 when there were 7,478 new freshmen and 2,529 new advanced standing students—a total of 10,007 (Figure 2). In 1948-49, new advanced standing students numbered 2,313 (Table IXA), and with the new freshmen, they made a total of 6,890 in the first year of the biennium. In the second year there were 2,072 new advanced standing students (Table

IXB), or a total of exactly 6,500 new students. Average before the war was approximately 4,400 new students yearly, of whom 3,200 were ordinarily freshmen direct from high school and 1,200 were new advanced standing students. Of the 2,313 new advanced standing students in 1948-49, approximately 65 per cent were from educational institutions in Minnesota. In 1949-50, 55 per cent of the 2,072 new advanced standing students were likewise from institutions in this state (Tables IXA and IXB). These figures do not include new students in the Graduate School.

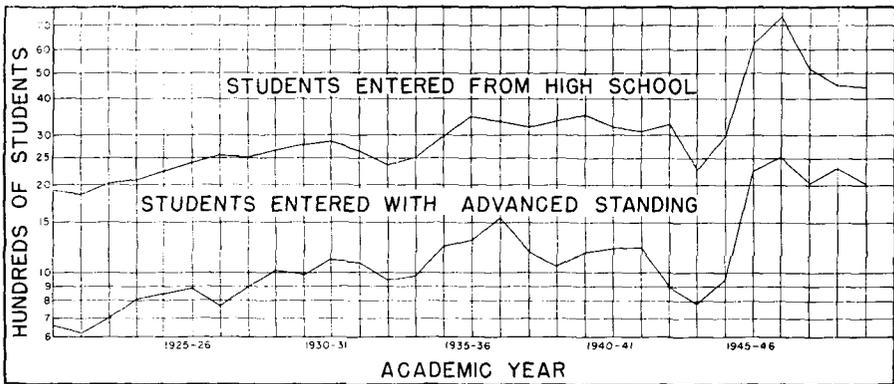


Figure 2

In-State Enrollment—Students from Minnesota high schools during 1948-50 constituted 90 per cent of the total of students coming direct from high school. The 1949-50 freshmen enrolled from all high schools numbered 4,428. In 1948-49 (Tables VIIIA and VIIIB), 4,577 matriculated. Of these, 44 per cent in 1948-49 and 43 per cent in 1949-50 were from public high schools in Minneapolis and St. Paul combined. Minneapolis alone contributed approximately 33 per cent of the total in 1948-49 and 31 per cent in 1949-50.

Out-of-State Enrollment—The over-all percentage of nonresidents, including those in the Graduate School, was 12 in 1948-49 and 13 in 1949-50 (Tables XA and XB). The greatest concentration of nonresidents was in the Graduate School where the student body contained 44 per cent in 1948-49 and 53 per cent in 1949-50.

Significant Variations—Of the University colleges, the greatest drop in enrollment within the biennium was in the Institute of Technology. There, because of the large veteran component postwar, the enrollment decreased 1,155. The largest gain was in the College of Agriculture, Forestry, Home Economics, and Veterinary Medicine where the enrollment increased 3,429 students, including those in short courses (Table VI).

Conferred Degrees—There were 6,928 degrees granted during 1948-49 and 7,082 in 1949-50. In each of these years, a new record was set (Figure 3). The prewar peak for conferred degrees was 3,409 in 1940-41, and the earlier record was set in 1947-48 when 6,167 students were graduated. It is probable that in the biennium being reported the University conferred a larger number of degrees than it will again confer before the late twentieth century.

Summer Session—The 1949 Summer Session enrollment was 14,402 different individuals, a decrease of 1,035 from the 15,437 total in the 1948 Summer Session (Table I). This decrease was easily accounted for by reduced enrollment of student veterans. Decline taken into account, the 1949 Summer Session enrollment was still almost double the prewar record 7,272 established in 1942 and only 2,581 below an enrollment of 16,983 the summer of 1947.

Extension, Correspondence Study, Others—The evening extension class enrollment increased to a new high of 12,458 students in 1948-49 (Table IVA). There was a slight decline in the 1949-50 extension enrollments to 12,290. This latter figure, however, was

46 per cent over the prewar high of 1939-40. Correspondence study enrollment remained fairly constant. It stood at 5,315 in 1948-49 and at 5,438 in 1949-50. These figures are still about 70 per cent above those before the war.

Enrollment in the Center for Continuation Study set a new record. It was 6,292 in 1948-49 and 7,723 in 1949-50. This is almost 100 per cent more registrants than were recorded in 1942-43, the record prewar year. The subcollegiate enrollment (Table III) in the schools of agriculture, University High School, Nursery School, Kindergarten, and the Elementary School continued at a consistent over-all level. There were 1,799 students taking such work in 1948-49 and 1,854 in 1949-50. These totals are comparable to those of the previous biennium. The adult short course program conducted by the schools of agriculture has increased in magnitude during the biennium to near prewar size. In 1948-49 there were 10,515 individuals participating, and in 1949-50 the enrollment was 13,998. For comparison, the enrollment of 1940-41 was 10,779. Charts and tables follow.—R. E. SUMMERS, *dean*.

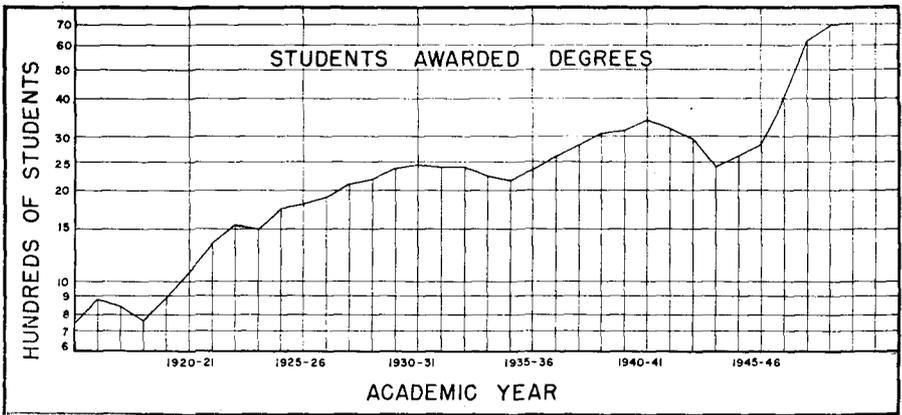


Figure 3

TABLE I. COLLEGIATE ENROLLMENT BY COLLEGES AND SCHOOLS, 1948-50

College or School	Year 1948-49			Year 1949-50			Gain	Loss
	Men	Women	Total	Men	Women	Total		
General College								
Second year	544	153	697	560	127	687	.....	10
First year	921	264	1,185	819	276	1,095	.....	90
Adult specials	21	2	23	16	6	22	.....	1
Totals	1,486	419	1,905	1,395	409	1,804	.....	101
University College								
Seniors	86	28	114	60	17	77	.....	37
Juniors	33	9	42	21	8	29	.....	13
Sophomores	1	1	2	2	.....	2	.....	.....
Freshmen	2	.....	2	5	3	8	.....	6
Adult specials	2	6	8	3	1	4	.....	4
Totals	124	44	168	91	29	120	.....	48
Science, Literature, and the Arts								
Seniors	1,283	575	1,858	1,301	466	1,767	.....	91
Juniors	1,185	416	1,601	1,037	383	1,420	.....	181
Sophomores	2,057	807	2,864	1,557	746	2,303	.....	561
Freshmen	1,390	784	2,174	1,130	707	1,837	.....	337
Adult specials	259	182	441	292	203	495	.....	54
Totals	6,174	2,764	8,938	5,317	2,505	7,822	.....	1,116
Institute of Technology								
Seniors	1,434	18	1,452	1,513	15	1,528	.....	76
Juniors	1,600	5	1,605	934	13	947	.....	658
Sophomores	1,144	8	1,152	708	11	719	.....	433
Freshmen	764	10	774	583	10	593	.....	181
Adult specials	75	1	76	115	2	117	.....	41
Totals	5,017	42	5,059	3,853	51	3,904	.....	1,155
Agriculture, Forestry, and Home Economics								
Seniors	229	114	343	489	161	650	.....	307
Juniors	415	140	555	265	107	372	.....	183
Sophomores	546	203	749	389	188	577	.....	172
Freshmen	339	171	510	300	143	443	.....	67
Adult specials	81	29	110	86	21	107	.....	3
Totals	1,610	657	2,267	1,529	620	2,149	.....	118
Law School								
Seniors	124	3	127	109	4	113	.....	14
Juniors	160	6	166	156	3	159	.....	7
Sophomores	229	7	236	187	6	193	.....	43
Freshmen	267	5	272	165	7	172	.....	100
Adult specials	9	.....	9	16	.....	16	.....	7
Totals	789	21	810	633	20	653	.....	157
Medical School								
Interns	76	14	90	72	14	86	.....	4
Seniors	71	14	85	92	4	96	.....	11
Juniors	91	4	95	108	12	120	.....	25
Sophomores	107	11	118	113	5	118	.....	.....
Freshmen	115	7	122	118	8	126	.....	4
Adult specials	4	1	5	4	.....	4	.....	1
Totals	464	51	515	507	43	550	.....	35
Medical and X-ray Technology								
Seniors	2	51	53	7	46	53	.....	.....
Juniors	3	43	46	3	38	41	.....	5
Adult specials	.....	5	5	.....	3	3	.....	2
Totals	5	99	104	10	87	97	.....	7
Occupational Therapy								
Seniors	.....	15	15	.....	13	13	.....	2
Juniors	2	10	12	5	27	32	.....	20
Adult specials	.....	.....	.....	1	2	3	.....	3
Totals	2	25	27	6	42	48	.....	21
Physical Therapy								
Seniors	3	6	9	1	10	11	.....	2
Juniors	2	8	10	5	4	9	.....	1
Adult specials	2	1	3	.....	1	1	.....	2
Totals	7	15	22	6	15	21	.....	1
Public Health								
Seniors	.....	101	101	8	106	114	.....	13
Juniors	3	57	60	3	32	35	.....	25
Sophomores	1	49	50	5	51	56	.....	6
Adult specials	65	47	112	84	62	146	.....	34
Totals	69	254	323	100	251	351	.....	28

TABLE I.—Continued

College or School	Year 1948-49			Year 1949-50			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Nursing								
Third year		68	68	2	33	35		33
Second year		36	36	2	39	41	5	
First year		54	54	6	50	56	2	
Affiliated		62	62		78	78	16	
Adult specials		9	9		9	9		
Totals		229	229	10	209	219		10
Dentistry								
Seniors	47	2	49	81	3	84	35	
Juniors	84	2	86	85	3	88	2	
Sophomores	83		83	94		94	11	
Freshmen	100	1	101	95	2	97		4
Totals	314	5	319	355	8	363	44	
Dental Hygiene								
Second year		33	33		30	30		3
First year		42	42		44	44	2	
Adult specials					1	1	1	
Totals		75	75		75	75		
Pharmacy								
Seniors	62	8	70	95	8	103	33	
Juniors	106	6	112	95	7	102		10
Sophomores	81	7	88	80	4	84		4
Freshmen	141	8	149	134	10	144		5
Adult specials	2	2	4	1		1		3
Totals	392	31	423	405	29	434	11	
Education								
Seniors	423	429	852	519	470	989	137	
Juniors	434	362	796	370	398	768		28
Sophomores	191	218	409	134	208	342		67
Freshmen	96	110	206	85	139	224	18	
Adult specials	189	219	408	232	163	395		13
Totals	1,333	1,338	2,671	1,340	1,378	2,718	47	
Business Administration								
Seniors	1,040	43	1,083	730	25	755		328
Juniors	740	28	768	485	28	513		255
Adult specials	56	4	60	87	4	91	31	
Totals	1,836	75	1,911	1,302	57	1,359		552
Graduate (including Mayo Foundation)	3,331	690	4,021	3,716	716	4,432	411	
Veterinary Medicine								
Juniors				21	2	23	23	
Sophomores	25		25	47	2	49	24	
Freshmen	48	2	50	47		47		3
Totals	73	2	75	115	4	119	44	
Duluth Branch								
Seniors	270	79	349	454	93	547	198	
Juniors	428	87	515	341	112	453		62
Sophomores	378	129	507	332	128	460		47
Freshmen	488	237	725	425	250	675		50
Adult specials	40	36	76	50	40	90	14	
Totals	1,604	568	2,172	1,602	623	2,225	53	
Totals academic year	24,630	7,404	32,034	22,292	7,171	29,463		2,571
Less duplicates	1,369	406	1,775	905	324	1,229		546
Net totals academic year	23,261	6,998	30,259	21,387	6,847	28,234		2,025
Summer Session								
First term	9,526	3,438	12,964	9,143	3,210	12,353		611
Second term	8,474	1,982	10,456	7,206	1,857	9,063		1,393
Totals	18,000	5,420	23,420	16,349	5,067	21,416		2,004
Less duplicates	7,081	1,429	8,510	6,199	1,320	7,519		991
Net totals Summer Session	10,919	3,991	14,910	10,150	3,747	13,897		1,013
Mayo Foundation (graduates)	517	10	527	496	9	505		22
Net totals Summer Session (including Mayo Foundation)	11,436	4,001	15,437	10,646	3,756	14,402		1,035
Grand totals collegiate	34,697	10,999	45,696	32,033	10,603	42,636		3,060
Less duplicates	8,170	1,591	9,761	6,316	1,146	7,462		2,299
Net grand totals collegiate	26,527	9,408	35,935	25,717	9,457	35,174		761

TABLE IA. VETERAN ENROLLMENT BY COLLEGES AND SCHOOLS, 1948-50

College or School	Year 1948-49			Year 1949-50			Gain	Loss
	Men	Women	Total	Men	Women	Total		
General College								
Second year	306	11	317	205	5	210		107
First year	368	4	372	224	8	232		140
Adult specials	17		17	8	1	9		8
Totals	691	15	706	437	14	451		255
University College								
Seniors	75	2	77	36		36		41
Juniors	23		23	9		9		14
Sophomores	1		1	2		2	1	
Freshmen	1		1					1
Adult specials	2	1	3	4		4	1	
Totals	102	3	105	51		51		54
Science, Literature, and the Arts								
Seniors	1,057	57	1,114	805	30	835		279
Juniors	792	27	819	625	134	759		60
Sophomores	1,132	32	1,164	554	18	572		612
Freshmen	426	17	443	154	8	162		281
Adult specials	172	24	196	181	15	196		
Totals	3,599	157	3,756	2,319	205	2,524		1,232
Institute of Technology								
Seniors	1,231	4	1,235	1,115	9	1,124		111
Juniors	1,355		1,355	548	7	555		800
Sophomores	766		766	298	1	299		467
Freshmen	284	1	285	113		113		172
Adult specials	56		56	84		84	28	
Totals	3,692	5	3,697	2,158	17	2,175		1,522
Agriculture, Forestry, and Home Economics								
Seniors	203	3	206	334	9	343	137	
Juniors	322	11	333	144	4	148		185
Sophomores	361	12	373	200	7	207		166
Freshmen	159	5	164	56	1	57		107
Adult specials	48	7	55	55	5	60	5	
Totals	1,093	38	1,131	789	26	815		316
Law								
Seniors	112	1	113	92		92		21
Juniors	148	1	149	103		103		46
Sophomores	183	1	184	120	1	121		63
Freshmen	202		202	81	1	82		120
Adult specials	8		8	14		14	6	
Totals	653	3	656	410	2	412		244
Medical School								
Interns	33		33	30	1	31		2
Seniors	29	1	30	59	2	61	31	
Juniors	65	1	66	81	2	83	17	
Sophomores	87	2	89	86	1	87		2
Freshmen	92	1	93	59	1	60		33
Adult specials	2		2					2
Totals	308	5	313	315	7	322	9	
Medical and X-ray Technology								
Seniors	1	3	4	1	3	4		
Juniors	3	1	4	2		2		2
Adult specials								
Totals	4	4	8	3	3	6		2
Occupational Therapy								
Seniors		1	1	2	4	6	5	
Juniors		2	2	4	4	8	6	
Totals		3	3	6	8	14	11	
Physical Therapy								
Seniors	3		3	1	1	2		1
Juniors	2		2	3	1	4	2	
Adult specials	2		2					2
Totals	7		7	4	2	6		1
Public Health								
Seniors		41	41	4	31	35		6
Juniors		25	25	2	9	11		14
Sophomores		14	14	1	10	11		3
Adult specials	37	12	49	35	10	45		4
Totals	37	92	129	42	60	102		27

TABLE IA.—Continued

College or School	Year 1948-49			Year 1949-50			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Nursing								
Third year		6	6	1	2	3		3
Second year		1	1					1
First year		1	1	2	2	4	3	
Adult specials		4	4		2	2		2
Totals		12	12	3	6	9		3
Dentistry								
Seniors	23		23	70	3	73	50	
Juniors	77	2	79	78	1	79		
Sophomores	80		80	75		75		5
Freshmen	85	1	86	64		64		22
Adult specials								
Totals	265	3	268	287	4	291	23	
Dental Hygiene								
Second year	1	2	3					3
First year					1	1	1	
Totals	1	2	3		1	1		2
Pharmacy								
Seniors	54		54	69		69	15	
Juniors	85	1	86	64	1	65		21
Sophomores	51	2	53	32		32		21
Freshmen	58		58	26		26		32
Adult specials				1		1	1	
Totals	248	3	251	192	1	193		58
Education								
Seniors	373	43	416	369	43	412		4
Juniors	355	32	387	207	26	233		154
Sophomores	128	11	139	59	2	61		78
Freshmen	32	4	36	21	1	22		14
Adult specials	119	23	142	144	8	152	10	
Totals	1,007	113	1,120	800	80	880		240
Business Administration								
Seniors	933	9	942	500	5	505		437
Juniors	582	4	586	253	3	256		330
Adult specials	50	2	52	69	1	70	18	
Totals	1,565	15	1,580	822	9	831		749
Graduate (including Mayo Foundation)	1,990	51	2,041	1,944	54	1,998		43
Veterinary Medicine								
Juniors		1	1	18	1	19	18	
Sophomores	21		21	37	1	38	17	
Freshmen	39	1	40	34		34		6
Totals	60	2	62	89	2	91	29	
Duluth Branch								
Seniors	227	6	233	335		335	102	
Juniors	321	8	329	189		189		140
Sophomores	182	5	187	114		114		73
Freshmen	184	2	186	125		125		61
Adult specials	27	3	30	31		31	1	
Totals	941	24	965	794		794		171
Totals academic year	16,263	550	16,813	11,465	501	11,966		4,847
Less duplicates	966	20	986	408	18	426		560
Net totals academic year	15,297	530	15,827	11,057	483	11,540		4,287
Summer Session								
First term	7,367	367	7,734	6,314	284	6,598		1,136
Second term	6,652	270	6,922	5,134	187	5,321		1,601
Totals	14,019	637	14,656	11,448	471	11,919		2,737
Less duplicates	5,800	236	6,036	4,569	164	4,733		1,303
Net totals Summer Session	8,219	401	8,620	6,879	307	7,186		1,434
Mayo Foundation (graduates)	457		457	416		416		41
Net totals Summer Session (including Mayo Foundation)	8,676	401	9,077	7,295	307	7,602		1,475
Grand totals collegiate	23,973	931	24,904	18,352	790	19,142		5,762
Less duplicates	6,576	222	6,798	4,566	276	4,842		1,956
Net grand totals collegiate	17,397	709	18,106	13,786	514	14,300		3,806

TABLE IIA. COLLEGIATE ENROLLMENT BY QUARTERS, 1948-49

College or School	First Term, Summer Session, 1948			Second Term, Summer Session, 1948			Fall			Winter			Spring			Total Individual Registration*		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
	General College	145	42	187	119	23	142	1,210	347	1,557	1,181	311	1,492	1,080	294	1,374	1,566	438	2,004
University College	70	20	90	58	18	76	84	25	109	93	21	114	85	31	116	144	58	202
Science, Literature, and the Arts	2,157	867	3,024	1,812	508	2,320	5,371	2,504	7,875	5,064	2,305	7,369	4,704	2,127	6,831	7,178	3,296	10,474
Institute of Technology	2,166	15	2,181	2,174	12	2,186	4,812	36	4,848	4,496	29	4,525	4,080	29	4,109	5,613	47	5,660
Agriculture, Forestry, and Home Economics	443	150	593	333	64	397	1,442	622	2,064	1,397	571	1,968	1,271	529	1,800	1,690	728	2,418
Law	423	2	425	427	2	429	787	21	808	715	18	733	658	18	676	842	21	863
Medicine and Interns	191	29	220	136	21	157	461	49	510	457	49	506	446	52	498	487	59	546
Medical Technologists (including X-ray)	20	20	40	13	13	26	82	85	167	3	85	88	6	83	89	3	101	104
Nursing and affiliates	258	258	516	251	251	502	186	186	372	141	141	282	146	146	292	392	392	
Occupational Therapists	9	9	18	12	12	24	21	22	43	1	18	19	1	16	17	2	25	27
Physical Therapists	2	4	6	1	1	2	15	20	35	6	15	21	5	15	20	7	15	22
Public Health	29	198	227	28	110	138	71	205	276	65	170	235	63	184	247	74	369	443
Dentistry	58	4	62	50	3	53	302	5	307	311	5	316	302	5	307	300	5	305
Dental Hygienists	6	6	12	4	4	8	73	73	146	68	68	136	60	60	120	75	75	
Pharmacy	76	7	83	58	3	61	384	28	412	374	27	401	340	26	366	392	31	423
Education	796	965	1,761	613	452	1,065	1,005	994	1,999	1,058	1,007	2,065	1,093	1,053	2,146	1,757	2,167	3,924
Business Administration	905	44	949	791	27	818	1,526	61	1,587	1,434	61	1,495	1,284	62	1,346	2,030	97	2,127
Graduate (including Mayo Founda- tion)	2,197	478	2,675	2,075	315	2,390	2,817	532	3,349	2,778	511	3,289	2,750	513	3,263	4,003	1,027	5,030
Veterinary Medicine	385	330	715	316	154	470	1,404	521	1,925	1,411	490	1,901	1,330	429	1,759	1,735	861	2,596
Duluth Branch																		
Totals	10,043	3,448	13,491	8,991	1,992	10,983	21,757	6,329	28,086	20,913	5,904	26,817	19,570	5,674	25,244	27,896	9,814	37,710
Less duplicates	46	31	77	33	16	49	307	69	376	401	86	487	383	117	500	1,369	406	1,775
Net totals	9,997	3,417	13,414	8,958	1,976	10,934	21,450	6,260	27,710	20,512	5,818	26,330	19,187	5,557	24,744	26,527	9,408	35,935

* This represents a net count of individuals with duplicates deducted.

TABLE IIB. COLLEGIATE ENROLLMENT BY QUARTERS, 1949-50

College or School	First Term, Summer Session, 1949			Second Term, Summer Session, 1949			Fall			Winter			Spring			Total Individual Registration*		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
General College	152	37	189	119	21	140	1,150	358	1,508	1,095	314	1,409	957	292	1,249	1,477	436	1,913
University College	38	12	50	30	6	36	61	21	82	66	18	84	65	18	83	102	37	139
Science, Literature, and the Arts	1,901	774	2,675	1,541	502	2,043	4,680	2,260	6,940	4,372	2,013	6,385	3,950	1,837	5,787	6,398	3,128	9,526
Institute of Technology	1,715	9	1,724	1,552	10	1,562	3,712	51	3,763	3,311	46	3,357	2,872	41	2,913	4,396	56	4,452
Agriculture, Forestry, and Home Economics	401	163	564	246	73	319	1,393	565	1,958	1,342	525	1,867	1,147	494	1,641	1,927	787	2,714
Law	273		273	239		239	629	20	649	581	14	595	560	14	574	691	18	709
Medicine and Interns	380	37	417	77	15	92	501	40	541	498	41	539	492	39	531	475	47	522
Medical Technologists (including X-ray)	1	20	21	1	14	15	9	81	90	8	79	87	6	69	75	10	91	101
Nursing and affiliates		141	141		142	142	10	144	154	7	126	133	6	149	155	10	293	303
Occupational Therapists	1	12	13	1	4	5	3	33	36	4	34	38	5	36	41	6	42	48
Physical Therapists		1	1		1	1	6	14	20	6	14	20	6	14	20	6	15	21
Public Health	32	184	216	32	122	154	87	206	293	90	182	272	83	184	267	100	370	470
Dentistry	75	2	77	52	1	53	352	5	357	339	4	343	328	4	332	355	8	363
Dental Hygienists		6	6		4	4		75	75		63	63		62	62		77	77
Pharmacy	80	6	86	47	5	52	386	27	413	374	26	400	346	25	371	423	30	453
Education	930	952	1,882	648	433	1,081	1,146	1,102	2,248	1,159	1,149	2,308	1,098	1,138	2,236	2,045	2,278	4,323
Business Administration	556	25	581	482	21	503	1,077	39	1,116	1,010	38	1,048	904	39	943	1,481	81	1,562
Veterinary Medicine	1		1	1		1	112	4	116	118	4	122	115	3	118	115	4	119
Graduate (including Mayo Founda- tion)	2,551	507	3,058	2,193	302	2,495	3,073	561	3,634	3,097	577	3,674	3,045	526	3,571	4,838	1,114	5,952
Duluth Branch	552	331	883	441	190	631	1,408	554	1,962	1,405	521	1,926	1,256	454	1,710	1,923	959	2,882
Totals	9,639	3,219	12,858	7,702	1,866	9,568	19,795	6,160	25,955	18,882	5,788	24,670	17,241	5,438	22,679	26,778	9,871	36,649
Less duplicates	107	68	175	49	22	71	333	94	427	333	96	429	357	96	453	1,061	414	1,475
Net totals	9,532	3,151	12,683	7,653	1,844	9,497	19,462	6,066	25,528	18,549	5,692	24,241	16,884	5,342	22,226	25,717	9,457	35,174

* This represents a net count of individuals with duplicates deducted.

TABLE III. SUBCOLLEGIATE ENROLLMENT, 1948-50

School or Course	Year 1948-49			Year 1949-50			Gain	Loss
	Men	Women	Total	Men	Women	Total		
School of Agriculture (St. Paul)								
(three-year course)								
Seniors	71	17	88	65	16	81	.....	7
Juniors	126	28	154	205	28	233	79	.....
Freshmen	40	13	53	18	2	20	.....	33
Unclassed	14	2	16	23	3	26	10	.....
Totals	251	60	311	311	49	360	49	.....
Intermediate	4	7	11	10	2	12	1	.....
Total school registration	255	67	322	321	51	372	50	.....
School of Agriculture (Crookston)								
(three-year course)								
Seniors	69	36	105	80	39	119	14	.....
Juniors	86	38	124	73	31	104	.....	20
Freshmen	74	29	103	80	35	115	12	.....
Unclassed	9	1	10	12	1	13	3	.....
Totals	238	104	342	245	106	351	9	.....
Intermediate	71	32	103	54	25	79	.....	24
Total school registration	309	136	445	299	131	430	.....	15
School of Agriculture (Morris)								
(three-year course)								
Seniors	82	28	110	81	29	110	.....	.....
Juniors	93	35	128	95	26	121	.....	7
Freshmen	100	27	127	87	18	105	.....	22
Unclassed	14	10	24	18	10	28	4	.....
Totals	289	100	389	281	83	364	.....	25
Intermediate	23	17	40	40	19	59	19	.....
Total school registration	312	117	429	321	102	423	.....	6
School of Agriculture (Grand Rapids)								
(three-year course)								
Seniors	12	.....	12	21	.....	21	9	.....
Juniors	23	.....	23	33	.....	33	10	.....
Freshmen	36	.....	36	14	.....	14	.....	22
Unclassed	3	.....	3	4	.....	4	1	.....
Totals	74	.....	74	72	.....	72	.....	2
Intermediate	19	.....	19	12	.....	12	.....	7
Total school registration	93	.....	93	84	.....	84	.....	9
University High School	192	184	376	209	182	391	15	.....
Nursery School and Kindergarten	40	42	82	43	37	80	.....	2
University Elementary School	24	28	52	34	40	74	22	.....
Net totals schools	1,225	574	1,799	1,311	543	1,854	55	.....

TABLE III.—Continued

School or Course	Year 1948-49			Year 1949-50			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Short Courses								
School of Agriculture (St. Paul)								
Aircraft spraying and dusting.....	201	1	202	123	.....	123	.....	79
American association of agricultural editors .....	.....	.....	.....	43	.....	43	.....	43
American dairy science association.....	780	262	1,042	.....	.....	.....	.....	1,042
Animal nutrition	136	.....	136	143	.....	143	.....	7
Approved seed processors.....	.....	.....	.....	35	.....	35	.....	35
Beekeepers' short course.....	56	12	68	49	16	65	.....	3
Berry growers	48	3	51	61	10	71	.....	20
Boys' state	169	.....	169	236	.....	236	.....	67
Canners and fieldmen	114	.....	114	118	.....	118	.....	4
Crop improvement day.....	500	.....	500	600	.....	600	.....	100
Dairy day .....	.....	.....	.....	800	.....	800	.....	800
Dairy fieldmen .....	.....	.....	.....	125	.....	125	.....	125
Dairy herd improvement association supervisors	77	1	78	90	.....	90	.....	12
Dairy products	429	.....	429	.....	.....	.....	.....	429
Editors	119	24	143	121	15	136	.....	7
Fair management	83	16	99	95	23	118	.....	19
Farm and home week.....	1,617	476	2,093	1,788	556	2,344	.....	251
Farm bureau women .....	.....	232	232	.....	238	238	.....	4
Farm income tax	451	51	502	463	63	526	.....	24
Farm operations for supervisors of farmers home administration	74	2	76	.....	.....	.....	.....	76
Farmstead rural electrification.....	.....	.....	.....	93	.....	93	.....	93
Flock selecting and pullorum testing agents	155	6	161	234	10	244	.....	83
Grocery manufacturers of America.....	.....	.....	.....	25	.....	25	.....	25
4-H Club week .....	.....	.....	.....	454	523	977	.....	977
4-H tractor maintenance	45	.....	45	60	.....	60	.....	15
Future farmers of America.....	108	.....	108	1,501	.....	1,501	.....	1,393
Horticulture	260	339	599	164	193	357	.....	242
Korean technical institute .....	.....	.....	.....	10	.....	10	.....	10
Line superintendents and foremen of Minnesota rural electric construction and maintenance crew.....	.....	.....	.....	120	.....	120	.....	120
Liquefied petroleum gas service.....	.....	.....	.....	449	.....	449	.....	449
Lumbermen .....	.....	.....	.....	39	1	40	.....	40
Milk and cream grading.....	.....	.....	.....	62	.....	62	.....	62
Parents' day	108	121	229	117	104	221	.....	8
Pastors' meeting .....	.....	.....	.....	28	.....	28	.....	28
Poultry breeders .....	.....	.....	.....	29	8	37	.....	37
Ramsey county historical society meeting .....	.....	.....	.....	150	.....	150	.....	150
Rosegrowers' day	85	150	235	46	44	90	.....	145
Rural state youth	167	70	237	127	65	192	.....	45
Seed and weed inspectors.....	89	.....	89	.....	.....	.....	.....	89
Swine feeders' day	397	.....	397	678	2	680	.....	283
Twin City farmers' club	60	.....	60	60	.....	60	.....	60
Veterans on-the-farm	263	.....	263	406	.....	406	.....	143
Veterinary medicine	82	.....	82	93	.....	93	.....	11
Weed and seed .....	.....	.....	.....	145	.....	145	.....	145
Workshop in agricultural education.....	.....	.....	.....	4	.....	4	.....	4
Workshop in economic education.....	.....	.....	.....	59	.....	59	.....	59
Totals	6,673	1,766	8,439	10,043	1,871	11,914	.....	3,475
School of Agriculture (Crookston)								
4-H Club	417	242	659	212	372	584	.....	75
Women's camp .....	.....	126	126	.....	111	111	.....	15
Totals	417	368	785	212	483	695	.....	90
School of Agriculture (Morris)								
4-H Club	210	238	448	277	332	609	.....	161
Women's week .....	.....	325	325	.....	324	324	.....	1
Totals	210	563	773	277	656	933	.....	160
School of Agriculture (Grand Rapids)								
4-H Club	168	330	498	164	262	426	.....	72
Women's rest camp .....	.....	20	20	.....	30	30	.....	10
Totals	168	350	518	164	292	456	.....	62
Totals, short courses.....	7,468	3,047	10,515	10,696	3,302	13,998	.....	3,483
Less duplicates .....	.....	.....	.....	.....	.....	.....	.....	.....
Net totals, short courses	7,468	3,047	10,515	10,696	3,302	13,998	.....	3,483
Grand totals, schools and short courses.....	8,693	3,621	12,314	12,007	3,845	15,852	.....	3,538
Less duplicates .....	.....	.....	.....	.....	.....	.....	.....	.....
Net grand totals, schools and short courses	8,693	3,621	12,314	12,007	3,845	15,852	.....	3,538

TABLE IVA. EXTENSION ENROLLMENT, 1948-50

Department or Course	Year 1948-49			Year 1949-50			Gain	Loss
	Men	Women	Total	Men	Women	Total		
General extension	6,995	5,463	12,458	6,977	5,313	12,290		168
Extension short courses								
Advanced structural analysis and design	34		34					34
Apprentice funeral directors				68	6	74	74	
Applied mortuary science	98		98	89	2	91		7
Aquatic institute	5	43	48					48
Architects review	9		9					9
Cancer				45	2	47	47	
Camping education workshop	17	55	72					72
Cardiovascular				202	3	205	205	
Commercial pilots' ground training	81	4	85	52	1	53		32
Commodity purchasing				50		50	50	
Dental assistants		26	26		69	69	43	
Development of American motion pictures	233	206	439					439
Electrocardiograph	48	3	51	82	4	86	35	
Electrocardiology	2		2					2
Employment agency				33	17	50	50	
Introduction to flour milling	1		1					1
Master vocal class		1	1					1
Mental health				41	134	175	175	
Reinforced concrete				74	2	76	76	
Relaxation institute				24	148	172	172	
Structural engineering				38		38	38	
Survey of flour milling	73	4	77					77
Technical report writing				20	1	21	21	
Theoretical X-ray technology	1	22	23					23
X-ray technology	3	7	10	3	21	24	14	
Totals, short courses	605	371	976	821	410	1,231	255	
Less duplicates								
Net totals, short courses	605	371	976	821	410	1,231	255	
Correspondence study	2,910	2,405	5,315	2,822	2,616	5,438	123	
Grand totals, extension	10,510	8,239	18,749	10,620	8,339	18,959	210	
Less duplicates	124	100	224	147	172	319	95	
Net grand totals, extension	10,386	8,139	18,525	10,473	8,167	18,640	115	

TABLE IVB. CENTER FOR CONTINUATION STUDY ENROLLMENT, 1948-50

Course	Year 1948-49			Year 1949-50			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Achievement testing in elementary schools				33	48	81	81	
Adjustment of the visually handicapped				42	55	97	97	
Administration for group work executives				17	19	36	36	
Administrative nurses conference on health progress in Minnesota and implications				141	2	143	143	
Advanced psychiatric nursing and mental hygiene					22	22	22	
American studies	5	57	62	8	44	52		10
Anesthesia for registered nurses		13	13					13
Anesthesiology				27		27	27	
Anesthesiology for nurse anesthetists					83	83	83	
Appraisal of commercial and industrial property				23		23	23	
Assessor's school	163	8	171	191	8	199	28	
Atomic energy commission	21		21					21
Audio-visual institute	55	12	67	88	13	101	34	
Bankers' conference	228		228	189		189		39
Basic medical sciences and clinical correlation	33		33					33
Basic philosophies in social work	12	70	82					82
Brown report		36	36					36
Cancer				62	1	63	63	
Cancer control				26		26	26	
Cancer control for dentists				61		61	61	
Cancer control for Minnesota pharmacists	21	7	28					28
Cancer education for nursing instructors					30	30	30	
Cancer for Minnesota dentists	162	3	165					165
Cancer for Minnesota nonmetropolitan dentists	39		39					39
Cancer for Minnesota nonmetropolitan physicians	114	2	116					116

TABLE IVB.—Continued

Course	Year 1948-49			Year 1949-50			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Cancer for Minnesota physicians	33	1	34					34
Cardiovascular diseases	81		81	210	3	213	132	
Cardiovascular roentgenology	68	1	69					69
Care of mother and newborn infant					53	53	53	
Care of the aged in institutional homes	35	48	83	19	55	74		9
Casework in medical settings				9	45	54	54	
Central states agricultural extension program planning workshop	39	21	60					60
Child care institute	12	60	72	24	67	91	19	
Child health for public health nurses					92	92	92	
Child psychiatry	45	13	58	20	6	26		32
Clinical dietetics		99	99		113	113	14	
Clinical neurology				38		38	38	
Complete denture prosthesis	48		48					48
Community of interest between labor, management, and investors				39	1	40	40	
Cooperative engineering research	75		75					75
Councilmen's school	22		22	36		36	14	
Counseling of college students	13	14	27	25	16	41	14	
Counselor training and personnel work				46	2	48	48	
County highway engineers	87		87	89		89	2	
Dental assistants		53	53		41	41		12
Dental health education conference				52	19	71	71	
Dental practice management				106		106	106	
Dental prosthesis	13		13					13
Dental radiographic techniques	24	1	25					25
Dentistry	66	3	69	31	5	36		33
Dentistry for children	44		44	35		35		9
Dentistry for children for South Dakota dentists	11		11					11
Dermatology	63	3	66	74	2	76	10	
Diseases of the chest				29	3	32	32	
Ear, nose, and throat for specialists				35		35	35	
Education conference for nurses		67	67					67
Employment of the physically handicapped	48	10	58					58
Endodontia	10		10					10
Engineering teachers				173	1	174	174	
Executive secretaries of county welfare boards	52	27	79	42	23	65		14
Eye, ear, nose, throat for general physicians				54	1	55	55	
Far East institute				44	99	143	143	
Fifth annual church music institute				29	38	67	67	
Finance officers school	26	4	30	39	5	44	14	
Full denture service	9		9					9
Gastroenterology	51	1	52					52
Gastro-intestinal diseases for general physicians				96	2	98	98	
Gynecology	32	4	36	50	4	54	18	
Health of the school-age child		105	105	90	37	127	22	
High school guidance	22	19	41	21	29	50	9	
Home as the background for living				1	89	90	90	
Hospital administration	32	54	86	30	54	84		2
Immediate denture	18		18					18
Industrial nursing		70	70	2	77	79	9	
Industrial relations	209	12	221	134	11	145		76
Industrial wages and hours, Duluth	72	8	80					80
Infectious diseases				50	1	51	51	
Job evaluation				74	5	79	79	
Junior Red Cross leadership training institute	18	43	61					61
Labor institute on disability and sickness insurance coverage under unemployment compensation laws	25		25					25
Lay school for cancer workers	7	97	104	7	74	81		23
Legal course in taxation	45	5	50					50
Management seminar for cooperatives				45		45	45	
Marching band institute	37	4	41	41	3	44	3	
Marketing research institute				49	6	55	55	
Maternal and infant care for public health nurses					86	86	86	
Maternal and infant health for hospital nurse superintendents					32	32	32	
Medicine	48	3	51					51
Mental deficiency	15	64	79	18	44	62		17
Mental health for judges of probate				52	5	57	57	
Mental health for nonmetropolitan elementary school administrators	49	25	74					74
Mental health for public health staff nurses		94	94					94

TABLE IVB.—Continued

Course	Year 1948-49			Year 1949-50			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Methods of teaching sex education in schools	33	12	45					45
Mining symposium	469		469	581		581	112	
Minnesota's public library problems				13	33	46	46	
Minnesota state high school one-act play institute				24	125	149	149	
Motor vehicle fleet	24		24	30		30	6	
Municipal utilities metermen's school	53		53	36		36		17
National institute in hospital recreation				19	37	56	56	
National university extension association workshop	20	7	27	26	8	34	7	
Near East	6	24	30					30
Neurology	22		22					22
Newer developments in health informational services				13		13	13	
North Central region research conference in agricultural education	15		15					15
Nursery personnel on aspects of infant care		62	62					62
Nursing education workshop		45	45					45
Nursing supervisory problems		51	51					51
Obstetrics	96	6	102	120	6	126	24	
Occupational and physical therapy					64	64	64	
Operating room technic		114	114		93	93		21
Operative dentistry on inlay restorations				16		16	16	
Ophthalmology	50		50					50
Oral medicine seminar	197	2	199	207	2	209	10	
Oral surgery	29		29	33		33	4	
Otolaryngology				29		29	29	
Partial denture service				5		5	5	
Pediatric roentgenology				77	1	78	78	
Pediatrics	39	4	43					43
Pediatrics for general physicians	86	2	88	41	2	43		45
Pediatrics for specialists				37	6	43	43	
Pharmacy	27	6	33	61	12	73	40	
Physical medicine	40	1	41					41
Practical nursing		58	58					58
Preventive dentistry for county dental representatives	40		40					40
Probation and parole	47	13	60	64	19	83	23	
Proctology	18		18	26		26	8	
Professional counseling and placement	3	88	91					91
Professional training in physical education, health education, and recreation				26	22	48	48	
Property and casualty insurance				27	2	29	29	
Psychiatric nursing	1	23	24					24
Psychosomatic medicine for general practitioners	21	1	22	16	2	18		4
Public liability insurance				61	2	63	63	
Radio news	35		35	42	1	43	8	
Rail transportation				29		29	29	
Roadside development institute				15	1	16	16	
Scandinavia in a divided world				33	22	55	55	
School publications advisers				12	84	96	96	
Selected phases of property and casualty insurance	61	1	62					62
Sewer school	34		34	33		33		1
Speech correction				12	35	47	47	
Storytelling				152	2	154	154	
Supervision	48	62	110	36	91	127	17	
Surgery	112		112					112
Symposium on population and relationships between groups	11	29	40					40
Tax problems				2	53	55	55	
Town planning institute				44	3	47	47	
Traumatic surgery and orthopedics	45	1	46					46
Traumatic and pediatric surgery				90	2	92	92	
Tuberculosis and diseases of the chest	39	1	40					40
Tuberculosis control for lay persons	10	74	84	18	83	101	17	
Union members and community relations				30		30	30	
Volunteer work with patients in state hospitals				23	85	108	108	
Wage surveys	63	3	66					66
Water school	39		39	48		48	9	
Water and sewer schools	24		24	26		26	2	
X-ray technology		47	47	2	50	52	5	
Totals	4,314	1,978	6,292	5,201	2,522	7,723	1,431	
Less duplicates								
Net totals	4,314	1,978	6,292	5,201	2,522	7,723	1,431	

TABLE V. ENROLLMENT SUMMARY, 1948-50

Division	Year 1948-49			Year 1949-50			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Collegiate students	26,527	9,408	35,935	25,717	9,457	35,174		761
Subcollegiate students	8,693	3,621	12,314	12,007	3,845	15,852	3,538	
Totals	35,220	13,029	48,249	37,724	13,302	51,026	2,777	
Less duplicates								
Net totals	35,220	13,029	48,249	37,724	13,302	51,026	2,777	
Extension students	10,386	8,139	18,525	10,473	8,167	18,640	115	
Center for Continuation Study	4,314	1,978	6,292	5,201	2,522	7,723	1,431	
Grand totals	49,920	23,146	73,066	53,398	23,991	77,389	4,323	
Less duplicates	2,812	883	3,695	4,139	1,309	5,448	1,753	
Net grand totals	47,108	22,263	69,371	49,259	22,682	71,941	2,570	

TABLE VI. COMPARATIVE ENROLLMENT FIGURES, 1948-50

Instructional Unit	1948-49			1949-50			Gain		Loss	
	M	W	T	M	W	T	M	W	M	W
General College	1,486	419	1,905	1,395	409	1,804			91	10
University College	124	44	168	91	29	120			33	15
Science, Literature, and the Arts	6,174	2,764	8,938	5,317	2,505	7,822			857	259
Institute of Technology	5,017	42	5,059	3,853	51	3,904		9	1,164	
Agriculture, Forestry, Home Economics, and Veterinary Medicine (including schools of agriculture and agricultural short courses)	10,120	4,026	14,146	13,365	4,210	17,575	3,245	184		
Law	789	21	810	633	20	653			156	1
Medicine (including Medical Technology, Nursing, Physical and Occupational Therapy, and Public Health)	547	673	1,220	639	647	1,286	92			26
Dentistry (including Dental Hygiene)	314	80	394	355	83	438	41	3		
Pharmacy	392	31	423	405	29	434	13			2
Education (including High School, Nursery School, Kindergarten, and Elementary School)	1,589	1,592	3,181	1,626	1,637	3,263	37	45		
Business Administration	1,836	75	1,911	1,302	57	1,359			534	18
Graduate School	3,331	690	4,021	3,716	716	4,432	385	26		
Duluth Branch	1,604	568	2,172	1,602	623	2,225		55	2	
Summer Session (net)	11,436	4,001	15,437	10,646	3,756	14,402			790	245
Totals	44,759	15,026	59,785	44,945	14,772	59,717	186			254
Less duplicates	9,539	1,997	11,536	7,221	1,470	8,691			2,318	527
Net totals	35,220	13,029	48,249	37,724	13,302	51,026	2,504	273		
Extension										
General extension	6,995	5,463	12,458	6,977	5,313	12,290			18	150
Short courses	505	371	976	821	410	1,231	216	39		
Correspondence study	2,910	2,405	5,315	2,822	2,616	5,438		211	88	
Totals	10,510	8,239	18,749	10,620	8,339	18,959	110	100		
Less duplicates	124	100	224	147	172	319	23	72		
Net totals	10,386	8,139	18,525	10,473	8,167	18,640	87	28		
Center for Continuation Study	4,314	1,978	6,292	5,201	2,522	7,723	887	544		
Summary:										
Totals, resident students	35,220	13,029	48,249	37,724	13,302	51,026	2,504	273		
Totals, extension students	10,386	8,139	18,525	10,473	8,167	18,640	87	28		
Totals, Center for Continuation Study	4,314	1,978	6,292	5,201	2,522	7,723	887	544		
Grand totals	49,920	23,146	73,066	53,398	23,991	77,389	3,478	845		
Less duplicates	2,812	883	3,695	4,139	1,309	5,448	1,327	426		
Net grand totals	47,108	22,263	69,371	49,259	22,682	71,941	2,151	419		

TABLE VIIA. DEGREES CONFERRED, 1948-50

College and Degree	Year 1948-49			Year 1949-50		
	Men	Women	Total	Men	Women	Total
Science, Literature, and the Arts						
B.A. <i>summa cum laude</i>	7	2	9	8	6	14
B.A. <i>magna cum laude</i>	46	36	82	54	21	75
B.A. <i>cum laude</i>	57	47	104	83	29	112
B.S. <i>cum laude</i>.....	.....	.....	.....	.....	1	1
B.S. in library science <i>magna cum laude</i>.....	.....	.....	.....	1	.....	1
B.S. in library science <i>cum laude</i>	1	2	3	2	3	5
B.A.	678	315	993	746	277	1,023
B.S.	3	13	16	3	9	12
B.S. in library science.....	5	10	15	13	19	32
Associate in liberal arts.....	80	50	130	82	63	145
Institute of Technology						
B.S. with high distinction.....	.....	.....	.....	4	.....	4
B.S. with distinction.....	1	.....	1	3	.....	3
B.S. ....	.....	.....	.....	2	.....	2
Bachelor of aeronautical engineering with high distinction.....	2	.....	2	8	.....	8
Bachelor of aeronautical engineering with distinction.....	19	.....	19	10	.....	10
Bachelor of aeronautical engineering.....	86	1	87	69	2	71
Bachelor of agricultural engineering with high distinction.....	.....	.....	.....	1	.....	1
Bachelor of agricultural engineering with distinction.....	3	.....	3	3	.....	3
Bachelor of agricultural engineering.....	16	.....	16	21	.....	21
Bachelor of architectural engineering with high distinction.....	1	.....	1	.....	.....	.....
Bachelor of architectural engineering with distinction.....	5	.....	5	4	.....	4
Bachelor of architectural engineering.....	12	.....	12	39	.....	39
Bachelor of civil engineering with high distinction.....	4	.....	4	2	.....	2
Bachelor of civil engineering with distinction.....	11	.....	11	11	.....	11
Bachelor of civil engineering.....	153	2	155	98	.....	98
Electrical engineer.....	.....	.....	.....	2	.....	2
Bachelor of electrical engineering with high distinction.....	10	.....	10	23	.....	23
Bachelor of electrical engineering with distinction.....	51	.....	51	61	.....	61
Bachelor of electrical engineering.....	230	.....	230	313	.....	313
Bachelor of mechanical engineering with high distinction.....	7	.....	7	13	.....	13
Bachelor of mechanical engineering with distinction.....	35	.....	35	42	.....	42
Bachelor of mechanical engineering.....	264	1	265	307	.....	307
Bachelor of chemical engineering with high distinction.....	14	.....	14	3	.....	3
Bachelor of chemical engineering with distinction.....	18	.....	18	15	.....	15
Bachelor of chemical engineering.....	79	.....	79	69	.....	69
Bachelor of chemistry with high distinction.....	3	.....	3	1	.....	1

TABLE VIIA.—Continued

College and Degree	Year 1948-49			Year 1949-50		
	Men	Women	Total	Men	Women	Total
Bachelor of chemistry with distinction	6	1	7	2		2
Bachelor of chemistry	21	3	24	22	2	24
Bachelor of physics with high distinction	2		2	3		3
Bachelor of physics with distinction	6		6	7		7
Bachelor of physics	6		6	15		15
Bachelor of geological engineering	5		5	8		8
Bachelor of metallurgical engineering with distinction	3		3	5		5
Bachelor of metallurgical engineering	18		18	27		27
Bachelor of mining engineering with distinction	2		2	3		3
Bachelor of mining engineering	14		14	11		11
Bachelor of petroleum engineering with distinction				1		1
Bachelor of petroleum engineering	2		2	4		4
Agriculture, Forestry, and Home Economics						
Master of forestry	5		5	5		5
B.S. with high distinction (agriculture)	1		1	1	1	2
B.S. with distinction (agriculture)	10		10	11	1	12
B.S. (agriculture)	67		67	106		106
B.S. with high distinction (fish and wildlife management)	1		1			
B.S. with distinction (fish and wildlife management)	5		5	3		3
B.S. (fish and wildlife management)	14		14	22		22
B.S. with distinction (food technology)	1		1			
B.S. (food technology)	2		2	1		1
B.S. with high distinction (forestry)	2		2	1		1
B.S. with distinction (forestry)	11		11	19		19
B.S. (forestry)	54		54	76		76
B.S. (forestry-wildlife management)	2		2			
B.S. with high distinction (home economics)		2	2		2	2
B.S. with distinction (home economics)		9	9		10	10
B.S. (home economics)		55	55		51	51
B.S. with high distinction (science specialization)	1		1	2		2
B.S. with distinction (science specialization)	4		4	4		4
B.S. (science specialization)	12	1	13	9		9
B.S. with high distinction (veterinary medicine)	1		1	2		2
B.S. with distinction (veterinary medicine)	6		6	4		4
B.S. (veterinary medicine)	5		5	18		18
Agriculture and Education						
B.S. with high distinction (agricultural education)	1		1	2		2
B.S. with distinction (agricultural education)	5		5	6		6
B.S. (agricultural education)	22		22	47		47
B.S. with high distinction (home economics education)		1	1			
B.S. with distinction (home economics education)		11	11		8	8
B.S. (home economics education)		27	27		34	34
Agriculture and Business Administration						
Bachelor of agricultural business administration with high distinction				1		1
Bachelor of agricultural business administration						
Bachelor of agricultural business administration with distinction	2		2			
Bachelor of agricultural business administration	5		5	8		8
Law						
Master of law	1		1	1		1
Bachelor of laws	158	1	159	161	3	164
Bachelor of science in law	167	4	171	118	4	122
Medical Sciences						
Master of public health	12	12	24	20	14	34
Master of hospital administration	16	1	17	20	2	22
Doctor of medicine	108	15	123	74	14	88
Bachelor of medicine	71	14	85	90	4	94
B.S. (medicine)	11		11	91	5	96
B.S. with high distinction (medical technology)					2	2
B.S. with distinction (medical technology)		8	8		2	2
B.S. (medical technology)	1	27	28		36	36
B.S. (occupational therapy)		11	11		6	6
B.S. with high distinction (physical therapy)		2	2		1	1
B.S. with distinction (physical therapy)	1	2	3	1	5	6
B.S. (physical therapy)	2	2	4	1	6	7
B.S. with high distinction (public health nursing)		4	4		1	1
B.S. with distinction (public health nursing)		25	25		16	16
B.S. (public health nursing)		78	78		72	72
B.S. (X-ray technology)		1	1			
Graduate in nursing		87	87		39	39

TABLE VIIA.—Continued

College and Degree	Year 1948-49			Year 1949-50		
	Men	Women	Total	Men	Women	Total
Dentistry						
Doctor of dental surgery.....	47	2	49	82	1	83
Graduate dental hygienist.....		32	32		28	28
Pharmacy						
B.S. in pharmacy.....	50	7	57	73	5	78
Education						
Master of education.....	34	15	49	33	12	45
B.S. with high distinction.....	6	13	19	6	6	12
B.S. with distinction.....	57	61	118	49	64	113
B.S.	231	279	510	284	270	554
B.S. in library science.....	1	10	11	3	18	21
Business Administration						
B.B.A. with high distinction.....	2		2	5		5
B.B.A. with distinction.....	61	2	63	39	3	42
B.B.A.	668	29	697	461	16	477
B.S. in economics with high distinction.....				1		1
B.S. in economics with distinction.....	3	1	4	1		1
B.S. in economics.....	16	2	18	8	1	9
University College						
B.A. <i>magna cum laude</i>	4		4	1		1
B.A.	42	16	58	17	11	28
B.S. <i>summa cum laude</i>	1		1			
B.S. <i>cum laude</i>	3		3			
B.S.	18	5	23	17	5	22
General College						
Associate in arts.....	246	62	308	175	55	230
Graduate School						
Master of arts.....	263	136	399	282	136	418
M.A. in public administration.....	6	1	7	5	1	6
Master of business administration.....	11		11	12		12
Master of science.....	148	34	182	123	24	147
M.S. in aeronautical engineering.....	20		20	33		33
M.S. in agricultural engineering.....				3		3
M.S. in chemical engineering.....	10		10	7		7
M.S. in civil engineering.....	14	1	15	25		25
M.S. in electrical engineering.....	11		11	10		10
M.S. in mechanical engineering.....	17		17	24		24
M.S. in anesthesiology.....	4		4			4
M.S. in dental surgery.....				5		5
M.S. in dentistry.....	2		2	4		4
M.S. in dermatology and syphilology.....	7	1	8	5		5
M.S. in medicine.....	42		42	25		25
M.S. in neurology.....	1		1			
M.S. in neurology and psychiatry.....	3		3	1		1
M.S. in neurosurgery.....	4		4	8		8
M.S. in obstetrics and gynecology.....	2		2	2		2
M.S. in ophthalmology.....	5		5	4		4
M.S. in orthopedic surgery.....	10		10	9		9
M.S. in otolaryngology and rhinology.....	4		4			
M.S. in pathology.....	4	1	5	4		4
M.S. in pediatrics.....	1	2	3	2	1	3
M.S. in physical medicine.....	2	1	3	2		2
M.S. in physiology.....				1		1
M.S. in plastic surgery.....	2		2			
M.S. in proctology.....	3		3			
M.S. in radiology.....	2		2	3		3
M.S. in surgery.....	43		43	25		25
M.S. in urology.....	8		8	5		5
Master of social work.....	3	4	7	7	23	30
Doctor of philosophy.....	125	8	133	141	14	155
Ph.D. in medicine.....				4		4
Ph.D. in neurology.....				1		1
Ph.D. in radiology.....				1		1
Ph.D. in surgery.....	3		3	4		4
Duluth Branch						
B.A. <i>cum laude</i>	8	1	9	11	1	12
B.A.	120	9	129	230	17	247
B.S. <i>cum laude</i>	14	7	21	10	8	18
B.S.	51	60	111	87	55	142
A.A.	1	3	4	2		2
Totals (earned degrees).....	5,237	1,688	6,925	5,535	1,546	7,081
Honorary degrees						
Doctor of humane letters.....				1		1
Doctor of laws.....	2		2			
Doctor of science.....	1		1			
Grand totals.....	5,240	1,688	6,928	5,536	1,546	7,082

TABLE VII.B. CERTIFICATES CONFERRED, 1948-50

School, Division, or Course	Year 1948-49			Year 1949-50		
	Men	Women	Total	Men	Women	Total
School of Agriculture (St. Paul)	80	26	106	55	20	75
Applied mortuary science	65	.....	65	149	1	150
Extension	15	1	16	22	2	24
Hospital library certificate	.....	.....	.....	.....	1	1
School of Agriculture (Crookston)	124	65	189	118	61	179
School of Agriculture (Grand Rapids)	16	.....	16	21	.....	21
School of Agriculture (Morris)	54	27	81	79	30	109
Operating room nurse	.....	3	3	.....	.....	.....
Practical nursing	.....	7	7	.....	10	10
Psychiatric nursing	.....	12	12	.....	.....	.....
Pediatric nursing	.....	1	1	.....	.....	.....
Public health nursing	.....	120	120	.....	94	94
University High School	.....	31	67	33	41	74
Totals	390	293	683	477	260	737
Certificates of good standing	1	.....	1	.....	.....	.....

TABLE VIIIA. STUDENTS ENTERED FROM HIGH SCHOOLS, 1948-49

Entrants From	General College	S. L., and A.	Institute of Technology	A., F., and H. E.	Nursing	Dental Hygiene	Pharmacy	Education	Duluth	Totals
St. Paul public schools	165	206	68	46	1	4	1	18	3	512
Other Minnesota high schools	173	499	168	164	3	7	33	87	631	1,765
Minnesota private schools	89	155	36	21	3	.....	7	11	15	337
Totals from Minnesota	795	1,643	437	320	9	20	63	199	652	4,138
Other states	40	194	35	22	.....	1	3	11	40	346
Foreign countries	1	9	.....	.....	.....	.....	.....	.....	1	11
Totals	836	1,846	472	342	9	21	66	210	693	4,495
No information	12	19	6	19	.....	.....	.....	3	23	82
Grand totals	848	1,865	478	361	9	21	66	213	716	4,577

TABLE VIIIB. STUDENTS ENTERED FROM HIGH SCHOOLS, 1949-50

Entrants From	General College	S. L., and A.	Institute of Technology	A., F., and H. E.	Nursing	Dental Hygiene	Pharmacy	Education	Veterinary Medicine	Duluth	Totals
St. Paul public schools	164	229	68	35	2	2	7	46	.....	.....	553
Other Minnesota high schools	161	520	132	237	19	8	24	84	2	527	1,714
Minnesota private schools	95	170	32	22	.....	.....	6	10	.....	27	362
Totals from Minnesota	787	1,564	357	398	25	18	54	231	2	559	3,995
Other states	35	200	35	18	.....	2	1	32	.....	44	367
Foreign countries	.....	14	1	.....	.....	.....	.....	1	.....	4	20
Totals	822	1,778	393	416	25	20	55	264	2	607	4,382
No information	17	11	1	4	.....	.....	.....	11	.....	2	46
Grand totals	839	1,789	394	420	25	20	55	275	2	609	4,428

TABLE IXA. SUMMARY OF STUDENTS ENTERED WITH ADVANCED STANDING, 1948-49

Entrants From	Institutions																	Totals		
	General College	University College	S., L., and A.	Institute of Technology	A., F., and H. E.	Law	Medicine	Medical Technology	Public Health	Occupational Therapy	Physical Therapy	Nursing	Dentistry	Dental Hygiene	Pharmacy	Education	Business Administration		Veterinary Medicine	Duluth
Institutions in Minnesota.....	17	1	389	268	154	65	8	3	16	1	3	5	21	3	25	139	138	10	241	1,507
Institutions in other states.....	8	3	228	75	76	17	4	1	49	1	1	3	14	2	4	91	23	17	40	657
Institutions in foreign countries.....			4	3					12						1	3				23
Totals.....	25	4	621	346	230	82	12	4	77	2	4	8	35	5	30	233	161	27	281	2,187
No information.....	1		4	4	8	4	1		7				6			21	16	5	49	126
Grand totals.....	26	4	625	350	238	86	13	4	84	2	4	8	41	5	30	254	177	32	330	2,313

TABLE IXB. SUMMARY OF STUDENTS ENTERED WITH ADVANCED STANDING, 1949-50

Entrants From	Institutions																	Totals		
	General College	University College	S., L., and A.	Institute of Technology	A., F., and H. E.	Law	Medicine	Medical Technology	Public Health	Occupational Therapy	Physical Therapy	Nursing	Dentistry	Dental Hygiene	Pharmacy	Education	Business Administration		Veterinary Medicine	Duluth
Institutions in Minnesota.....	39	4	376	123	131	28	12	4	22	3	1	8	27	6	29	148	70	8	110	1,149
Institutions in other states.....	10	2	284	44	56	19	2	3	72	2	1	10	16	4	5	150	18	7	42	747
Institutions in foreign countries.....		2	13	7	4	1		1	13		1				1	6	1			50
Totals.....	49	8	673	174	191	48	14	8	107	5	3	18	43	10	35	304	89	15	152	1,946
No information.....	1		10	4	27	2	3	1	18	1		1	1			17	15	6	19	126
Grand totals.....	50	8	683	178	218	50	17	9	125	6	3	19	44	10	35	321	104	21	171	2,072

TABLE XA. SUMMARY OF GEOGRAPHICAL DISTRIBUTION OF COLLEGIATE STUDENTS (OTHER THAN SUMMER SESSION), 1948-49

	General College	University College	S., L., and A.	Institute of Technology	A., F., and H. E.	Law	Medicine	Medical Technology	Public Health	Occupational Therapy	Physical Therapy	Nursing	Dentistry	Dental Hygiene	Pharmacy	Education	Business Administration	Graduate	Veterinary Medicine	Duluth	Duplicates	Totals
Counties in Minnesota																						
Hennepin	1,029	45	3,955	1,475	539	254	183	38	62	18	5	93	78	29	118	1,177	569	1,073	14	34	369	10,788
Ramsey	474	30	1,335	706	244	96	93	11	21	6	1	12	43	13	57	426	205	500	7	.....	142	4,280
Others	262	28	1,870	1,397	994	251	211	37	80	13	11	66	197	27	233	698	484	806	83	2,104	299	9,852
Totals	1,765	103	7,160	3,578	1,777	601	487	86	163	37	17	171	318	69	408	2,301	1,258	2,379	104	2,138	810	24,920
Other states	14	10	501	258	97	49	62	10	160	8	2	41	41	4	23	240	76	1,642	14	49	65	3,301
Foreign countries	2	1	24	19	10	1	1	.....	21	.....	.....	.....	3	.....	1	9	4	344	.....	.....	4	441
No information	23	6	137	49	265	2	.....	1	7	3	1	7	1	2	2	168	21	67	1	38	350	801
Grand totals	1,804	120	7,822	3,904	2,149	653	550	97	351	48	21	219	363	75	434	2,718	1,359	4,432	119	2,225	1,229	29,463

TABLE XB. SUMMARY OF GEOGRAPHICAL DISTRIBUTION OF COLLEGIATE STUDENTS (OTHER THAN SUMMER SESSION), 1949-50

	General College	University College	S., L., and A.	Institute of Technology	A., F., and H. E.	Law	Medicine	Medical Technology	Public Health	Occupational Therapy	Physical Therapy	Nursing	Dentistry	Dental Hygiene	Pharmacy	Education	Business Administration	Graduate	Veterinary Medicine	Duluth	Duplicates	Totals
Counties in Minnesota																						
Hennepin	1,095	72	4,540	1,936	613	285	148	32	55	11	6	92	66	36	121	1,149	769	992	10	19	697	12,047
Ramsey	515	43	1,558	881	271	130	77	11	20	5	3	14	30	15	42	406	290	460	6	3	244	4,778
Others	271	36	2,209	1,778	1,209	307	192	46	79	5	11	74	161	19	232	851	708	782	49	2,091	660	11,112
Totals	1,881	151	8,307	4,595	2,093	722	417	89	154	21	20	180	257	70	395	2,406	1,767	2,234	65	2,113	1,601	27,937
Other states	17	17	578	400	157	87	89	15	150	6	1	49	52	5	25	241	130	1,406	10	54	90	3,489
Foreign countries	1	.....	18	29	7	.....	1	.....	17	.....	.....	.....	10	.....	1	7	4	311	.....	4	1	410
No information	6	.....	35	35	10	1	8	.....	2	.....	1	.....	.....	.....	2	17	10	70	.....	1	83	198
Grand totals	1,905	168	8,938	5,059	2,267	810	515	104	323	27	22	229	319	75	423	2,671	1,911	4,021	75	2,172	1,775	32,034

COFFMAN MEMORIAL UNION

With the close of the last biennium the Coffman Memorial Union completed its tenth year of service to the University community. In that time, the affairs of the Union have been subject to severe stress and strain which reflected the abnormal conditions of the state and nation. At no time in its brief history could one point to a period of normal operation. After only one short year of adjustment to its new responsibilities, the Union was faced with the challenge of working out its destiny on a wartime campus. With the end of the war came the more satisfying but nevertheless difficult period of providing for the recreational and social needs of 27,000 students. This era passed all too quickly into the one which at the close of the current biennium seems to forecast the immediate future—that of an adjustment to lower enrollments and severe financial limitations.

Through its extensive and well-balanced program of recreational and social activities the Union has enriched the informal educational experience of several student generations. Through its physical facilities it has given new impetus to the growth and development of a strong and vital activities program with its initiation stemming from many special interest areas. It has in many subtle ways aided in creating a sense of unity and cohesiveness within the student body.

Village Union—One of the major Union innovations which came to complete fruition during the past two years was the Village Union. This recreational center was designed and located to serve the 650 married veterans and their families at University Village, the veterans' housing project. Because of its unique function, several of its facilities and program activities particularly are noteworthy. The study lounge has proved itself essential to the well-being of the veteran students whose limited home facilities tend to create an acute study problem. There has been scarcely an hour during which this area has not been used to its capacity (60 students).

The Children's Play Center (child care service) has become a tremendously valuable part of the village life. Through the combined efforts of the University Institute of Child Welfare, the Union, and volunteer mothers, the children are given training and supervision by a full-time staff consultant, practice teacher assistants, and several mothers. During the first year all costs were carried by the Institute and the Union, but currently the staff costs are being covered by tuition charges. The program provides for a two-session day during five days per week and has proved excellent as a means of child-parent education. During a single year a total of 330 sessions was held at which 8,470 children and mothers participated.

The program includes observation and discussion sessions of child behavior and parents' counseling service on child growth and training.

Under the stimulation of the manager, the residents of the village developed a program of recreation and social activities which met all anticipations. Approximately two hundred villagers annually serve on the eleven committees which originate, plan, and conduct the programs.

Artcraft Workshop—Minnesota is one of the few unions in the entire country fortunate enough to provide a well-equipped and staffed creative workshop. Educators generally agree that such an opportunity for the development of artistic and creative skills is essential to a well-balanced union recreational program. Generally these interests and skills remain longer and provide for greater avocational utilization than many of the other social and recreational activities in which the average student engages while in college.

Although the shop was first created on a restricted basis during 1947, it was not until the last biennium that it reached its full potential. A complete set of power tools has made the woodworking section one of the most popular divisions of the shop. Two potter's wheels and a pottery kiln provide for interesting exploration of the field of ceramics. Special attention has been given to the utilization of native clays and glazes. Leather working and carving hold a major portion of the interest of student workers, with metal working, wood carving, oil and water painting and weaving playing secondary roles. The most recent addition to the shop facilities was the installation of a well-equipped photographic dark room for developing and printing of student work.

St. Paul Campus—With the completion of the Village Union and the establishment of a \$50,000 renovation budget during the previous biennium, the Union Board found itself during the past two years in a position to plan the next expansion project. This, it was agreed, should be the building of a new and more adequate Union building on the St. Paul Campus for both the college and agricultural school students. With the approval of the Board of Regents a building planning committee was appointed in 1949 and a firm was employed to design the building.

With current construction costs at all-time highs, it was realized that available funds could provide only for the first unit of a building which would be adequate for the entire future needs of the St. Paul Campus. It is anticipated that should the original unit of the new Union be inadequate for conference room needs, some of the space now used by the Union in Old Dairy Hall will continue to be used for this purpose.

Program—Union activity in its broadest social, cultural, and recreational scope has shifted with the changing student population. Attitudes have changed and, more important, the general character of the average student. During this two-year period there was a marked decline in the veteran student enrollment which had left a vivid imprint on the program of activity at Coffman Union.

It was apparent that these older, more mature students were seeking out and in some cases developing the areas which would give them the social training which they may have felt was missed in their backgrounds. At the present time there seems to be some evidence that the nonveteran new student either does not recognize his basic social weakness or is less willing to acknowledge his lacks by participation in the learning situations.

Square and folk dancing enjoyed a phenomenal rise in popularity during the biennium. Coffman Union became one of the first to recognize this new popularity and to provide the facility to carry on a complete program of social and instructional dancing.

Provisions were made promptly to bring the popular television shows to the students. Football games in the fall of 1948 were viewed by as many as 260 at one time.

Superior qualities of student leadership were shown in developing and expanding new program ideas. These student leaders and other students active in the affairs of the Union seemed to grasp the aims and problems of the Union with mature understanding. A healthy relationship with other student organizations existed and efforts were made to gain an understanding and insight into what other groups were doing.

Finances—Already decreased enrollment is being reflected in the reduction in receipts in the billiard room and bowling alley and in student fee income. Increased costs of labor, materials, and merchandise have not been completely counterbalanced by increased charges for services and merchandise. Thus, the annual operating reserves of the Union have dropped during the past two years.

Although in no immediate difficulty, any acute decline in enrollment, and subsequently the Union fee income, could quickly jeopardize the plan which has been evolved for future expansion.

Union Board of Governors—The fifteen students and five staff members who constitute the Union Board continue to give the Union its fundamentally democratic character. Certain basic weaknesses in the original methods of selecting student members have hampered the board in maintaining continuity of thought, philosophy, and action. Two years in which the membership of the board was completely replaced resulted in the passing of a constitutional amendment which provides in the future for the election of nine students and the appointment of six. The appointed members will in the future assure hold-over membership of several board members.

This ratio also compromises the difference of opinion between those who consider the board a legislative body and therefore one to which open elections should provide representation and those who envision the board as a planning and organizing group to which only experienced and trained students should be appointed.

The Next Biennium—Although the changing characteristics and reduced size of the student body will create many adjustment problems for the Union, there is every reason to believe that its future will be an intriguing and challenging one. A Union organization which permits itself to become rigid and inflexible in its attitudes, methods, and outlook would soon find itself in the backwaters of the swiftly-moving student life. It is with a spirit of optimism, anticipation, and desire to serve that the staff and Union Board look forward to the unpredictable conditions which lie ahead.—G. RAY HIGGINS, *director of student unions*.

UNIVERSITY HEALTH SERVICE

The general health of the student body during this biennium has been excellent. An epidemic of a mild form of influenza occurred in the spring of 1950. Two cases of poliomyelitis in students were hospitalized in the Health Service, both recovering. Four deaths occurred in the Health Service, one from leukemia, one from a brain tumor, one from leukosarcoma, and one from an anaphylactic reaction.

During the past two years an increasing number of colleges and departments has required a physical examination to determine the physical and emotional fitness of stu-

dents for certain professions. This trend has caused an increase in the number of health examinations performed at the Health Service.

Health Problems of Veterans—Although the number of veterans on the campus has decreased greatly over the all-time high of the past biennium, the large number still in school has continued to add to the Health Service load. Although the health problems of the veterans are little different from those of other students, much professional and clerical time has been used to aid veterans eligible for medical care at the Veterans Administration in obtaining such care and in filling out the numerous reports necessary. The Health Service has continued its contract with the Veterans Administration to care for students attending the University under Public Law 16. A physician from the Health Service staff has also continued to appraise the medical feasibility of veterans counseled in the Veterans Counseling Service.

General Program—A general program of health examinations, individual health counseling and instruction, medical and hospital care, and supervision of environmental sanitation has been continued. The environmental sanitation program has been improved through the addition of a full-time public health engineer to the Health Service staff.

Health Examinations—Complete medical examinations were given to more than 23,700 students during the biennium. Although the number of required entrance physical examinations decreased, there was a marked increase in the periodic health examinations due, in part, to the college requirement mentioned above. In spite of a decreasing enrollment, in the year 1949-50 the largest number of periodic health examinations ever given by the Health Service was done.

TABLE I. NUMBER OF COMPLETE MEDICAL EXAMINATIONS GIVEN

Year	Entrance	Periodic	Total
1940-41	5,865	3,415	9,280
1941-42	5,865	2,973	8,838
1942-43	5,944	2,977	8,921
1943-44	4,859	1,782	6,641
1944-45	5,982	1,730	7,712
1945-46	10,508	2,543	13,051
1946-47	10,419	3,394	13,813
1947-48	6,823	4,259	11,081
1948-49	8,335	3,171	11,506
1949-50	7,721	4,484	12,205

Medical Care—Visits made to the Health Service dispensary for medical care continued to be high. During the biennium, over 147,000 such visits were made.

TABLE II. VISITS TO THE HEALTH SERVICE (MINNEAPOLIS CAMPUS) FOR MEDICAL ATTENTION

Year	Number of Visits	Average Number of Visits per Student
1940-41	54,962	3.16
1941-42	51,322	3.27
1942-43	43,530	3.14
1943-44	45,896	4.65
1944-45	39,622	4.51
1945-46	56,864	4.20
1946-47	81,715	3.11
1947-48	76,663	3.03
1948-49	73,523	2.85
1949-50	74,111	3.11

Hospital Care—The rate of hospitalization during the biennium continued to be low because of the low incidence of respiratory infections. Due in part to the new antibiotic drugs available, the average hospital stay for students has decreased during the past ten years.

Mental Hygiene—The demands for mental hygiene consultation have increased out of proportion to the number of students enrolled in the University. Additional psychiatric help was procured to attempt to meet the student needs in this field. A total of 1,430 individual students was seen in the mental hygiene clinic during the biennium. Of this number, 1,134 were new students. As in previous years, about half of the students seen in the mental hygiene clinic were referred by physicians in the Health Service, with the trend continuing for more students to seek mental hygiene aid without special referral.

TABLE III. STUDENT HOSPITAL CARE (MINNEAPOLIS CAMPUS)

Year	Number of Patients	Rate per 1,000 Students	Number of Hospital Days	Average Stay in Days	Comments
1940-41	1,302	74.9	5,928	4.6	Moderate influenza epidemic
1941-42	1,248	79.7	5,232	4.2	No epidemic
1942-43	1,800	118.4	8,687	4.8	No epidemic (Army during 3 months of period)
1943-44	2,261	190.2	11,228	5.0	Influenza epidemic
1944-45	1,282	146.0	6,205	4.8	No epidemic
1945-46	1,918	141.8	7,901	4.1	Mild influenza
1946-47	1,502	57.2	6,425	4.3	No epidemic
1947-48	1,470	58.1	6,411	4.4	No epidemic
1948-49	1,428	55.3	5,151	3.6	No epidemic
1949-50	1,355	56.8	5,499	4.1	Mild influenza

The plan for group psychotherapy, which was started during the past biennium, has been expanded. In selected cases this type of therapy is very effective and permits the psychiatrist to see more students than when all are seen on an individual basis. An additional psychiatric social worker has been added to the mental hygiene staff for the coming year.

Tuberculosis Control—The tuberculosis control program has been continued. Every student is given a tuberculin test and, in addition, regardless of reaction to tuberculin, is given a photofluorogram with the 70 mm. photofluorographic unit. Twenty-one cases of tuberculosis were found in students during the biennium as a result of the case-finding program. About half of these cases were active.

Photofluorographic examination of the chest has also been done on all pre-employment examinations of faculty and nonacademic employees.

During the year 1948-49 a special tuberculosis survey to determine the relative incidence of tuberculosis in veteran and nonveteran students was made under a grant from the Veterans Administration. Over 14,000 male students were skin-tested, not only with tuberculin but also with histoplasmin, coccidioidin, and blastomycin. A detailed history of all places of residence, as well as any exposure to tuberculosis, was obtained. The data from this study are now being analyzed and will be reported later.

Dietetic Service—The consultation service with a dietitian has been continued. Students are referred to the dietitian by the Health Service physicians for dietetic counseling. During the biennium, over 1,300 students were seen by the dietitian for such conditions as overweight, underweight, allergies, duodenal ulcer, diabetes, etc. This dietetic counseling service will be continued in conjunction with a special diet table this coming year.

Special Services—Because of the need, additional consultation service in neurology has been provided. The number of students with convulsive disorders in school seems to have increased. These students need constant supervision if they are to continue their educational programs. The demand for refractions has continued to be very high. A study is planned for the coming year to try to work out a method of screening students with eye problems to conserve on the time of the ophthalmologists.

St. Paul Campus—The number of students using the Health Service on the St. Paul Campus has increased. In the year 1949-50 the greatest number of services ever rendered on that campus was given. This is due in part to the addition of consultation service in dentistry, dermatology, and ophthalmology. Hospitalization in the Health Service on the St. Paul Campus was low, although in the year 1949-50, due to the influenza epidemic, the number of hospital days was larger than it had been for several years.

TABLE IV. ST. PAUL CAMPUS HEALTH SERVICE: OUT-PATIENT DEPARTMENT

Year	Medical Attention	Total Immunizations	Total Services Rendered
1940-41	4,210	1,501	5,711
1941-42	3,260	960	4,220
1942-43	2,047	696	2,743
1943-44	2,343	1,128	3,471
1944-45	1,556	795	2,351
1945-46	1,164	1,003	2,167
1946-47	3,234	1,541	4,775
1947-48	3,833	1,563	5,396
1948-49	4,259	1,879	6,138
1949-50	4,625	1,865	6,490

TABLE V. STUDENT HOSPITAL CARE (ST. PAUL CAMPUS)

Year	Number of Patients	Number of Hospital Days	Average Stay in Days	Comments
1940-41	308	1,397	4.5	Influenza, mumps
1941-42	51	215	4.2	No epidemic
1942-43	166	721	4.3	No epidemic
1943-44	458	1,895	4.1	Influenza epidemic
1944-45	60	197	3.2	No epidemic
1945-46	137	713	5.2	Mild influenza
1946-47	105	313	3.0	No epidemic
1947-48	103	365	3.5	No epidemic
1948-49	69	227	3.3	No epidemic
1949-50	185	665	3.6	Mild influenza

Faculty Examinations—Physical examinations for all new members of the academic staff and for those promoted to positions implying tenure have been given in the Health Service. During the biennium 482 of these medical examinations were done. In addition the Health Service has reviewed 126 faculty examinations done at the Duluth Branch. After reviewing the medical records, recommendations on these examinations were sent to the President's Office. Twenty-six faculty members had the required medical examinations done by outside physicians. These records, also, were reviewed and rated by the Health Service staff.

Civil Service Examinations—A total of 1,312 medical examinations was performed on individuals applying for positions on the regular payroll of the Civic Service staff during the biennium. This is about 100 less than during the previous biennium. Of this number, 16, or less than 1 per cent of the total, were found to have physical disabilities preventing employment for the type of work for which they were applying.

Environmental Sanitation—In its capacity of public health agency for the University, the Health Service has continued and expanded its program of environmental sanitation which now includes many of the activities considered to be within the scope of an environmental health program in a community health department. In July, 1949, a public health engineer was added to the staff of the Health Service to direct this program.

The program of annual inspections of all student housing facilities has continued to be a major activity in the sanitation program. During the biennium, over 3,600 inspections of housing units were completed.

The sanitation division is increasingly active in giving technical service to householders and working cooperatively with the Fire and Building Departments of St. Paul and Minneapolis. The year 1949-50 has been the beginning of a building era for student organizations, such as fraternities and sororities, and the Health Service is cooperating with the Student Activities Bureau and the Student Housing Bureau in reviewing plans for new buildings and for alterations to assist the student organizations in meeting building standards for safety and sanitation. Consulting service has been given, also, to those student groups planning to acquire housing by rental or purchase.

Sanitary surveys have been made at regular intervals of all food services operated by the University. In the fall of 1949 a requirement was made for the inspection of all food services operated by fraternities, sororities, student cooperatives, and religious foundations. Since these groups have not been included in the program of inspections of the Minneapolis Health Department, this is the first time that all of these kitchens have been checked. The need for a continuing program of food sanitation service was demonstrated. Several sets of plans and specifications for new kitchens and for alterations to existing facilities have been reviewed by the public health engineer, and recommendations have been made to architects and alumni.

All food handlers employed on the campus, including part-time student help as well as all food handlers in the student-operated kitchens, have been given medical examinations. A training program consisting of movies and demonstrations was offered each year to the food service employees.

Samples of water have been collected each week from the five University swimming pools and tested for bacterial quality. Checks are made also on the chlorination of the pools, as well as conditions of operation and maintenance.

The sanitation program has been extended further to include assistance with the problems of water supply and waste disposal at Rosemount Research Center, the water supply on the St. Paul Campus, problems of insect and rodent control, and a miscellaneous number of other problems. There still remain several important public health problems in this field of environmental sanitation which must receive attention.

Research—The cold prevention studies have been continued. In 1948-49 studies on the value of antihistaminic drugs in the prevention and treatment of colds were carried out. These studies showed no value of the antihistaminic drugs in cold prevention or treatment. The research studies on hypertension in students, started in 1947, have been continued through grants from the medical research fund of the Graduate School and other outside research sources. The survey of the incidence of tuberculosis and fungus infection in veteran and nonveteran students, which was started in April, 1948, has been completed.—RUTH E. BOYNTON, M.D., *director*.

THE UNIVERSITY OF MINNESOTA PRESS

Perhaps the best single index of the growth of the Press during the 1948-50 biennium is the 35 per cent increase in sales volume over the preceding biennium. This increase indicates stepped-up activity in all departments, although it gives no real measure either of the quantity or quality of editorial and production work, or even that of the sales and publicity departments. It is in the nature of scholarly publishing that many of the most specialized and expensive books are the most difficult to sell, or are priced far below cost. And as can be seen from the appended chronological list, many bulletins and reports are distributed free.

We have had no big best-sellers, with the exception of the low-priced Faegre pamphlets, but the list as a whole has done well. Foreign sales, especially to Oxford and the European continent, were much improved until the devaluation of the pound, and the demand continues for specialized books even at current high prices.

But the growth, however measured, cannot continue because we are up against the dead wall of limitation of working space. We estimate that our cramped quarters add possibly as much as one third to our overhead costs, a very serious situation in a period when all costs have risen sharply and are likely to go still higher. Lack of space also makes it impossible to add additional staff to meet emergency demands or to take on a greater volume of regular work.

Another perennial problem has been lack of working capital to finance large and long-range projects. This difficulty is in the way of being solved, at least temporarily, by a greater flexibility in our accounting practices. Also more and more agencies outside the University are turning to us to publish for them at their expense, in whole or in part. Agreements have been made during the past year to publish books sponsored and subsidized by the University of Rochester, the University of Manitoba and the National Research Council of Canada, the Swedish Pioneer Historical Society, the Field Foundation, and The Minneapolis Institute of Arts.

Many of our major publications are financed by funds budgeted for that purpose when research projects are set up. Current examples are the two-volume *Biology of Human Starvation* and the ten monographs of the Intergovernmental Relations Research project, directed by William Anderson and Edward W. Weidner. Very few reports of research can be expected to be self-supporting, and donors of funds for research should be constantly reminded of the necessity for publication if research is to be fruitful.

Two journals were launched during the biennium: *American Quarterly*, published for the Program of American Studies of the University; and *Philosophical Studies*, issued six times each year under the editorship of Herbert Feigl and Wilfrid Sellars. The College of Education inaugurated the Modern School Practices Series to take the place of two earlier series, that on Individualization of Instruction, and the Modern School Curriculum. The University Library began a series of Occasional Papers with *American Humorous Folklore* as the first number.

An innovation was the publication of three books for young people, all warmly welcomed by teachers and librarians: *Wanda Gág, the Story of an Artist* by Alma Scott, who had received a Regional Writing Fellowship; *Peter Nielsen's Story* by Niels Thorpe; and *Early Candlelight* by Maud Hart Lovelace, the reprint of a historical novel of early Minnesota—the latter was a part of our contribution to the Minnesota Territorial Centennial in 1949.

Other contributions to the centennial were: Blegen's *The Land Lies Open*, a special edition of which was distributed by the Minnesota Historical Society to celebrate its own centennial; *John A. Johnson, the People's Governor* by Winifred Helmes; and *The History of the White Pine Industry* by Agnes M. Larson, a Regional Writing Fellow.

Three volumes were published on the Waite Fund and that fund is now exhausted, except as receipts from the sale of the books can replenish it. The fund has been influential, both directly and indirectly, in furthering its object, the betterment of race rela-

tions—directly through the books published with the aid of this fund and indirectly by stimulating further research and writing in this area.

The list for the biennium exhibits no discernible trends except toward larger editions and more frequent reprintings. Like the University, it represents a multiplicity of interests and makes a contribution, great or small, to each. On the basis of work in progress, however, the coming biennium will show greater emphasis on medicine and the biological sciences, in keeping with the University's expansion in these departments.

Our books have been very well treated by reviewers, and many are regarded as the definitive books in their respective fields. Others break new ground in undeveloped territory, a function of university press publishing in general. Specific awards were as follows: The Sigma Delta Chi distinguished service award for research in journalism was given in 1948 to J. Edward Gerald for his *The Press and the Constitution*, and in 1949 to Edwin Emery for his *History of the American Newspaper Publishers Association*. Professor Robert MacGregor Dawson received the 1949 award of the Governor General of Canada for academic nonfiction for *Democratic Government in Canada*, which we published in the United States. Leonard Salter's *A Critical Review of Research in Land Economics* won the award of the American Farm Economic Association for the best book published in the field of land economics. The American Institute of Graphic Arts selected *American Quarterly* for its 1950 Magazine Show, "directed toward raising the professional standards of editorial design and production of magazines." *American Quarterly* will be honored by a certificate of award, by public exhibition, and by inclusion in a descriptive catalog that will be widely distributed.

The Report on American University Presses by Chester Kerr, a survey sponsored by the American Council of Learned Societies, with a grant from the Rockefeller Foundation, was published in 1949 by the Association of American University Presses and aroused much interest in the publishing world as well as in academic circles. It made the public more aware of the increasingly important place scholarly publishing has in the educational field and its growing influence with general readers. American university press books have great prestige abroad and are coming to be recognized as among our best ambassadors.

The Association of American University Presses, made up of some 35 well-established organizations, has also been made more conscious of its obligations and responsibilities as well as of the strength and potentialities of the group. Mrs. Harding was elected vice-president and member of the executive board in May, 1950, and will participate actively in promoting joint enterprises with the American Council of Learned Societies, the American Book Publishers Council, and other national organizations.

Following is a list of publications for the biennium, July 1, 1948, to June 30, 1950:

The Application of the Rorschach Test to Young Children. Mary Ford. (Child Welfare Monograph Series No. 23.) (2nd printing.) Issued: July 1, 1948. Price: \$2.00. xii plus 114 pages. 21 illustrations. Cloth. 6 x 9. Edition: 1,000.

Grouping and Promotion in the Elementary School. Walter W. Cook. (Individualization of Instruction Series No. 2.) (3rd printing.) Issued: July 12, 1948. Price: \$1.00. 65 pages. Paper. 5½ x 8½. Edition: 1,020.

Roentgen Studies of the Heart and Lungs. Nils Westermark, M.D. Edited by Leo Rigler, M.D. Published: July 15, 1948. Price: \$7.00. vii plus 216 pages. 100 halftone, 6 zinc illustrations. Cloth. 6½ x 10½. Edition: 3,000.

Searching for Your Ancestors. Gilbert H. Doane. Published: August 4, 1948. Price: \$3.50. xv plus 176 pages, 4 zinc illustrations. Cloth. 5½ x 8½. Edition: 2,035.

Adapting Instruction in Reading to Individual Differences. Guy L. Bond and Bertha Handlan. (Individualization of Instruction Series No. 5.) (2nd printing.) Issued: July 28, 1948. Price: \$1.00. viii plus 82 pages. Paper. 6 x 9. Edition: 2,500.

Understanding Ourselves. Marion L. Faegre. (4th printing.) Issued: July 30, 1948. Price: 50 cents. 44 pages. Paper. 5 x 7. Edition: 10,000.

Hormel Institute Annual Report, 1944-45. Issued: August 19, 1948. Distributed by the Hormel Institute. 12 pages. Paper. 6 x 9. Edition: 1,500.

Improve Your Reading: A Manual of Remedial Reading Exercises. Frances Triggs. (6th printing.) Issued: September 22, 1948. Price: \$1.00. vi plus 133 pages. Paper. 6 x 9. Edition: 5,050.

Parables for the Theater. Bertolt Brecht. Translated by Eric and Maja Bentley. Published: October 1, 1948. Price: text, \$2.60; trade, \$3.50. viii plus 192 pages. Cloth. 5½ x 8½. Edition: 3,000.

Units in Personal Health and Human Relations. Lillian L. Biester, William Griffiths, and N. O. Pearce, M.D. (2nd printing.) Issued: October 25, 1948. Price: \$3.50. vii plus 266 pages. 15 zinc illustrations. Cloth. 6 x 9. Edition: 5,027.

Separation of Church and State in the United States. Alvin Johnson and Frank Yost. Revised and enlarged edition of Johnson's "The Legal Status of Church State Relationships." Published: November 15, 1948. Price: \$4.50. viii plus 279 pages. Cloth. 6 x 9. Edition: 2,000.

Understanding Ourselves. Marion L. Faegre. (5th printing.) Issued: November 19, 1948. Price: 50 cents. 44 pages. Paper. 5 x 7. Edition: 10,000.

An American Engineer in Afghanistan. Marjorie Jewett Bell. Published: November 22, 1948. Price: \$5.00. xiii plus 335 pages. 58 halftone illustrations. Cloth. 5½ x 8½. Edition: 3,000.

Magna Carta: Its Role in the Making of the English Constitution, 1300-1629. Faith Thompson. Published: November 22, 1948. Price: \$6.50. x plus 410 pages. 4 zinc, 2 halftone illustrations. Cloth. 6 x 9. Edition: 993.

- Your Own Story*. Marion L. Faegre. (7th printing.) Issued: November 11, 1948. Price: 50 cents. ix plus 52 pages. Paper. 5 x 7. Edition: 21,525.
- Hogarth's Literary Relationships*. Robert Moore. Published: December 8, 1948. Price: \$3.75. x plus 202 pages. 16 halftone illustrations. Cloth. 5½ x 8½. Edition: 2,000.
- American Studies*. Tremaine McDowell. Published: December 15, 1948. Price: \$1.50. x plus 96 pages. Cloth. 5½ x 8½. Edition: 2,009.
- The Integrated Life*. Essays, poems, and sketches by Thomas P. Beyer. Published: December 15, 1948. Price: \$3.00. xii plus 190 pages. Cloth. 5½ x 8½. Edition: 1,026.
- On the Economic Theory of Socialism*. Oskar Lange and Fred M. Taylor. Edited by Benjamin E. Lippincott. (2nd printing.) Issued: December 15, 1948. Price: \$2.00. viii plus 143 pages. Cloth. 5 x 7¾. Edition: 3,000.
- Mystery of "A Public Man."* Frank Maloy Anderson. Published: December 29, 1948. Price: \$3.75. vi plus 256 pages. Cloth. 5½ x 8½. Edition: 3,000.
- Ninety Days of Lawmaking*. Revised edition of a book by Ruby Britts and Barbara Stuhler. Sponsored by the Minnesota League of Women Voters, distributed by them in single copies. Press handles quantity sales only. Published: January 1, 1949. Price: 25 cents each and quantity prices. 16 pages. Paper. 6 x 9. Edition: 5,000.
- Social Forces in Southeast Asia*. Cora DuBois. Published: January 14, 1949. Price: \$2.00. 78 pages. Cloth. 5½ x 8½. Edition: 2,000.
- South America Rediscovered*. Tom B. Jones. Published: February 25, 1949. Price: \$4.00. x plus 286 pages. 9 zinc, 8 halftone illustrations. Cloth. 5½ x 8½. Edition: 3,000.
- Weekly Newspaper Makeup and Typography*. Thomas F. Barnhart. Published: March 1, 1949. Price: \$5.00. x plus 267 pages. 96 zinc illustrations. Cloth. 6 x 9. Edition: 3,021.
- Geology of the Duluth Metropolitan Area*. George M. Schwartz. (Geology Bulletin No. 33.) Published: March 1, 1949. Price: \$1.00. xii plus 136 pages. 29 illustrations plus additional folded maps. Cloth. 6 x 9. Edition: 1,000.
- Learning Theory in School Situations*. Esther J. Swenson, G. Lester Anderson, and Chalmers L. Stacey. (Studies in Education Series No. 2.) Published: March 29, 1949. Price: \$1.50. iv plus 104 pages. Paper. 6 x 9. Edition: 1,040.
- Too Many Thumbs*. Robert Hivnor. Published: April 1, 1949. Price: \$2.50. iv plus 90 pages. Cloth. 5½ x 8½. Edition: 1,090.
- Hormel Institute Annual Report, 1947-1948*. Issued: April 5, 1949. Distributed by the Hormel Institute. 62 pages. Paper. 6 x 9. Edition: 1,500.
- Trends in Student Personnel Work*. Edited by Edmund G. Williamson. Published: April 6, 1949. Price: \$5.00. x plus 418 pages. Cloth. 6 x 9. Edition: 3,070.
- Early Candlelight*. Maud Hart Lovelace. (2nd printing.) Issued: April 15, 1949. Price: \$2.75. viii plus 322 pages. Cloth. 5 x 7½. Edition: 5,000.
- Ten Years of the Minnesota Labor Relations Act*. Jack W. Stieber. (Industrial Relations Center bulletin No. 9.) Published: May 3, 1949. Price: \$1.00. iv plus 35 pages. Paper. 6 x 9. Edition: 3,020.
- The Adventures of Lindamira, a Lady of Quality*. Edited by Benjamin Boyce. Published: May 6, 1950. Price: \$3.00. xvii plus 167 pages. Cloth. 5½ x 8½. Edition: 998.
- The Counseling and Guidance Use of Test Scores*. Distributed for the Student Counseling Bureau. Issued: April 9, 1949. Price: \$1.00. 23 pages plus 10 supplementary pages on specific tests. Loose-leaf. Edition: 800.
- The History of the White Pine Industry in Minnesota*. Agnes M. Larson. Published: May 10, 1949. Price: \$7.50. xvi plus 432 pages. 1 zinc, 35 halftone illustrations. Cloth. 6 x 9. Edition: 1,040.
- Japan's Economy in War and Reconstruction*. Jerome B. Cohen. Published: May 20, 1949. Price: \$7.50. xix plus 545 pages. Cloth. 7 x 10. Edition: 1,500.
- Therapeutic Group Work with Children*. Gisela Konopka. Published: June 6, 1949. Price: \$2.50. x plus 134 pages. 2 zinc illustrations. 5½ x 8½. Edition: 3,000.
- Jobs for All: A Primer of Theory*. Herbert Heneman, Jr., and Benjamin E. Rogge. (Industrial Relations Center bulletin No. 8.) Published: June 10, 1949. Price: \$1.00. iv plus 33 pages. Paper. 6 x 9. Edition: 3,045.
- A Modern Ukrainian Grammar*. George Luckyj and Janoslav B. Rudnyckyj. Published: July 20, 1949. Price: \$2.50. iv plus 186 pages. Paper. 8½ x 11. Edition: 1,000.
- Understanding Ourselves*. Marion L. Faegre. (6th printing.) Issued: July 18, 1949. Price: 50 cents. 44 pages. Paper. 5 x 7. Edition: 10,000.
- Your Own Story*. Marion L. Faegre. (8th printing.) Issued: August 2, 1949. Price: 50 cents. ix plus 52 pages. Paper. 5 x 7. Edition: 27,700.
- Separation of Church and State in the United States*. Alvin Johnson and Frank Yost. (2nd printing of 2nd edition.) Issued: August 9, 1949. Price: \$4.50. viii plus 279 pages. Cloth. 6 x 9. Edition: 2,012.
- Manual for the Identification of the Birds of Minnesota*. Thomas S. Roberts. (Revised edition.) New Nomenclature according to American Ornithological Union. Issued: September 9, 1949. Price: \$2.75. xiv plus 278 pages. Line drawings. Soft linen. 6 x 9. Edition: 1,035.
- John A. Johnson, the People's Governor*. Winifred Helmes. Published: October 14, 1949. Price: \$5.00. x plus 324 pages. 1 halftone, 6 zinc illustrations. Cloth. 6 x 9. Edition: 1,035.
- The New World of Southeast Asia*. Lennox A. Mills and Associates. Published: October 20, 1949. Price: \$5.00. x plus 446 pages. Map. Cloth. 6 x 9. Edition: 3,000.
- The Land Lies Open*. Theodore C. Blegen. Published: October 21, 1949. Price: \$3.00. x plus 246 pages. Cloth. 5½ x 8½. Edition: 3,029.
- Jews in Transition*. Rabbi Albert I. Gordon. Published: October 26, 1949. Price: \$4.00. xviii plus 331 pages. 2 maps. Cloth. 5½ x 8½. Edition: 5,034.
- The Negro's Morale: Group Identification and Protest*. Arnold M. Rose. Published: November 3, 1949. Price: \$2.50. ix plus 153 pages. Cloth. 5½ x 8½. Edition: 1,999.
- Wanda Gág, the Story of an Artist*. Alma Scott. Published: November 7, 1949. Price: \$3.00. ix plus 235 pages. 32 pages halftone and zinc illustrations. Cloth. 5½ x 8½. Edition: 5,000.
- Newbery and Caldecott Awards: A Bibliography of First Editions*. Irvin Kerlan. Published: November 7, 1949. Price: \$2.00. x plus 51 pages. Cloth. 5½ x 8½. Edition: 1,000.
- Forms of Modern Fiction*. Edited by William Van O'Connor. (2nd printing.) Issued: November 7, 1949. Price: text, \$3.40; trade, \$4.50. viii plus 199 pages. Cloth. 5½ x 8½. Edition: 1,992.
- Peter Nielsen's Story*. Niels Thorpe. Published: November 16, 1949. Price: \$2.75. viii plus 199 pages. Cloth. 5½ x 8½. Edition: 3,000.
- Roberto Michels' First Lectures in Political Sociology*. Translated by Alfred de Grazia. Published: December 2, 1949. Price: \$2.75. vi plus 173 pages. Cloth. 5½ x 8½. Edition: 2,060.

Child Care and Training. Marion Faegre and John E. Anderson. (2nd printing of 7th revised edition.) Issued: December 7, 1949. Price: text, \$2.50; trade, \$3.25. vi plus 310 pages. 31 illustrations. Cloth. 5¼ x 8. Edition: 9,970.

The Reactivation of the Dight Institute, 1947-1949: Counseling in Human Genetics. Sheldon Reed. (Dight Institute bulletin No. 6.) Issued: December 23, 1949. Distributed by the Dight Institute. 26 pages. Paper. 6 x 9. Edition: 1,500.

Understanding Ourselves. Marion Faegre. (7th printing.) Issued: February 14, 1950. Price: 50 cents. 44 pages. Paper. 5 x 7. Edition: 20,000.

Democratic Government in Canada. Robert MacGregor Dawson. Imported from Canada. Published: February 15, 1950. Price: \$2.75. viii plus 188 pages. 20 halftone illustrations. Cloth. 5¼ x 9. Edition: 1,135.

History of the American Newspaper Publishers Association. Edwin Emery. Published: February 15, 1950. Price: \$3.50. viii plus 263 pages. Cloth. 6 x 9. Edition: 1,500.

Ruth Shepard Phelps. Friends of the University Library. Issued: February 15, 1950. 12 pages. Paper. 4 x 5½. Edition: 1,000.

American Humorous Folklore. R. B. Downs. Issued: March, 1950. Distributed by the University Library. v plus 42 pages. Paper. 4½ x 6. Edition: 1,000.

Adapting Instruction in Arithmetic to Individual Differences. Leo J. Brueckner. (Individualization of Instruction Series No. 4.) (2nd printing.) Issued: April 28, 1950. Price: \$1.00. viii plus 56 pages. Paper. 6 x 9. Edition: 525.

The H. W. Wilson Company: Half a Century of Bibliographic Publishing. John Lawler. Published: May 12, 1950. Price: \$3.00. vi plus 207 pages. 15 halftone illustrations. Cloth. 5½ x 8½. Edition: 2,000.

Jesuit Relations and Other Americana in the Library of James F. Bell. A Catalogue. Frank K. Walter and Virginia Doneghy. Published: June 15, 1950. Price: \$25.00. xiv plus 419 pages. 1 halftone illustration. 69 facsimiles. Cloth. 7¼ x 10¼. Edition: 517.

Improve Your Reading: A Manual of Remedial Reading Exercises. Frances Triggs. (7th printing.) Issued: June 15, 1950. Price: \$1.00. vi plus 133 pages. Paper. 6 x 9. Edition: 5,000.

The Family Today, A Guide for Leaders in Family Life Education. Dorothy Dyer and others. Published: June 19, 1950. Price: \$2.50. x plus 170 pages. Cloth. 5½ x 8½. Edition: 2,000.

Guidance Procedures in High School. C. Gilbert Wrenn and Willis E. Dugan. (Modern School Practices Series No. 1.) Published: June 20, 1950. Price: \$1.50. xi plus 71 pages. Paper. 6 x 9. Edition: 5,000.

TESTS REPRINTED

Rating Scale for Personal Qualities and Abilities. Clara M. Brown. 10,000 tests, August 2, 1948; 10,000 tests, May 17, 1949.

Minnesota Speed of Reading Test for College Students. Alvin C. Eurich. 25,000 tests, Form A, August 30, 1948; 25,000 tests, Form A, February 10, 1950; 500 manuals, February 10, 1950.

Minnesota Reading Examination for College Students. Melvin E. Haggerty and Alvin C. Eurich. 14,990 tests, Form A, January 6, 1949.

Minnesota Checklist for Food Preparation and Serving. Clara M. Brown. 5,000 tests, May 17, 1949.

—MARGARET S. HARDING, *director.*

MINNESOTA MUSEUM OF NATURAL HISTORY

Staff Changes—The staff was strengthened both in the public exhibition and research departments by the addition of Warren H. Nord on July 1, 1949. However, this advance was soon offset by his loss on May 19, 1950, when he took a more remunerative position with the United States Fish and Wildlife Service. Meribeth Mitchell served as research assistant during 1948-49.

Exhibits—One major exhibit, the Hardwood Forest Group, was completed March 18, 1949. This was constructed with the aid of a \$1,600 gift from Constance Everett of Waseca, Minnesota. A smaller Badger exhibit, built with Museum funds, was completed June 28, 1949. The installation of the series of eight transparency exhibits by F. L. Jaques was finally completed on February 4, 1949. The original paintings, costing \$3,200, were paid for from the fund of \$10,000 donated by the Citizens Aid Fund through Mrs. George Chase Christian and reported in the preceding biennial report. Besides these permanent additions to the Museum's public exhibits, 21 temporary displays have been installed for periods of a few weeks each in cases in the lobby alcove.

Attendance—This report disregards the thousands of people who have used the Museum auditorium and classrooms for non-museum purposes, but includes only those who have entered the public exhibit spaces of the building. The total attendance for 1948-49 was 47,738; for 1949-50, 52,546; making a biennial total of 100,284. During this period 340 organized groups, mainly school children, totaling 10,944 toured the halls under Museum guides.

Lectures—The following report does not include school groups conducted on tours through the Museum. The combined lecture services of the Museum for the biennium totaled 481 lectures attended by 77,723 persons. Since the winter lecture series, November through April 15, are still attracting capacity crowds, no attempt is being made to expand publicity. The 1948-49 series (22 programs) was attended by 16,646 persons, an average Sunday attendance of 756. The 1949-50 series (22 programs) drew 17,251, an average of 784. The Museum director at the request of the National Audubon Society participated

in two motion picture illustrated lecture tours (Audubon Screen Tours) during the past two winters. In December, 1948, he gave ten lectures (attendance 5,000) to audiences in Illinois, Indiana, Ohio, and Ontario. In January and February, 1950, 33 lectures were given, mainly in California (attendance 17,000). These were given largely on Museum time with permission granted by the Board of Regents.

Cooperation—The attempt to coordinate the use of Museum materials with the teaching of ornithology through the joint appointment of Dwain W. Warner as assistant professor of zoology in the Department of Zoology and as curator of birds on the Museum staff is operating very satisfactorily. The Museum director and the assistant scientist, Harvey L. Gunderson, have continued their respective courses, "Birds of Minnesota" and "Wild Game of Minnesota," in the curriculum of the General Extension Division. The recently undertaken Museum activity of cooperating with the Minnesota Division of State Parks in a nature interpretation program is progressing satisfactorily. During the summers of 1949 and 1950, Donald K. Lewis, audio-visual adviser, has been assigned as park naturalist at Itasca State Park. In that capacity he supervises the Mississippi Headwaters Museum exhibits, conducts trail hikes, car caravans, and evening nature programs; and has established and maintains the Thomas S. Roberts Self Guiding Nature Trail. In addition to this the Museum director and staff member Harvey L. Gunderson, with a small amount of assistance from staff members of the University Departments of Botany and Geology, established self-guiding nature trails in five other state parks in 1949 and in six state parks in 1950. The Museum staff worked with the State Board of Education in producing 20 sets of 20 2" x 2" kodachromes with explanatory tape recordings for circulation through schools of the state. This experiment with a new means of disseminating natural history information in the schools was highly successful.

Research—D. W. Warner, curator of birds, is making substantial progress on a book on the "Birds of New Caledonia." This will comprise results of his wartime field work on that island together with his studies of literature and museum specimens during his recent service in the Museum. H. L. Gunderson, assistant scientist, completed his M.A. degree work in June, 1949, and his thesis on "A Study of Small Mammal Populations in Cedar Creek Forest" is being published as a Museum bulletin (Occasional Paper 4). He is continuing work on further small mammal studies in this University-owned forest. The Museum director is carrying on the third year of work on a bird census study in this same forest as well as two additional studies on the spiny soft shelled turtle and the wood duck on the Mississippi River just north of Minneapolis. Five annual Graduate School grants have aided these studies.

Gifts—Regent James Ford Bell and the Wildlife Management Institute with headquarters in Washington, D. C., have donated \$300 each to aid in the production of the Waterfowl Research film mentioned under *Photography*. Mr. Bell's contributions of \$75 per month totaling \$1,800 for the biennium, for special Museum expenses have been continued and are deposited in the First National Bank in Minneapolis in the name of W. J. Breckenridge, trustee. Mr. Bell has further donated to the Museum library a valuable three-volume set (large folio size, 1846) of the "Quadrupeds of North America" by Audubon and Bachman. The collections of the Museum have been increased by the following gifts from individuals: birds, 92; nests and eggs, 5; mammals, 45; reptiles, 44; amphibians, 27; shells, 250; books, 5; pamphlets, 12.

Loans—The Museum's series of 160 portable exhibits is available for loan to schools, state parks, state and county fairs, and to other similar organizations where the purpose of their exhibition is primarily educational. During 1948-49, 612 cases were loaned to such institutions for periods usually of several weeks. During 1949-50 such loans totaled 599.

Field Work—During the biennium, Harvey L. Gunderson, assistant scientist, and Bruce Hayward, assistant, made four trips to various points in Minnesota collecting and investigating the distribution of mammals in the state. They secured 132 specimens. Seven trips were made by staff members in setting up self-guiding nature trails in the state parks. Four trips were made by staff members to points in Minnesota, one into South Dakota, and one into Manitoba for photographic purposes.

Photography—The Museum's photographic library was increased by the addition of 2,600 feet of 16 mm. color film and ninety-five 2" x 2" kodachrome slides. Two 400-foot 16 mm. color reels taken by the Museum staff dealing respectively with "Waterfowl in Action" and "Cultivate Your Garden Birds" have been produced as sound reels through the University Audio-Visual Education Service and are available for circulation through the General Extension Division's Film Loan Service. At present the Museum director is producing a 16 mm. color sound movie showing some waterfowl research work carried on

by wildlife biologists and aimed at developing a better understanding between sportsmen and research workers in this field. This project is being financed by gifts from Mr. Bell and the Wildlife Management Institute. Two photographic trips to the Red Lake area by the Museum director and an assistant resulted in a 1,400-foot 16 mm. color film on the "Big Bog Country" of Minnesota. Photographic assistance was given the State Conservation Department, Fisheries Research Division, in producing a film on "Minnesota Fisheries."

Publications—Harvey L. Gunderson has continued the Museum's quarterly reports on bird observations from the Western Great Lakes Region to "Audubon Field Notes" and to the United States Fish and Wildlife Service. D. W. Warner has acted as editor of the Minnesota ornithological journal, *The Flicker*, during 1949-50 and Donald K. Lewis, as acting secretary of the Minnesota Academy of Science, has edited its *Proceedings*. In addition to this, staff members have published 37 articles in various journals and bulletins.

Future—Although nearly all of the major exhibit spaces in the Museum building have been filled, a number of smaller displays remain to be prepared. With their completion, the expanding of the public exhibitions will have to be discontinued as far as the present building is concerned. It is true that many of the basic aims of the Museum can be and are being furthered by greater emphasis placed on research, publications, public education through motion and still photography, and expanded lecture services—all of which are not dependent upon an expanded physical plant. However, if the public exhibition phase of the Museum's work, in which we have acquired national recognition, is to be continued, consideration will soon have to be given to the possible expansion of the Museum building.—WALTER J. BRECKENRIDGE, *director*.

DEPARTMENT OF MILITARY SCIENCE AND TACTICS

General History—The Reserve Officers Training Program at the University of Minnesota is authorized by the National Defense Act of 1916, which provides for the establishment and maintenance in civil education institutions, of military training leading to a commission in the Army Reserve of qualified graduates. The Army ROTC was established at the University of Minnesota in 1919 and, except for the war years of 1944-45, when it was replaced by ASTP, has been continuous to date.

Expansion—As mentioned in the 1946-48 Report, as long as the Selective Service Act remained active, the enrollment in the Basic ROTC Course was kept up to a near satisfactory point. However, when this act became ineffective in the summer of 1949 the enrollment of the Basic Course (Military Science I and II) dropped far below that required to maintain the various ROTC units in this University.

To correct this condition, upon the request of Colonel C. H. Schabacker, President James L. Morrill appointed a committee with Dean Henry Schmitz as chairman to investigate and recommend a solution to this serious problem. It was the general opinion of this committee that this Basic enrollment could best be stimulated through the efforts of student faculty advisers, and more appropriate campus publicity. Consequently, every effort was and is being made to reach prospective students through their advisers, a University of Minnesota Bulletin, group tours through the Armory where the Army, Navy, and Air Force equipment is being displayed, the making of an orientation film on ROTC activities, and posters showing the advantages of ROTC training. This effort, along with the activation of the Selective Service Law, is having considerable influence in producing a more favorable Basic enrollment.

The enrollment of World War II veterans as students for the Advanced ROTC (Military Science III and IV) courses has been the salvation of this unit. However, only two of the six Army ROTC branches being taught have provided the required number of graduating students, as prescribed by the Department of the Army. However, again due to the splendid efforts of the Schmitz Committee and the Selective Service Act, this enrollment is showing a decided increase. Possibly this coming year all Army branches will obtain the required number of cadets.

On July 1, 1949, the Air Force ROTC Branch separated from the Army, and set up their own Air Force ROTC unit, using the ground floor of the Armory. Other than this change, the Army branches taught remain the same as listed in the previous report and are as follows: Antiaircraft Artillery, Corps of Engineers, Ordnance Department, Quartermaster Corps, Signal Corps, Transportation Corps, Medical Corps, Dental Corps, Medical Service Corps.

The foregoing indicates that this institution still offers a very comprehensive Army ROTC program, supplementing the diversified academic courses offered by the University.

Enrollment—Table I gives the ROTC enrollment for the biennium. The tabulation includes the nine different branches of ROTC courses offered at this University.

TABLE I. ROTC STRENGTH AT THE END OF EACH SCHOOL YEAR

End of School Year	Basic Course		Advanced Course		Total
	1st year	2nd year	3rd year	4th year	
1948-49	163	120	228	185	696
1949-50	111	112	179	173	575

Curriculum—Starting with the school year 1949 the ROTC program was revised so that the Basic Course has only the first year common to all Army branches. The second year program starts the cadet directly into the Army branch he chooses, and consists of elementary specialized subjects related to that branch.

The Advanced Course is still primarily the same as before, the subject matter being specialized in the branches taught at the University of Minnesota. In addition to specialized subjects, the Advanced Course cadets also receive instruction in general courses, such as leadership, psychology, personnel management, command and staff, military teaching methods, and combat intelligence.

Faculty—Table II provides data concerning members of the department who served during the biennium.

TABLE II. MEMBERS OF THE DEPARTMENT OF MILITARY SCIENCE AND TACTICS

Name	Grade	Branch	Reported	Relieved
James W. Heatwole	Major	SigC	April 17, 1946	September 15, 1949
R. A. Ericson	Colonel	CAC	June 3, 1946	September 2, 1949
Lemuel B. Redd	Major	CAC	June 21, 1946	September 1, 1949
Earl J. Brown	Lieutenant colonel	TC	September 4, 1946	September 19, 1949
Ralph L. Dunkel	Lieutenant colonel	Ord	July 16, 1947	April 4, 1949
Joseph L. Coleman	Major	QMC	July 17, 1947	August 15, 1950
William A. Orr	Lieutenant colonel	CE	August 4, 1947	July 2, 1949
Arthur B. Tarrow	Major	MC	August 12, 1947	September 16, 1949
Robert B. Swatosh	Major	FA	August 19, 1947	
Edmund S. Olsen	Major	DC	July 17, 1948	September 3, 1950
Leonard P. Zagelow	Major	MSC	August 1, 1948	
Ralph M. Bitler	Lieutenant colonel	TC	May 2, 1949	
Raymond E. Duke	Colonel	MC	May 9, 1949	
Wm. D. Lemkowitz	Captain	Ord	June 8, 1949	September 5, 1949
William M. Copley	Major	SigC	August 1, 1949	
C. H. Schabacker	Colonel	CAC	August 15, 1949	
Ashton H. Pully	Major	CAC	August 26, 1949	
August R. Wood	Lieutenant colonel	Ord	September 10, 1949	
Michael F. Aliotta	Major	CE	September 19, 1949	
Clifford H. Tornstrom	Major	DC	July 1, 1950	
Thomas A. Sullivan	Major	QMC	July 6, 1950	

ROTC Graduation—One hundred forty cadets received commissions in the Army Reserves in 1949, and 150 in 1950.

At the end of the third year certain ROTC cadets who obtain high rating in academic and military courses are designated Distinguished Military Students. These distinguished cadets have an opportunity to apply for a Regular Army Commission upon graduating and receiving a Distinguished Military Graduate appointment from the University. In 1949 there were 22 such cadets and in 1950 there were 38 receiving this award.

Special Activities—In addition to the prescribed instruction, the Department of Military Science and Tactics engaged in many activities during the biennium which brought prestige and favorable publicity to the University.

In the fall of 1949 the MARS Radio Club was established (Military Amateur Radio System). This club is made up of students of the combined services, and its activities are mainly in the field of radio and communication. This club received national recognition for its participation in the emergency caused by a snow storm in North and South Dakota in the winter of 1950.

The Transportation Corps sponsored the organization of a club in the winter of 1950. Its purpose was to further the interest in all types of transportation and to give the cadets special outside interests in a worthwhile hobby.

The University of Minnesota Chapter of Pershing Rifles again received national recognition by placing high in the intercollegiate competition meets. This organization also functioned as color guards and ushers for various all-University functions, such as convocation and commencement exercises.

The Audio-Visual Education Service of the University produced a 15-minute movie film showing the purposes, achievements, and activities of ROTC. This film is being used as a means of orienting the new students and showing them the desirability of pursuing a four-year ROTC course.

Ratings—As a result of the annual inspection conducted by representatives of the Fifth Army, the ROTC unit at this institution received a rating of "satisfactory" for 1949 and 1950. The low enrollment and lack of adequate facilities were the chief deficiencies noted by the Department of the Army.

Recommendations—As the department increases in size, the amount of space made available to it decreases. The facilities available for instruction are definitely inadequate. While the variety of technical courses being offered requires the use of a large amount of technical material and training aids, the serious inadequacy of classroom and storage space prohibits the use of sufficient training equipment which adds to the difficulty of keeping up a high caliber of instruction. Further, the drill facilities in and near the Armory are far from adequate. The sports arena has, upon occasion, been used. However, this is not satisfactory, due to its use throughout most of the day by the Department of Physical Education. A new Military Science Armory is a prime necessity.—CLARENCE H. SCHABACKER, *Colonel, Coast Artillery Corps, P.M.S.&T.*

DEPARTMENT OF NAVAL SCIENCE

During the biennium, the Naval ROTC continued its primary mission of providing, by a permanent system of training and instruction in essential naval subjects, a source from which qualified officers may be obtained for the Navy, the Marine Corps, the Naval Reserve, and the Marine Corps Reserve.

This biennium observed a milestone in the Naval ROTC program in that the first students in the Regular program, who entered in the fall of 1946, graduated and received commissions in the regular Navy and Marine Corps.

The biennium also observed a radical decline in the number of students who volunteered for the "Contract" program. In the fall of 1948, the University of Minnesota was assigned a quota of 77 new "Contract" students by the Navy Department. Fifty-eight students were accepted for enrollment (75 per cent of the assigned quota). In the fall of 1949, the Navy Department assigned a quota of 60 new students. Seventeen students were accepted for enrollment (28 per cent of the assigned quota).

This alarming trend was officially noted by President Morrill who appointed a faculty committee to investigate the causes of the low enrollment and to recommend corrective measures. Through the efforts of this committee, it is anticipated that, during the next biennium, this trend will be reversed.

In July, 1949, Captain Cornelius M. Sullivan, U. S. Navy, relieved Captain Walter C. Holt, U. S. Navy, as professor of naval science.

During the biennium, the Naval ROTC tendered commissions to University of Minnesota graduates as follows: Ensign, U. S. Navy, 6; Second Lieutenant, U. S. Marine Corps, 2; Ensign, U. S. Naval Reserve, 26.—CORNELIUS M. SULLIVAN, *Captain, U. S. Navy, P.N.S.*

DEPARTMENT OF AIR SCIENCE AND TACTICS

General History—The Air Force Reserve Officers Training program was established at the University of Minnesota in 1946, under the Department of Military Science and Tactics, and has been continuous to date; however, in July of 1949 it was separated from the Department of Military Science and Tactics and became a separate unit with departmental rights equal to those of the Department of Military Science and Tactics and the Department of Naval Science.

Expansion—At the separation of the Air Branch from the Army, the Air Force initiated an independent four-year course leading toward a commission in the United States Air Force Reserve. The program of instruction is divided into the Institutional

Academic Phase and the Air Force Phase. Under the Institutional Academic Phase the instruction is accomplished by the academic faculty of the institution as is the curriculum pursued by the AF ROTC student in qualifying for a baccalaureate degree; however, the Air Force Phase of instruction augments the AF ROTC student's instruction by providing for the Air Force application aspect of his baccalaureate field. A total of 744 hours of instruction is provided by USAF instructor personnel in this phase. Of the 744 hours, 512 are given at the institution and 232 at summer camp. The 512 hours at the institution are further divided into 170 hours of instruction in the specialized option and 342 hours of general military training and orientation.

During the school year 1949-50, the public relations work, under the direction of the joint coordinator for the three services, increased considerably in bringing to the general public and prospective students the value of the Air ROTC. The enrollment in the Basic courses of all three services was alarmingly low; and it was at this point that President Morrill appointed a committee, headed by Dean Henry Schmitz, to investigate and recommend those steps that should be taken to increase the enrollment in the ROTC program. Through the efforts of this committee, coupled with the present world situation, it appears that the coming years will witness a marked advancement in the ROTC enrollment for the Basic courses.

Enrollment—Table I, which includes the Duluth Branch, indicates the Air ROTC enrollment for this biennium:

TABLE I. AIR ROTC STRENGTH BY QUARTERS

Quarter	Basic Course		Advanced Course		Total
	AS I	AS II	AS III	AS IV	
Fall, 1948	147	17	106	65	335
Winter, 1949	146	17	97	61	321
Spring, 1949	118	17	88	54	277
Fall, 1949	88	98	105	91	382
Winter, 1950	84	98	87	86	355
Spring, 1950	68	92	73	79	312

Curriculum—Air ROTC is a four-year program composed of the Basic Course (first two years) and the Advanced Course (last two years), plus a six weeks' summer camp at an Air Force base during the summer after the student's third year in the program. Air ROTC credits may be substituted for Humanities credits in the Institute of Technology; for elective credits in the Colleges of Education; Science, Literature and the Arts; Agriculture, Forestry, Home Economics, and Veterinary Medicine; Pharmacy; and Medical Sciences. Air Science is accepted as a minor in the College of Science, Literature, and the Arts.

Each student specializes in a military career field. Specialization begins in the sophomore year and is continuous until graduation. The selection of the specialized course, Communications or Administration and Logistics, is dependent upon the curriculum pursued by the student and the concurrence of the professor of air science and tactics. Students may be enrolled in Air Science I without previous military training if physically qualified; however, as a prerequisite to enrollment in Air Science II, III, or IV, a student must first have completed all prior courses offered. The Air Force ROTC program is based upon a minimum of three hours per week for Air Science I and II students, of five hours per week for Air Science III and IV students.

The Basic Course comprises instruction in general military subjects applicable to the Air Force with an introduction to the field of specialization during the second year Basic Course. The first two years include such courses as Military Organization; Military Policy of the United States, National Defense Act and AF ROTC; Evolution of Warfare; Military Psychology and Personnel Management; First Aid and Hygiene; Military Mobilization and Demobilization; Geographic Foundations of National Power; Aerodynamics and Propulsion; Applied Air Power; Weather and Navigation; and Leadership, Drill, and Exercise of Command. The Advanced Course, covering the last two years of the program, deals mainly with the field of specialization; however, in addition to the specialized subjects, the student also receives those general courses consisting of Voice and Command; Psychology of Leadership; Logistics; Air Operations; Officer Development; Military Administration; Military Teaching Methods; Air Force Management; and Career Development.

Faculty—Table II shows the personnel assigned to the Department of Air Science and Tactics since its inception in 1946.

TABLE II. MEMBERS OF THE DEPARTMENT OF AIR SCIENCE AND TACTICS

Name	USAF Grade	Reported	Relieved
<i>Minneapolis Campus</i>			
Walter J. Gerzin	Lieutenant colonel	September 30, 1946	July 8, 1949
Walter H. Grierson	Major	July 5, 1949	
James C. Kraus	Major	November 20, 1948	
Henry D. Booher	Captain	August 25, 1949	
Ludwig J. Champa	Captain	September 13, 1948	February 24, 1950
John M. Beason	First lieutenant	December 7, 1946	September 13, 1948
Donald G. Jorgenson	Master sergeant	September 30, 1946	June 25, 1948
Arthur M. Monsees	Master sergeant	April 14, 1947	
Charles M. Sorenson	Master sergeant	June 10, 1950	
Robert L. Sprague	Master sergeant	May 5, 1950	
Keith H. Thompson	Technical sergeant	August 25, 1947	
Eugene J. Giddings	Staff sergeant	September 6, 1948	
<i>Duluth Campus</i>			
Everett T. Delaney	Major	August 19, 1947	
Freeling H. Clower	Captain	September 22, 1948	
John H. Naffke	Captain	November 8, 1949	
Charles G. Sears	Master sergeant	July 29, 1946	
John C. Rustad	Master sergeant	October 10, 1948	
Edmund C. Hargest	Technical sergeant	July 22, 1949	

Graduation—Each student who successfully completes the air ROTC course and graduates from the University of Minnesota is given a commission as a second lieutenant in the United States Air Force Reserve. Under this commission the officer may apply for active duty for periods of from fifteen days to three years; apply for pilot training as an officer; have his commission transferred to the Air National Guard; keep the reserve commission in force by meeting with his local Volunteer Air Reserve Unit; or let the commission expire through inactivity.

Each student who maintains a top academic standing and participates in campus activities may qualify for appointment as a Distinguished Military Student. These individuals may then apply for commissions in the Regular Air Force. If this commission is tendered there is no obligation of acceptance.

Special Activities—The special activities of the department and its students are many and varied as to their relationship with campus and USAF activities; however, the two activities that are of principal importance are the military amateur radio station and the Arnold Society of Air Cadets.

Amateur radio station WODSF was established during the winter quarter of 1947 by the ROTC students of the University of Minnesota. M/Sgt Arthur M. Monsees, then working in the Air Section of the Department of Military Science and Tactics, was charged with the responsibility of the construction and operation of the station. The chief purpose of the station, during those days, was to encourage student participation in the field of air communications. In addition, students found many hours of leisure activity by operating the station and talking to people in many parts of the world. During the initial stages of its establishment and construction, all of the equipment was either donated outright or loaned. The station was granted full membership in the Military Amateur Radio System during the fall of 1949.

Today the station is under the administrative direction of Major William Copley, U.S. Signal Corps, and the technical control is maintained by M/Sgt Arthur M. Monsees, USAF.

During the fatal blizzard which struck the Dakotas during the early spring of 1950, it was necessary to keep the station on the air for 72 consecutive hours of operation. This station, during the early portion of the emergency, was one of the few means of communication with the distress area; therefore, special permission from the Federal Communications Commission was granted in order that official traffic and news releases originating in the distress area might be relayed to outside relief agencies.

This station is a splendid training aid for the successful demonstration of communications equipment for both the Air Force and Ground Force communications specialized courses of ROTC, for in this way students have the opportunity to actually

put classroom theory into practical operation. Two-way communications have been established with approximately 65 foreign countries during the first three years of operation.

The Arnold Society of Air Cadets is a national honorary society organized to further the mission of the United States Air Force at college or university level by encouraging greater teamwork, technical knowledge, and cooperation among students enrolled in the Air ROTC program. Members and pledges who qualify for membership possess and maintain an academic grade in Air ROTC commensurate with their college or university average.

During the bi-weekly meetings, discussions are conducted by some distinguished guest who is a specialist in his particular phase of Air Force operations. Throughout the academic year, the society is called upon by the professor of air science and tactics to provide Air ROTC personnel for participation in general campus functions and activities. The supplying of color guards, ushers, counselors to Air ROTC freshmen, and serving as members of the Joint Cadet ROTC committees are some of the duties performed by the society during these past two years.

Ratings—During the past two years the rating system employed by the inspectors for the annual inspection of the Air Force and Army ROTC units was that of an over-all rating of either satisfactory or unsatisfactory. Each of the years, since the last biennial report, the Air ROTC unit has received a "satisfactory" rating at the annual inspection.

Recommendations—It is recommended that continued efforts be employed to insure that an economic Air ROTC unit be maintained at the University of Minnesota; and that an adequate physical plant be established in which to properly prepare and teach the Air ROTC student. In the past as the ROTC enrollment has increased, the classroom and storage space for ROTC has decreased. This situation, as it presently exists, is critical even with the present low enrollment; however, with the contemplated increase in enrollment, it is evident that the present physical plant must be either expanded or a new one constructed.—WALTER H. GRIERSON, *Major, U. S. Air Force, P.A.S. & T.*

DEPARTMENT OF CONCERTS AND LECTURES

During the biennium the Department of Concerts and Lectures continued the established policy of presenting the world's greatest musicians in Northrop Memorial Auditorium at the lowest possible cost to students, faculty, staff members, and other music lovers of this area.

University Artists Course—Since 1919 the University has sponsored one of the finest series of musical attractions in this country. Patrons save at least 50 per cent of the price of individual concert tickets by buying their seats on a seasonal basis. During 1948-49 99 per cent of the tickets were sold to season subscribers. Artists featured were: Ebe Stignani, Orchestre National, Ezio Pinza, William Kapell, Isaac Stern, Marian Anderson, and the Robert Shaw Chorale. During 1949-50 75 per cent of the tickets were sold to season subscribers. The following attractions were featured: Centennial Concert, Chicago Symphony, Tagliavini and Tassinari, Guiomar Novaes, Nathan Milstein, Sayao and Alvary, and Leonard Warren.

Master Piano Series—This series was inaugurated in 1947 to present the outstanding piano compositions of the world's greatest musicians as played by pianists noted for their interpretations of these masters' works. This series was terminated for policy reasons at the close of the 1949-50 season. During 1948-49 the five artists featured were: Andor Foldes, Alexander Brailowsky, Rudolf Serkin, Myra Hess, and Luboshutz and Nemenoff. Forty-eight per cent of the tickets were sold to season subscribers. In 1949-50 Artur Schnabel, Clifford Curzon, Vladimir Horowitz, Alexander Uninsky, and Rosalyn Tureck appeared on the series. Fifty-two per cent of the tickets were sold as season tickets.

Special Concerts—In addition to the above two series of concerts the department sponsored a dance recital by Ted Shawn, cooperated with the Department of Music in presenting two performances by Georges Enesco, and assisted the All-University Congress in sponsoring a popular type concert by Wayne King during the 1948-49 season. Duke Ellington and Sigmund Romberg presented their orchestras in Northrop Auditorium in 1949-50.

Following is a comparative summary of featured attractions:

	1946-47	1947-48	1948-49	1949-50
University Artists Course				
Number of Events	7	6	7	7
Attendance	35,031	29,992	34,619	27,311
Receipts	\$39,538.90	\$39,455.10	\$42,571.64	\$36,033.67
Master Piano Series				
Number of Events		5	5	5
Attendance		17,816	13,972	16,072
Receipts		\$21,807.59	\$19,137.09	\$23,004.53
Special Concerts				
Number of Events	2	2	4	2
Attendance	6,633	4,524	5,044	7,104
Receipts	\$11,029.38	\$8,264.26	\$7,117.87	\$14,458.96

Other Activities—In addition to the regular concerts the department has been working closely with other organizations who use Northrop Auditorium. Last fall U. S. Steel presented a radio broadcast on a National hook-up which attracted 10,000 guests to the University. In this instance the department did considerable work preparing the Auditorium for the broadcast, obtaining the necessary help, distributing tickets, and paying obligations. Similar functions on a smaller scale were performed for the Bankers Association, the Bond Rally, and the Office of the Dean of Students presentation of the Austrian Singers. During the past three years the department has assisted the Department of Music in its presentation of the Bach Festival, which included advisory duties in all promotion activities, including the sale of tickets. Several other organizations have called for assistance, especially in cases where tickets were to be sold.

Metropolitan Opera Company—The Department of Concerts and Lectures, representing the University of Minnesota, and the Minneapolis Orchestral Association jointly sponsor a spring festival of four operas each year in Northrop Memorial Auditorium. This series of opera performances inaugurated in 1945 features the complete cast of the Metropolitan Opera Company of New York. These performances are sponsored to further the cultural development of University students, faculty, staff, and residents of the Upper Midwest. During the past years a cash reserve of \$20,000.00 has been accumulated to cover any future losses in this venture.

Following is a summary of the past four seasons' operation:

	1946-47	1947-48	1948-49	1949-50
Attendance	18,794	18,662	16,917	17,202
Receipts	\$81,895.00	\$81,199.00	\$71,751.00	\$72,955.00

Convocations—The department handles the scheduling and presentation of the convocation series in Northrop Memorial Auditorium. These convocation programs are presented each Thursday at 11:00 a.m. during the regular University school year except on holidays and during vacation and examination periods. These programs are also broadcast over the University radio station KUOM for the benefit of the radio audience. Attendance has averaged about 1,200 to 1,500, with several times that number hearing it over the air. Some of the world's leading authorities on political, domestic, scientific, and cultural problems have appeared before these audiences.

In 1948-49, the following convocation programs were given:

September 30:	Opening Convocation—President James Lewis Morrill
October 7:	"Barber of Seville"
October 14:	Virgil Thomson
October 21:	Gilbert Brighthouse
October 28:	Lisa Sergio
November 4:	Robert Smith
November 18:	Huddie Ledbetter
December 2:	Cleveland Grant
December 16:	Fall Quarter Commencement—Dr. Raymond B. Allen, president, University of Washington
January 6:	English Duo
January 13:	J. O. Christianson
January 20:	T. R. McConnell
January 27:	Hans Kohn
February 3:	Alfred Wolff
February 10:	Ambassadors of Song
February 17:	Walter Judd
February 24:	Ted Shawn
March 3:	Dan Cooper
March 17:	Winter Quarter Commencement—Howard Pierce Davis
March 31:	Robert S. Hartman
April 7:	Alfred Bailey
April 14:	University Band
April 21:	Henry Hill

April	28:	Constantine Boldyreff
May	5:	Esther Brown
June	5:	Baccalaureate Service—Dr. Ralph W. Sockman
June	11:	Spring Quarter Commencement—President James Lewis Morrill

Convocation programs given in 1949-50 were as follows:

September	29:	Opening Convocation—President James Lewis Morrill
October	6:	Henry L. Scott, piano-humorist
October	13:	Martin Hall, "Democratic Goals for Europe"
October	20:	Hodding Carter, "Is the South That Bad?"
October	27:	George Schuster, "Religion and Citizenship"
November	3:	SPAN Reports on World Affairs
November	10:	Andrew C. Ritchie, "The Artist and Free Enterprise"
November	17:	The Minneapolis Symphony Orchestra in Rehearsal
December	1:	The Ostas, Spanish music and dance
December	15:	Fall Quarter Commencement—Eric Boheman, Swedish Ambassador to the United States
January	5:	Senator Ralph E. Flanders, "Intelligence, Experience and Emotion in Public Affairs"
January	12:	Dr. Per Jacobsson, "Scandinavia in a Divided World"
January	19:	Oliver St. John Gogarty, "A Way of Understanding James Joyce"
January	26:	The Helmericks, "We Lived in the Arctic"
February	2:	The Opera Trio
February	9:	Bosley Crowther, "What You Don't Know About the Movies"
February	16:	Bernard Iddings Bell, "How to Live in the Twentieth Century"
February	23:	Charles Emerson Boddie, "All These People"
March	2:	Dr. Mark Graubard, "Soviet Persecution of Science and the American Attitude"
March	16:	Winter Quarter Commencement—Dr. Lewis Webster Jones, president, University of Arkansas
March	30:	Julien Bryan, "Europe Rebuilds"
April	6:	The University Chorus and Orchestra
April	13:	Emil Liers, "Otters"
April	20:	Robert Edmond Jones, "The Theater of the Future"
April	27:	Benjamin Fine, "The Crisis in American Education"
May	4:	H. S. Ede, "Pictures Are Like People"
May	11:	University Concert Band and Chorus
May	18:	Cap and Gown Day
June	4:	Baccalaureate Service—The Reverend John S. Higgins
June	10:	Spring Quarter Commencement—President James Lewis Morrill

Special Lectures—In an effort to further the discussion of specialized topics for the benefit of smaller and more select audiences, the department schedules a special series of lectures. Although the department operates on a very limited budget in sponsoring these lectures (presented upon the request of department heads) it has been fortunate in obtaining visiting dignitaries who have been most cooperative in presenting their views. —JAMES S. LOMBARD, *director*.

DEPARTMENT OF UNIVERSITY RELATIONS

Publicity Council—The staff members of the University who have public relations responsibilities to the informational programs at the University, met in the Regents' room in the Administration Building each Tuesday morning throughout the two-year period, 1948-50.

Attending these weekly conferences were staff members representing the Department of University Relations, the University of Minnesota Press, the Department of Physical Education and Athletics, the Agricultural Extension Division, the Department of Concerts and Lectures, the University Theatre, the General Extension Division, Station KUOM, the Photographic Laboratory, and the Audio-Visual Education Service. From time to time, University staff members were invited to meet with the publicity council in order to plan special events, conferences, and releases to the general public. The director of University Relations served as chairman of the council.

President's Committee on Public Relations—This committee of 14, members of which are appointed by the President, met each month during the academic year for the purpose of "considering problems of a public relations nature" and of "giving special advice to the director of public relations," who acted as chairman of the group.

Publications—During the biennium, 16 issues of *The Minnesotan* were published and sent to the homes of all full-time staff members. This publication, first published at the beginning of the academic year, 1947-48, serves to keep all staff members informed as to the activities of the departments and colleges of the University, as well as policy and problems relating to the entire University. Eight issues of *Chats*, during the same period, were sent to the homes of all parents of University students. The *University Calendar of Events* was mailed each month to several hundred organizations, firms, and individuals. The University Official Daily Bulletin was prepared for insertion in each issue of the *Minnesota Daily*, and as a separate publication for the periods of the year when the *Min-*

nesota Daily is not published. Staff members in the department have continued to give assistance—as time permitted—to other units of the University in the preparation of special brochures and pamphlets.

Planning the Centennial—The University of Minnesota will celebrate its one hundredth anniversary during the academic year 1951-52. During the present biennium, the Department of University Relations has spent much time and thought in connection with the plans for the Centennial, and members of the department have served on various Centennial committees. During this biennium, much copy has been prepared for release during the Centennial year.

News Dissemination—The University news services, operating on the Minneapolis, St. Paul, and Duluth campuses, have made available, by press conferences, news releases, and interviews, to newspapers and radio stations—on a day-to-day basis—news about the University. Of special interest is the excellent manner in which the editors of newspapers and radio stations over the state have cooperated with the news services. Considerable editorial comment about the University has been noted throughout the two years of the biennium.

University Functions—The Department of University Relations has served as the operating and administrative agency for opening convocations, commencements, the University of Minnesota Week, Charter Day convocation, and the President's reception for graduating classes, as well as for special events, such as ground breaking exercises, the dedication of buildings, and for special conferences and meetings called for the purpose of presenting outstanding achievement awards to distinguished graduates of the University. Advising on matters of policy in connection with most of these functions, is the Senate Committee on University Functions, the chairman of which is the director of university relations.

General—A major responsibility of the Department of University Relations is that of making the entire University conscious of the public relations aspects of University policy and administrative procedure. To this end innumerable conferences have been called for the purpose of considering policy and problems. At such conferences, the several yardsticks of evaluation, including those of educational policy, cost, public acceptability, have been applied wherever indicated.—WILLIAM L. NUNN, *director*.

—MALCOLM M. WILLEY, *vice president*

DIVISIONS OF BUSINESS ADMINISTRATION

PHYSICAL PLANT DEPARTMENT

LAND

During 1948-50, additions were made to the Minneapolis Campus by the purchase of the following properties in Hennepin County:

University Addition to Minneapolis—The Southwesterly 100 ft. of the Southeasterly 23 ft. of Lot 11, and the Northwesterly 5 ft. of the Southwesterly 100 ft. of Lot 12, Block 12—2,800 sq. ft.
Southeasterly 27½ ft. of the Northwesterly 32 ft. of the Southwesterly 112 ft. of Lot 11, Block 12—3,080 sq. ft.

Part of Lot 12, Block 12—5,000 sq. ft.

The front or Southwesterly 55 ft. of the rear or Northeasterly 70 ft. of Lots 7 and 8, Block 12—6,050 sq. ft.

Part of Lot 8, Block 12—3,610 sq. ft.

Part of Lots 10, 11, and 12, Block 12—4,986 sq. ft.

Southwesterly 112 ft. of Northwesterly 4½ ft. of Lot 11, and Southwesterly 112 ft. of the Southeasterly 27 ft. of Lot 10, all in Block 12—3,528 sq. ft.

The Northeasterly 26 ft. of Lots 11 and 12, and the Northeasterly 26 ft. of the Southwesterly 40 ft. of Lot 10, all in Block 12—3,900 sq. ft.

Lot 9, a portion of Lot 10, and a portion of Lot 3, Block 12—13,600 sq. ft.

Portions of Lots 7 and 8, Block 12—3,960 sq. ft.

Portions of Lots 7 and 8, Block 12—2,880 sq. ft.

Mower's Addition to Minneapolis—Lot 6, Block 11—6,437 sq. ft.

The Southerly ½ of Lots 7 and 8, Block 11—6,515 sq. ft.

Lot 1, Block 11—35 acre.

Northeasterly 41 ft. of Lot 9, Block 11—5,684 sq. ft.

The Southwesterly 9 ft. of Lot 9, and all of Lot 10, Block 11—4,841 sq. ft.

Northeasterly ½ of Lots 7 and 8, Block 11—6,516 sq. ft.

St. Anthony City Addition to Minneapolis—Portions of Lots 6 and 7, Block 35—4,800 sq. ft.

Portions of Lot 8, Block 35—6,740 sq. ft.

Portions of Lots 1 and 2, Block 35—3,995 sq. ft.

Portions of Lot 6, Block 35—4,400 sq. ft.

Portions of Lots 6, 7, and 8, Block 35—3,880 sq. ft.

Portions of Lots 6, 7 and 8, Block 35—4,600 sq. ft.

Tuttle's Addition to St. Anthony—Lots 4 and 5, Block "N," with certain exceptions—Approximately 20,000 sq. ft.

Auditor's Subdivision 44, Hennepin County—All that portion of Lot 13 which lies in Government Lot 1 and Government Lot 2, Section 24, Township 29, North of Range 24, West of the Fourth Principal Meridian—20,320 sq. ft.

Gifts of Charles H. Smith—Part of Lots 1 and 2, Block 1, Jones, Bell and Harris Addition to the City of Minneapolis.

Lot 26, Calkin's Addition to the City of Minneapolis.

The front or Southwesterly 110 ft. of Lot 5, Block 31, Mill Company Addition to the town of St. Anthony Falls, Hennepin County.

Additions were made also of the following miscellaneous properties:

Government Lot 4, Section 27, Township 54, North Range 9, West of the Fourth Principal Meridian, less two acres—48.2 acres. (Castle Danger) Lake County, Minnesota.

Gift of Professor Donald B. Lawrence—The East ½ of the Northeast ¼; Northeast ¼ of the Southeast ¼; and that part of the Southeast ¼ of the Southeast ¼ lying North of County Road; all in Section 28, Township 34, Range 23; containing about 130 acres be it more or less; together with an easement for driveway purposes over the South 10 ft. of the West ½ of the Northeast ¼ of said section; all according to the official United States survey thereof—130 acres. All in Anoka County.

Gift of Earle Brown—All that part of Section 35, Township 119, Range 21, described as follows: Commencing at the Southwest corner of said Section 35, thence East on the South line of said section to a point 51 rods West of the Southeast corner of Southwest ¼ of Southwest ¼; thence North and parallel to the West line of said section a distance of 14 rods and 2 ft., thence East and parallel to the South line of said section a distance of 68 rods to the center of Shingle Creek, thence South along the center of said Shingle Creek to the South line of Section 35, thence East along the South line of Section 35 to the Northwesterly right of way line of Minnesota Trunk Highway No. 100, thence Northeasterly along said right of way line to the intersection with the East line of Section 35, thence Northerly along said East line of Section 35 to a point 20 rods South of the Southwest corner of Northwest ¼ of Northwest ¼ of Section 36, thence Westerly and parallel to the North line of Section 35 to the center of the Hopper Road, thence Northerly along the center line of said Hopper Road to the South line of the Northeast ¼ of Northeast ¼ of Section 35, thence East on said South line a distance of 388.31 ft., thence North to a point on the North line of Section 35, which point is 388.25 ft. East of the intersection of the center line of the Hopper Road with the North line of Section 35, thence West along the center line of Hennepin County Highway No. 130 to the Northwest corner of Section 35, thence South on the West line of Section 35 to the point of beginning.

Lot 46, Auditor's Subdivision No. 310;

All that part of Lot 62, Auditor's Subdivision No. 218, Hennepin County lying North of Minnesota Trunk Highway No. 100;

Lot 63, Auditor's Subdivision No. 218, Hennepin County;

That part of Lot 61, Auditor's Subdivision No. 218, Hennepin County, lying North of Minnesota Trunk Highway No. 100;

That part of Lot 10, Guilford outlots, which lies Northerly of Minnesota Trunk Highway No. 100; Lot 11, Guilford outlots, according to the plat therefore on file and of record in the Register of Deeds in and for Hennepin County, except that part taken for Minnesota Trunk Highway No. 100;

The above conveyance is subject to all existing highways, roads and highway easements; subject also to an easement dated November 14, 1939, to the Northern States Power Company to erect and maintain an electric high line along the West line of Section 35—Approximately 700 acres.

Gift of Charles H. Smith—Northeast $\frac{1}{4}$ of the Northeast $\frac{1}{4}$; South $\frac{1}{2}$ of Northeast $\frac{1}{4}$; South $\frac{1}{2}$ of Northwest $\frac{1}{4}$ of Section 3, Township 34, Range 28, Sherburne County—200 acres.

Lot 1, except the West $3\frac{1}{2}$ ft. thereof and in Block 23, E. H. Hawke's Subdivision of Winslow's Addition to the town of St. Paul, Ramsey County—5,602.8 sq. ft.

Additions were made to the Duluth Campus as follows:

Lots 9 and 10, Block 7 in Lester Park, First Division and that part of Sections 5 and 8, in Township 50 North, Range 13W, bounded on the North by London Road, on the East by Lester River, on the South by Lake Superior, and the West by Sixtieth Avenue. (Known as the Duluth Fish Culture Station.) Purchased from U. S. Government.

Also many of the lots of the Nortondale Development which were not obtained prior to June 30, 1948 were obtained by the University. There are 62 specific items, the details of which appear in the Financial Report for the years, 1948-49 and 1949-50.

Additions were made to the Forestry Station (Cloquet) as follows:

Northeast $\frac{1}{4}$ of Northwest $\frac{1}{4}$ of Section 30, Township 49 North, Range 17W, Carlton County—40 acres.

Northwest $\frac{1}{4}$ of Northwest $\frac{1}{4}$ in the Southwest $\frac{1}{4}$ of the Northwest $\frac{1}{4}$ of Section 30, Township 49 North, Range 17W of the 4th Principal Meridian, Carlton County—80 acres.

LAND EXCHANGE

The University made an exchange of properties with the Northern States Power Company. By this transaction the University acquired certain properties North of the Mississippi River and West of the University's Minneapolis Campus Heating Plant—some 60,000 sq. ft. The University deeded to the Northern States Power Company an area of 13,156 sq. ft. just North of Fourth Street, S. E. and West of Sixteenth Avenue, S. E. Upon this small tract the Northern States Power Company constructed a substation to feed all the electric lines coming to the University.

In another exchange, the University deeded to the Ramsey County Historical society the following property:

Subject to County Road "A"; the West 157 ft. of the East 466.69 ft. of the South 330 ft. of the Southeast $\frac{1}{4}$ of Section 17, Township 29, Range 23 West, Ramsey County.

In turn, the University received the following property:

The West two hundred sixty-one and sixty-five hundredths (261.65) feet of the East seven hundred twenty-eight and thirty-four hundredths (728.34) feet of the South eight hundred ninety-two and sixty-one hundredths (892.61) feet of the Southeast quarter (SE $\frac{1}{4}$), Section 17, Township 29, Range 23, according to the United States Government survey thereof, except the West 244 feet of the South 535.56 feet of the East 710.69 feet of said SE $\frac{1}{4}$ as of record; and subject to an easement for access to County Road "A" over the West 17.65 feet of the East 728.5 feet of the SE $\frac{1}{4}$ of SE $\frac{1}{4}$ of said section, also of record.

The University of Minnesota conveyed to the Board of Park Commissioners certain small areas just South of the Elliot Hospital, Coffman Union, and Comstock Hall for approximately the equivalent in area which was conveyed to the University by the Board of Park Commissioners. This transfer of land was made in order to straighten out the University property line and to permit the Board of Park Commissioners to relocate a portion of the East River Road.

SALE OF LAND

The University sold Lots 6 to 23 inclusive, Block 1, Lots 12 to 20 inclusive, Block 2, and Lots 12, 13, and 15, Block 3, all in Elm Street Addition, City of Minneapolis.

LAND IMPROVEMENTS

The houses located on the properties purchased by the University at Union and Essex Streets S. E., were wrecked and the area converted into a parking lot, primarily for the College of Medical Sciences and the University Hospitals.

The University obtained a considerable tract of land bordering Fifth Street, S. E., between Fifteenth and Sixteenth Avenues and the old houses located on this property were wrecked and the area converted into a parking lot.

The University was granted permission by the Board of Park Commissioners to use a large portion of the East River Flats and a parking lot has been constructed there.

A considerable area just East of the Administration Building was converted into a parking lot.

The old Mechanical Engineering Building was torn down and the area graded for a parking lot.

Fifteenth Avenue, S. E., was relocated from a point near the South edge of the Library to Pillsbury Drive and the entire road re-paved. This relocation was necessary so that the new Classroom Building (Johnston Hall) might be constructed.

The houses formerly located on the West side of Walnut Street between Delaware and Essex were wrecked in order to make way for the new Men's Dormitory (Centennial Hall).

The East ½ of the temporary building South of Main Engineering was removed to the site of University Village, where it now serves as the University Village Union.

The temporary building formerly located just south of Vincent Hall was wrecked in order to provide a place for the new social science building (Ford Hall).

The temporary building formerly located just North of the Library was wrecked in order to provide space for the new Classroom Building (Johnston Hall).

BUILDINGS AND TUNNELS

Minneapolis Campus—Contracts were awarded for seven new buildings and for other construction during the biennium. Brief data concerning each project are given below.

The Variety Club Heart Hospital is located South and West of Elliot Memorial Hospital and North of the East River Road. It is four stories high and houses offices, laboratories, research rooms, and patients' rooms—all for the treatment of cardiac diseases.

Total cost of structure	\$1,231,924.11
Source of funds: Variety Club and miscellaneous gifts	\$464,000.00
Federal grant	\$325,334.31
Grant for National Heart Institute.....	\$242,500.00
Copavin Fund	\$ 67,825.13
Junior League	\$ 5,000.00
A loan of	\$100,000.00
Balance from various funds controlled by the Regents	

The University Health Service Building is located West of the University Hospitals and immediately South of the Botany Building, the front entrance being on Seventeenth Avenue, S. E. The front is three stories high; the rear, four stories. It will house not only the administrative offices of the Health Service but many diagnosis and treatment rooms.

Total cost of structure	\$901,982.17
Source of funds—Federal grant	\$291,801.17
Balance from Health Service funds	

The Field House (Williams Arena) has been completely remodeled. The East half has been made into a basketball arena seating approximately 18,500. The West half of the structure is devoted to ice skating. It has an ice sheet large enough for a full sized hockey rink and provides facilities for intercollegiate hockey as well as recreational skating. There are seating provisions for approximately 5,000. A large basement was added. It provides several dressing rooms, showers, training facilities, etc. On the South side of the structure there was added a large lobby to facilitate the handling of crowds in inclement weather.

Total cost of remodeling	\$950,595.35
Source of funds	Intercollegiate Athletics

The new Social Science Building (Ford Hall) was constructed south of Murphy and Vincent Halls and North of Washington Avenue. It faces the Mall but also has an entrance on Seventeenth Avenue, S. E. Because the land upon which this structure is located is several feet lower than the rest of the Mall it was necessary to construct a building five stories high to balance the other buildings. This structure will house the Departments of Anthropology, Geography, History, Political Science, and Sociology and has several fine classrooms and seminar rooms.

Total cost of structure, including furniture and equipment	\$1,250,000.00
Source of funds	State appropriation

The new Classroom Building (Johnston Hall) is located directly across the Mall from the Administration Building and immediately North of the Library. It is an exact replica, as viewed from the Mall, of the present Administration Building. This structure will house the administrative offices of the College of Science, Literature, and the Arts, of the Graduate School, and of the Summer Session. It also has many fine class

rooms, several seminar rooms, and additional facilities for the Library. It is connected at the basement level with the Library.

Total cost of structure, including furniture and equipment	\$1,296,000.00
Source of funds	State appropriation

The Linear Accelerator Building is a long, narrow, one-story, reinforced concrete structure located West of the University's Heating Plant and is being constructed for specialized Atomic Energy Research.

Total cost of structure	\$164,388.01
Source of funds—State appropriation	\$159,332.00
Atomic Energy Commission (Deep well)	\$ 5,056.01

The Chemical Engineering Building is located South of the Main Engineering Building and North of Washington Avenue. Architecturally it is different from any other structure on the Campus. North and South elevations have large expanses of glass with aluminum panels. Interior walls are all cinder block construction and are painted. This structure houses laboratories, offices, classrooms, and research rooms for Chemical Engineering and the third floor is designed in such a manner that very large equipment such as is used in chemical manufacturing may be erected there.

Total cost of structure, including furniture and equipment	\$1,300,000.00
Source of funds	State appropriation

Centennial Hall is a large new dormitory for men located on the Northern 2/3 of the block immediately North of Pioneer Hall. The front entrance of the new dormitory faces Delaware Street. Portions of this dormitory are seven stories high. It has all the facilities that a modern dormitory should have—kitchen, dining rooms, recreation rooms, storage facilities, etc.

Total cost of structure, including utilities, furniture, and equipment	\$3,288,313.60
Source of funds—State appropriation	\$ 619,000.00
Dormitory funds	\$1,669,313.60
Loan	\$1,000,000.00

Contracts were awarded for a new 75,000 lbs. of steam per hour boiler. This necessitated the removal of two of the first boilers installed at that plant in 1912, and also required major building changes. The new boiler plus building changes plus auxiliary equipment and including the engineer's fees cost \$300,000.

Source of funds	State appropriation
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Contracts were awarded for certain underground construction in connection with the new Mayo Memorial, including rerouting of certain electric lines leading to the Hospital.

Total amount of contracts	\$52,964.50
Source of funds	Mayo Memorial Fund

A contract was awarded also for a main storm sewer leading from the Social Science Building (Ford Hall) to the Mississippi River.

Total cost	\$94,996.00
Sources of funds—Social Science Building	\$60,000.00
Mayo Memorial, Heart Hospital, and Health Service	
Fund	\$34,996.00

The St. Paul Campus—Contracts were awarded during the biennium for three new buildings and an addition to an existing structure on the St. Paul Campus.

The Veterinary Science Building is the first unit to be constructed for the new School of Veterinary Medicine. The front wing, which faces West, is two stories high and contains offices and quarters for certain members of the staff. The rear wing is one story and basement and contains laboratories, diagnosis laboratories, animal quarters, isolation wards, etc.

Total amount of contracts	\$655,654.00
Architect's fees, furniture, superintendent of construction, and contingencies brought the total cost to	\$710,000.00
Source of funds	State appropriation

The Animal and Poultry Husbandry Building (Peters Hall) is a "T" shaped building two stories and basement. The front contains offices, the departmental library, and an auditorium with a seating capacity of 450. The structure houses the administrative offices of both the Animal and the Poultry Husbandry Divisions and has laboratories, research rooms, classrooms, incubators, and deep freeze rooms.

Total amount of contracts	\$587,421.43
Architect's fees, superintendent of construction, tunnels, utility connections, and contingencies brought the total cost to	\$660,000.00
Source of funds	State appropriation
The Addition to the Home Economics Building is three stories high with basement and is located just South and East of the Home Economics Building, to which it is connected by a corridor. The structure will provide offices and urgently needed laboratories, classrooms, and research facilities for the School of Home Economics.	
Total contracts for the structure	\$549,093.96
Equipment contract	\$128,717.56
Architect's fees, superintendent of construction, outside connections, utilities, etc., brought the total cost to	\$700,000.00
Source of funds	State appropriations
The Minnesota Crop Improvement Building is located East of the so-called Seed Corn Building and is connected to it by a tunnel. It is a very simple fireproof building.	
Total cost	\$51,500.00
Source of funds—Seed revolving fund	\$27,000.00
Gift of Minnesota Crop Improvement Association	\$24,500.00
Contracts were awarded for three new boilers to replace the old boilers at the Northwest School and Station (Crookston). The work included a considerable amount of general construction at the Heating Plant and installation of water mains.	
Each of the new boilers has a capacity of 7,500 lbs. of steam per hour and they are specifically designed to burn lignite coal efficiently.	
Contracts for boilers	\$88,490.00
Contracts for general construction, piping, mechanical equipment, electrical construction including remote control steam valves	\$119,834.00
Water Mains	\$ 29,985.50
Other construction costs including difficult foundation, engineer's fees and contingencies brought total to	\$274,200.00
Source of funds—State appropriation	\$250,000.00
University funds	\$ 24,200.00
All of the old boilers in the Heating Plant at the West Central School and Station (Morris) were removed and three new modern boilers, each with 7,500 lbs. of steam per hour capacity, were installed. The work included building changes and a complete revamping of the entire boiler room including purchase of new feedwater pumps, etc. The cost of the three boilers was \$79,875.	
Building alterations, mechanical work, electrical construction, engineer's fees, etc., brought the total cost of construction to	\$162,877.37
Source of funds—State appropriation	\$150,000.00
University funds	\$ 12,877.37
Contracts were awarded also at Morris for an addition to Agricultural Hall. This addition contains offices, classrooms, laboratories, and an auditorium. Also certain remodeling of the basement of the old building was included.	
Total cost of this work, which includes all contracts, architect's fees, lawns, sidewalks, and contingencies	\$120,000.00
Source of funds	State appropriation
A new Science Building is the first structure to be located on the new campus of the Duluth Branch. The building is three stories high but has no basement except for the Heating Plant and a small excavation under the entire first floor for pipe space. The soil and drainage conditions in this area of the new campus make basement construction expensive.	
Contracts were awarded in 1948 for the first phase of this building so that it was used during the academic year 1949-50. The first phase contains classrooms and laboratories for the various sciences. Contracts for phases 2 and 3 were awarded late in 1949. Phase 2 contains offices and classrooms and Phase 3 an auditorium with a seating capacity of 400.	
Total cost of the first phase of the building, including architect's fees, furniture, equipment, and utilities	\$600,000.00
Source of funds	State appropriation
Total cost of Phases 2 and 3, including architect's fees, equipment, and furniture	\$330,000.00
Source of funds	State appropriation

A fine one-story classroom and laboratory building was constructed at the North Central School and Station (Grand Rapids). It is located North and East of the Boys' Dormitory and provides much needed space at this station.

Total cost of structure	\$125,000.00
Source of funds	State appropriation

A new dairy barn was built on the South Farm of the Waseca Experiment Station to replace the old barn which was in bad condition. The new barn is of "T" shape construction, has an entire metal superstructure, and is of the open type known as the "loafer barn." It was constructed on the same site as the old barn which was razed.

Total cost	\$25,992.00
Source of funds—State appropriation	\$ 9,000.00
University funds	\$16,992.00

A new dairy barn was constructed at the Northeast Experiment Station (Duluth) to replace the old barn which was in bad condition. The new barn is of fireproof construction on the ground level so that the herd will be protected against fire. It is located immediately South of the old barn. A new silo was included.

Total cost	\$45,000.00
Source of funds	State appropriation

IMPROVEMENTS AND ALTERATIONS

Minneapolis Campus—Major alterations were made in Eddy Hall better to accommodate the offices of the Dean of Students. Included was an installation of a dumbwaiter leading from the top floor to the ground floor.

Many changes were made in Burton Hall to accommodate various departments of the College of Education.

Extensive alterations were made in Pattee Hall to take care of the third and fourth grades of the Elementary School.

A large amount of remodeling was done in Millard Hall, primarily to accommodate the Department of Bacteriology.

The top two floors of the State Board of Health Building were completely overhauled. Source of funds: State appropriation.

New offices were constructed on the South end of the first floor of the Main Engineering Building for the dean of the Institute of Technology. The entire ground floor of the Main Engineering Building was taken over by the Professional Colleges Bookstore. Practically all of the old partitions were removed and a thorough remodeling job done. Beautiful new fixtures were constructed and installed.

The offices of the School of Architecture on the third floor of this building were completely revamped.

A book conveyor system and a pneumatic tube system were installed in the Library.

A new roof was installed on the Main Engineering Building and a new skylight and new roof were installed on the Experimental Engineering Building.

A considerable amount of fluorescent lighting was installed in the Library, in the engineering drawing rooms, in many classrooms, and in the laboratories in the Institute of Anatomy.

New laboratory tables were installed in several of the laboratories of the School of Chemistry. The new tables make it possible to almost double the capacity of the rooms.

The heating system in Folwell Hall was completely overhauled and a modern two pipe system installed.

A large amount of work was done in the deep tunnel changing over the steam mains from 125 lbs. of pressure to 200 lbs. of pressure. This change was necessary in order to heat all the Minneapolis Campus buildings with the present boiler capacity.

A new water main was installed to the Heating Plant. This new main connects with the large 48-inch main installed by the City of Minneapolis under the Cedar Avenue bridge. This is the first time that the Heating Plant has had a source of water supply from two different locations.

A large tunnel was constructed from the basement floor of the Heating Plant leading out to the ash pile. This tunnel replaces the old method of raising the ashes on an elevator and then wheeling the ash carts to the ash pile. The elevator had been a considerable source of trouble. The new tunnel makes ash disposal a much simpler process.

A small locker and shower building was constructed on the new Athletic Field. This building is located near Sixth Street and Seventeenth Avenue, S. E., and serves the baseball team as well as many intramural teams.

Electric lights were installed at the baseball diamond so that intercollegiate baseball games may now be played at night.

A suspension bridge was built across the Great Northern and Northern Pacific tracks leading from Seventeenth Avenue, S. E., and Fifth Street. This suspension bridge is intended for foot traffic only and was built to accommodate traffic from the Minneapolis Campus to the new Athletic Field. It constitutes an excellent safety measure.

Many of the buildings were painted both inside and out.

St. Paul Campus—A room for the telephone switchboard was constructed in the basement of the Agricultural Engineering Building. This was necessitated because of the change from the manual to the dial system and has resulted in a greatly improved telephone service on the St. Paul Campus. It is now possible for those on the Minneapolis Campus to dial directly to any office on the St. Paul Campus and *vice versa*.

Many new fluorescent lights were installed, particularly in the Administration Building, in the Biochemistry Building, in the Soils Building, and in the Home Economics Building.

A small addition was constructed to the Seed Corn Building.

Much new equipment was installed in the Heating Plant.

A new heating tunnel was constructed leading from the rear of the Agricultural Engineering Building in an Easterly direction to a point South of the new Animal and Poultry Husbandry Building (Peters Hall). This heating tunnel is approximately 800 feet long. A branch from this tunnel was also run from a point just West of the old Veterinary Building in a Southerly direction to the Small Animal Building—a distance of approximately 150 feet.

A number of buildings were painted inside and out.

Northwest School and Station (Crookston)—A 75,000-gallon water tank was erected and new water mains were installed. The source of water supply remains that of the city of Crookston, water being pumped from the Crookston mains into the water tank. The new tank assures much better fire protection.

West Central School and Station (Morris)—A fire broke out on the opening day of the fall quarter, 1949, in the three-story Girls' Dormitory and did severe damage. The third story and roof were completely destroyed and the basement and first two floors were damaged extensively. Fortunately, since this was an income producing building, fire insurance was carried and this insurance went a long way toward making emergency repairs. As the building now stands it is a two-story dormitory. The third floor was entirely removed, a new roof installed, partitions repaired, and a complete new plastering and rewiring job done in the basement and on the first and second floors.

Northeast Experiment Station (Duluth)—A new 50,000-gallon water tank was erected, new water mains were installed, and a new deep well was sunk.

Fruit Breeding Farm (Zumbra Heights)—Most of the buildings have been rehabilitated. A large amount of painting was done, buildings were rewired for electricity, and houses were insulated.

Duluth Branch—Torrance Hall, formerly a dormitory for girls, remains so except that a modern kitchen and modern cafeteria were installed in the basement and the building had to have the heating system revamped.

Washburn Hall was formerly a boys' dormitory but has been completely remodeled to house the College Bookstore, the Post Office, the Student Union, and Staff Houses.

All of the old steam pipes and radiators in the Administration Building were removed, a new heating system was installed, and all of the toilet rooms were rehabilitated.

—WILLIAM F. HOLMAN, *supervising engineer*.

OFFICE OF CIVIL SERVICE PERSONNEL

The Program Grows—The 1948-50 biennium has been devoted to developing the major details of the "positive" personnel program for which the groundwork was laid during the 1946-48 biennium.

It is believed that definite progress has been made in the program of bringing personnel services more directly to departments. The work during the past two years has clearly demonstrated that University departments are concerned and interested in improving efficiency and morale among their employees.

Unfortunately, however, it has not been possible to realize all of the expectations that had been outlined for the program during the preceding biennium. It had been hoped that as the general employment picture stabilized, the members of the staff would be able to devote more time towards improving services to departments.

While the employment picture did improve to some extent, the regular duties of employment and job classification required more time than had been anticipated.

Changes in Civil Service Rules—On July 6, 1948, copies of the revised *Civil Service Rules* were sent to all University departments. The format for presenting *Civil Service Rules* was completely changed, and accordingly most of the existing rules were rewritten. The revised rules attempted to cover more completely all aspects of the University's *Civil Service personnel program*.

Effective July 1, 1948, the following major changes in rules were made:

1. All hours worked in excess of 40 per week were to be paid at the rate of time and one-half; previously, time and one-half was paid for hours over 80 worked in any two-week period.
2. Vacation and sick leave privileges were extended to all employees who worked 75 percent or more of the full-time work week. Previously only full-time employees were granted these privileges.
3. An employee would accumulate vacation and sick leave for any month in which he worked at least 75 percent of his regularly assigned work time for the month. Previously no clear-cut policy was stated.
4. For the first time *Civil Service Rules* incorporated in considerable detail the University's policy for collective bargaining, which provided that a sole collective bargaining agent may represent any given unit within the University. A major change was made in the grievance procedure, which provided for final appeal to outside arbitration instead of to the *Civil Service Committee* or the *Labor Committee of the Board of Regents*.

Effective July 1, 1949, the work week for employees at the branch stations was reduced from 44 and 41 hours to 40 hours per week. This meant that for the first time all University employees had a standard 40-hour week.

The Board of Regents on February 10, 1950, approved the following major revisions of *Civil Service Rules*:

1. The opinion of the University medical officer relative to continued employment of an employee whose health was in question could be appealed in accordance with established grievance procedure.
2. Employees after five years of service would be eligible for an additional one-quarter day vacation retroactive to March 1, 1949. This likewise changed proportionately the maximum vacation accumulation which an employee may have to his credit.
3. Other revisions were made in existing *Civil Service Rules*, but their intent was to clarify or make a minor revision in the existing rules.

Position Classification Plan—The position classification plan is an important center of information and control in personnel administration.

Most of the day-to-day work in controlling the classification of new positions, and that of old positions whose duties have changed, is done in accordance with a set pattern of job titles and descriptions.

An equally important task, however, is that of keeping the written job descriptions of a position classification plan up to date. During the 1948-50 biennium it became increasingly evident that major steps toward revising class descriptions would need to be taken soon.

Position classification work is extremely time consuming. But a great number of very delicate and important relationships among employees, supervisors, and administrators depend on its being done well. It is not only necessary to make the correct decision, but to "sell" that decision to the employee, and to the supervisor and his superiors.

University departments set up 1,242 new positions (on both the miscellaneous and regular payrolls) during the biennium. A written description was secured from the department creating each job.

Four hundred and eleven requests for reclassification of positions came from employees or their supervisors during the biennium. Approximately 250 of these cases needed detailed investigation, including discussions with both the employee and the supervisor, and inspection of related positions. A little less than two thirds of these requests were approved.

The Classification Bureau initiated a restudy of all positions in the following specialized groups during the biennium: Mechanical, Farm and Forest, Library, Editorial, Radio, Audio-Visual, Hospital Administration, Photography, and Student Personnel (counseling). Of the 346 positions studied, 24 were reclassified upward, three were reclassified to another class at the same pay level, and 19 were reclassified downward.

Requisitions to refill 2,176 vacant positions were received during the biennium.

Up-to-date class of work descriptions (class specifications) should provide much of the basic information needed to improve a recruiting and testing program, develop a training program, and keep a salary plan in balance.

Faced with all three of these problems in building the personnel program this biennium, this office has increasingly turned to the class specifications for helpful information.

In doing so, it has become more and more apparent that the *Class Specifications* written in 1945 have become obsolete and, in addition, are not sufficiently analytical to provide the type of information needed now. They become obsolete because of changing

content of individual jobs and changing class concepts. They are not analytical or specific enough because of the generalized language used in them. (In addition to these problems, this office is faced also with the fact that the supply of specification manuals has been exhausted—there are no more copies to give new departments.)

Therefore, during this biennium, some time has been spent in designing a new format in which to write class descriptions or specifications, and the job of rewriting the entire plan has begun.

Salary Plan—The biennium began with a major adjustment of salary levels to keep pace with changes in the cost of living during the previous year.

After consultation with legislative leaders, the University followed the State Civil Service system and changed its ranges on July 1, 1948. The Legislature, meeting in January, 1949, approved a deficiency appropriation to meet this additional cost. This was the first time such retroactive action had been taken by the Legislature and it formally linked University Civil Service salary plan changes (for cost of living) to those of the State Civil Service system.

Very few—only eight—salary range increases for individual classes were made during the first year of the biennium. These were emergency cases that could not be postponed.

Action was delayed on most requests for adjustments in individual ranges. But many changes were plainly needed to match shifts in occupational wage structure in industry and to follow changes made during the 1948-49 fiscal year in the state salary plan. Funds were requested from the Legislature to make these changes, but they were not made until July 1, 1949. Salary range increases for 76 classes were approved on that date. Then, during the 1949-50 fiscal year, 25 more ranges for individual classes were changed.

Employment—The first year of the biennium brought some signs of greater stability in employment and possibilities of better selection of staff. This was due to an easing in the labor market and through the new pay ranges effective as of July 1, 1948. Slightly larger numbers of better qualified people were available. Several of the skilled and semi-skilled areas of employment eased considerably for recruitment during the beginning months of the biennium. This, however, was rather short-lived, especially with the second half of the biennium again bringing a tighter labor market, and vacancies increasing by approximately one fourth over the 1948-49 fiscal year.

During the biennium, greater emphasis has been placed upon publicizing vacancies in University positions through public recruiting agencies. An effort is being made to avoid using commercial employment agencies so far as possible. Recruitment for the 3,545 University vacancies was conducted through constant contact with the State Employment Service, commercial and trade schools, high schools, clubs, and leagues. Federal and State agencies were consulted to recruit staff being released due to decrease in activities, particularly during 1948-49. Recruitment of students' wives, though limited in number, continued to be an excellent source of well-qualified candidates for clerical positions.

The policy of granting extensions for service beyond the retirement age was discontinued as of June 30, 1948. No extensions have been granted since then, as it appeared that suitable replacements could be found.

The number of vacancies, representing full-time positions, reached the grand total of 3,545—a decrease of approximately 500 vacancies over the previous biennium. An additional 190 vacancies were either filled by encouraging departments to employ students for part-time work or were cancelled due to elimination of the position or reorganization.

A system of duplicating candidates' completed application forms was established this biennium. Thus, when an applicant has completed his application and has been interviewed and found qualified for referral to a vacant position, his application is duplicated. This copy, which contains all the pertinent information as to name, age, training, experience, marital status, etc., is then sent with the candidate for use by staff members in the department who will interview the person.

Testing activities have increased considerably in volume as well as in emphasis upon the use of tests as an aid to selection during the past biennium. In previous years all testing was done through the Student Counseling Bureau. A Civil Service testing unit was activated at the beginning of the biennium. Progress was slow at the start due to limitations of both physical facilities and staff. During the latter part of the biennium, greater use was made of all tests which had been used in recent years. Considerable effort has been expended in sifting through such materials and in checking the "norms" in use for the respective type of activity. New "norms" were established in 1949 for the clerical workers and applicants at the University. In recent months

wider use has been made of trade tests, personality, vocational interests, and supervisory tests to aid interviewers in selection of staff.

During the previous biennium, 13,801 tests were administered to a combined total of 6,248 Civil Service and student applicants, while the current biennium reveals a total of 11,124 tests administered to 3,350 persons as Civil Service applicants alone.

The number of well qualified applicants and referrals for positions during the biennium has been inadequate to permit good selection. While the over-all total indicates an average of less than two people referred to each vacant position, this does not hold true for all services.

The number of candidates chosen to fill vacant positions totaled 3,437 during the biennium. Of these, 2,632 were new employees, 359 former employees, 270 promotional, and 176 transfer employees. Remaining unfilled positions totaled 108 at the close of the biennium. Included in the figures for personnel transactions are all changes affecting employees in all University units—the Minneapolis and St. Paul Campuses, Duluth Branch, and the Agricultural Experiment Stations and Schools.

Personnel transactions (the work done by the department in processing documents effecting employee changes) totaled 22,807 for this biennium as compared to 25,822 during the previous period. Of these totals, 13,917 were Civil Service actions and 8,890 student employee changes.

It is to be noted that the total number of promotions, transfers, demotions, and reclassification changes have remained approximately at the same high proportion year for year as during the previous biennium years. For Civil Service employees there was a total of 562 promotions this biennium as compared with 495 during the last.

Employee Training—Advances have been made in two main areas of employee training during the biennium: training in conference leading for management officials, and business procedures training for clerical personnel. Experiments in other areas, such as clerical orientation and bookstore saleswork, have also been made. A course in conference leading was conducted for three groups of management officers and key supervisors.

Two sections of the new *University Manual of Business Procedures* have been published during the biennium, another has been drafted, and a follow-up training program has been initiated. The latter (on the procedures in the Personnel Section of the manual) was designed during 1949. It was presented to three pilot groups of administrative and departmental secretaries in the early months of 1950. It consists of five discussion sessions conducted by the conference method.

Several experiments with ideas which may be useful in developing an orientation training program for new employees have been tried during the biennium.

One of the first moves in the training program was to publish an employee handbook. *Our Job at the U of M* was produced in the first few months of the 1948-50 biennium. It gives employees the basic facts about personnel policies at the University in simple terms. A nation-wide survey of employee handbooks made in January, 1950, rated *Our Job at the U of M* as one of the best in the country. It ranked first in ease of reading score and eighth in interest score. No other university handbook ranked above thirty-second on the ease of reading score, or above fifteenth on the human interest score.

For this biennium 20 Regents' Scholarships were offered each quarter, or a total of 120 for the period. In addition, six Regents' Scholarships a year, or two each quarter, were offered to employees at the Duluth Branch.

During the previous biennium, 246 Graduate School privileges were awarded to 106 employees as opposed to corresponding figures for this biennium of 415 Graduate School privileges for 155 employees. Notwithstanding the increase in number of privileges granted, the quality of work continued to improve.

Employee Relations—The number of employee contacts made by this office continued to increase. This has come about in two ways. More and more it has been the policy for members of the personnel staff to have more direct contact with employees at their jobs. Also, employees continue to feel that they can bring their problems directly to our attention.

At the beginning of the biennium a new grievance procedure was established which provided for ultimate appeal of the director's decision to outside arbitration. While we had no misgivings concerning the establishment of such a procedure, we were curious and apprehensive as to how such machinery would be used. The number of individual grievances formally presented was not great (14 cases). Of these, positive action was taken in five cases to remedy the situation, five cases were denied, while two were more or less requests for information.

Labor Relations—During the entire biennium the University operated under a well-defined labor policy which also was incorporated into Civil Service Rules. Considerable benefits accrued to the University as a result, for it clearly defined the limits and boundaries within which labor relations with the various unions would function.

As can be expected, it has taken the various labor organizations some time to adapt themselves to this policy. This is especially true of those Unions which represent employees whose wage rates are determined by negotiation within the framework of Civil Service Rules. Inasmuch as wage scales continue to increase in industry, the last half of the biennium, and more particularly the last six months, found us in an unfavorable position with respect to a majority of the wage rates. Beginning in the spring of 1950, these Unions began to exert pressure to obtain some type of wage relief beginning on July 1, despite the fact that we were still in the middle of our legislative biennium and had no additional funds with which to make any pay increases.

While our new labor policy called for Unions to make wage representations to the University by July 1, 1948, which might then be considered by the Legislature in 1949, nevertheless, no wage proposals were made. It was not until the latter part of March, 1949, that Public Building Service and Hospital and Institutional Employees Union, Local 113, made a proposal for a series of changes in Civil Service Rules as well as a blanket \$30 across-the-board increase for all of its members. Negotiations were started immediately, and it became quite evident that all matters excepting the wage increase could be settled. Since the Legislature was in session at this time and since a bill was being considered which would approximately provide this amount of increase, nothing could be accomplished until the final legislation was determined. The bill being considered did not pass, and inasmuch as cost of living for December, 1948, did not warrant a cost of living increase, we faced the legislative biennium beginning July 1, 1949, with no over-all increase for the first time in this decade.

After numerous meetings with Local 113 and the State Labor Conciliator, the Union filed a strike notice under the Minnesota Labor Relations Act, placing the matter in the State Labor Conciliator's Office as to whether or not a Fact Finding Commission should be appointed. The University, at this point, made its situation known to state officials as to the possible consequence of a Fact Finding Commission. It was pointed out that the major issue was one of wages, and since the Legislature had already decided on this issue, little could be gained by appearing before a Fact Finding Commission. Despite these warnings, a Fact Finding Commission was appointed on September 27, 1949, pursuant to the provisions of the Minnesota Labor Relations Act. The Commission scheduled meetings for October 6, 10, 13, and 20, 1949. The University again questioned the legality of the Fact Finding Commission but indicated its willingness to supply the Commission with any information it might desire.

While a number of issues were involved, many of them pertained to slight changes in the wording of rules and were agreed to with the Union before the Commission. The Commission did make its recommendations on four changes in Civil Service Rules, none of which could be considered of great importance.

In handling the one controversial issue—the pay increase—the Commission in its first report dated November 11, 1949, recommended a \$14 across-the-board increase. The report was not released until early December and contained an appendage which, in part, read as follows:

Your commission has very recently had its attention directed to the language of the act appropriating money to the University for this fiscal year. Laws 1949 C. 743 Sec. 2, Item 1, which provides:

“Provided, that from the above appropriation, all non-academic employees shall be paid a salary comparable to the salaries paid to state employees in the classified state civil service.”

Our recommendations with reference to wages as found in the report were made without being advised of the legal significance of the above mentioned proviso. We, as a commission, do not feel that we are in a position to, nor do we desire to make a legal interpretation of the effect of this specific legislation. When and if this legislation is by proper legal authority or judicial determination found to constitute a mandate, then our recommendations in relation to the matter of wages must be limited to the extent of such determination.

It goes without saying that the Fact Finding Commission in recommending a \$14 across-the-board increase and later qualifying such an increase by questioning its legality made for one of the most difficult labor situations the University has ever faced. The University, in its effort to find its way out of this situation, met with legislative leaders who were unanimous in their declaration that the University pay plan must be comparable to the State Civil Service pay plan. Finally, under date of December 13, 1949,

a ruling was asked of the Attorney General, which opinion was rendered on December 16, 1949, as follows:

You ask:

"If a non-academic (civil service) employee of the University of Minnesota, including the University of Minnesota Hospitals, is paid in whole or in part from the appropriations provided in the sections quoted, is the proviso legally binding on the University in the payment of salary to such employee?"

Your question is answered in the affirmative.

During the winter and spring of 1950, numerous meetings were held by the Union and its committee with members of the University administration and the Labor Conciliator, with the Board of Regents, and with a special Labor Committee of the Board of Regents. As a result of one of these earlier meetings a joint study was made by the University and the Union, together with the State Labor Conciliator, of the comparability of certain University classes of work with the state, which included a study of the manner in which employees received increases. It was discovered that in many of the classes studied employees reached their maximum much sooner than did University employees. This prompted a proposal by the University that individuals in classes which were in pay ranges 1 and 2 who were not at their maximum, and who had continuous service from on or before April 1, 1949, receive a special merit increase of one increment effective January 1, 1950. Employees in pay ranges 3 through 7 who were earning less than \$184 per month and who were not at their maximum and who had continuous service from on or before April 1, 1949, were eligible upon recommendation of the department head and approval by the director of Civil Service to receive a merit increase effective January 1, 1950. The Union finally accepted this proposal in June, which seemingly settled the wage dispute. However, it promptly followed by proposing many new classes at higher salary ranges, in an effort to obtain increases for a number of its members. These issues have yet to be settled.

The University's relations with other unions continued to improve. While many meetings were held with their various business representatives to discuss problems and settle differences, in no single case was there a failure to reach an amicable settlement. The Office of Civil Service Personnel has been able to secure and hold the respect of the majority of the influential labor leaders in the community.

Civil Service Committee—The University of Minnesota, including the Office of Civil Service Personnel, has been most fortunate in having a very able and conscientious Civil Service Committee to assist and give guidance in carrying out its program. The membership of this committee for the biennium consisted of Lloyd Short, *chairman*, (1948-50), Ralph Dowdell (1948-50), Austin Dowell (1948-49), Theodore Fenske (1949-50), Clinton Johnson (1948-50), Dale Yoder (1948-50).

Looking Forward—A review of the activities during the biennium indicates progress. However, much remains to be done. A progressive program of the past may be obsolete today; a personnel program must constantly be adjusted to current conditions if it is not to become obsolete. Although goals or objectives for the future must be set up, it is clear that the best way to solve immediate problems is to make changes in goals to fit actual day-to-day situations.

University departments have been very much interested in the efforts to improve the personnel program. They have always welcomed positive changes and will continue to welcome them, for they know that a good personnel program cannot remain static. However, if the Civil Service Office is to move forward with its program in terms of present work load, a larger staff and more space will be required.

Student Employment—The accompanying table presents statistics on student employment activities during the biennium. These figures reflect the general downward employment trend in this locality, as can be shown by a comparison with those for the previous biennium.

STUDENT EMPLOYMENT—CAMPUS AND OFF CAMPUS						
	New Applicants	Interviews	Vacancies	Placement	Earnings	
					On Campus	Off Campus
1946-48	10,831	29,396	14,387	10,062	\$5,012,035.18	\$503,446.80
1948-50	13,237	37,285	11,185	8,954	6,572,544.15	546,142.37

Traffic in the Student Employment Bureau has increased considerably, despite the decline in University enrollment. There was a 22 percent increase in new applicants and a 27 percent increase in number of interviews held. This was largely due to an increase in non-G.I. students who had to rely on jobs to finance their education.

Job vacancies dropped 22 percent this biennium, with more temporary jobs listed than ever before, especially on campus. Curtailed budgets on campus and a general slowdown in business were the factors responsible for this situation.

Placements held up comparatively well, falling off only 10 percent since 1948. Students were less reluctant than formerly to take relatively undesirable jobs.

The increase in campus earnings, which reached an all-time high of over \$6½ million, occurred as a result of the cost-of-living adjustment in 1948. Off-campus earnings, conservatively estimated, showed a slight increase, due in part to the raise in the minimum pay rate.—HEDWIN C. ANDERSON, *director*.

SERVICE ENTERPRISES

University-operated Student Housing—Throughout the biennium, as in recent years, Minnesota-resident veterans had first priority for University housing facilities for men and for families. Because of a slight reduction in numbers of unmarried veterans to be housed, a gradually increasing number of nonveterans was accommodated, with priority given to Minnesota residents.

The demand continued for more accommodations for single men than were originally provided in Pioneer Hall, so this dormitory remained double-decked, extending occupancy from 536 to 940. Seven of the eight houses adjacent to Pioneer Hall, known as the Pioneer Cottages, which had housed 111 men students, were sold and removed as necessary for construction of the new men's dormitory, Centennial Hall. At the close of the 1949-50 year, one house remained, to be used for offices of Hospital Administration.

Close attention was directed to a possible decrease in need for the emergency housing facilities in the Stadium Dormitory and the Old Home Dormitory. Stadium housing, which had been barracks-style, was discontinued after 1948-49. The need for housing at the Old Home Dormitory, however, was demonstrated, and the housing was maintained.

Demand existed through the biennium for additional accommodations for single women, so occupancy in Comstock and Sanford Halls remained at 378 and 283 respectively, by double-decking, as compared with normals of 276 and 245. Although Minnesota residents were given first priority, and freshmen were assigned to Sanford Hall, other applicants were accepted as soon as practicable to insure full occupancy for most efficient operation.

In the summers of 1949 and 1950 the Language Institute occupied a number of houses in the Winchell Village, where the Institute students lived, studied, and relaxed in an improvised environment of the countries they were studying.

In the fall of 1948 the federal government transferred complete title to the trailers, quonsets, and metal barracks family housing units to the University. At the close of the 1948-49 year, the University, then having authority unrestricted by federal contract, conducted a survey among Village residents and as a result of their disclosed preference for a flat rental rate varying only for types of housing, the graduated rent schedule based on income was abolished. Priorities continued in the following order: Minnesota veterans with children, married Minnesota veterans without children, out-of-state veterans with children, married out-of-state veterans without children.

Staff Housing—The Staff Housing Bureau attempted to assist a number of University staff members with housing problems, served as a clearing house for rentals, and supplied general information for purchases. During 1948-49, 685 families were interviewed of which 208 were housed; and 239 single persons were interviewed of which 36 were housed. The proportion of single persons housed is low because most of the single individuals interviewed wished only to improve their present housing.

The Staff Housing Bureau maintained waiting lists and administered assignments of staff members to vacancies in the five-family apartment at 501 Washington Avenue S.E., in the 38 apartments in Thatcher Hall, and in 48 units of prefabricated housing.

Graduate Student Housing—Forty-eight units of prefabricated housing at University Village are assigned to graduate students, with 11 of the units reserved specifically for foreign graduate students.

Center for Continuation Study Dormitory—This adult education center dormitory has been utilized consistently more intensively by short course enrollees and visitors to the University. Maximum usage to date was obtained in 1949-50.

Eating Facilities—The Annex to Coffman Union Food Service was continued in operation through 1948-49. At the close of that year this temporary building was removed, and the food service equipment was stored until the summer of 1950 when it was installed in the newly constructed Centennial Hall for men. Coffman Union Food Service adequately served students, staff, and visitors, supplemented by Shevlin cafeteria at the north end of the campus which served University students as well as students of the University High School and various elementary classes.

Stadium Stands—Construction of permanent refreshment stands in the Stadium was completed, and their use has provided substantial improvement toward the efficient serving of a maximum number of people under most sanitary conditions. With the remodeling of Williams Arena, permanent refreshment stands were likewise constructed in this building. During the biennium Stadium Stands was assigned responsibility for the operation of the Golf Club lunch room.

Printing and Mimeograph Departments—These services underwent extensive equipment replacement and expansion within the biennium, in an effort to provide for faster, quality production.

COMPARATIVE EARNINGS, SERVICE ENTERPRISES DEPARTMENTS

	1948-49	1949-50
Ada Comstock Hall	\$ 238,810.09	\$ 263,849.77
Sanford Hall	154,349.59	159,145.35
Pioneer Hall	551,031.94	539,853.22
Pioneer Hall Cottages	11,146.31	5,971.28
Cooperative Cottages (Women)	22,870.31	20,864.81
Stadium Quarters	3,059.82	215.41
Old Home Building Dormitory	5,259.44	5,339.04
Center for Continuation Study	51,982.72	59,525.34
Como Avenue and Grove East Housing Project	336,736.46	369,608.65
Thatcher Hall	21,268.15	21,753.38
501 Washington Ave. S.E. (staff housing)	3,272.50	3,275.89
Duluth Cottages (staff housing)	240.00	1,420.00
Coffman Union Food Service	550,497.71	539,002.70
Coffman Union Food Service Annex	59,571.03	
Shevlin Hall Cafeteria	31,795.76	33,747.99
Cold Storage Plant	542,818.15	502,398.72
Milk and Cream Department	160,865.91	146,589.32
Stadium Stands	66,712.66	69,804.90
Printing Department	283,543.75	280,054.74
Mimeograph Department	53,617.48	46,756.87
Mimeograph and Bulletins (St. Paul Campus)	27,954.69	29,516.67
Post Office	18,739.72	14,900.84
University Laundry	162,158.10	163,931.67
University Garages	50,178.85	58,786.33
Transportation	3,390.59	5,475.76
Dormitory Dens:		
Pioneer Hall Den	29,823.17	25,680.00
Sanford Hall Candy Counter	3,564.57	3,830.23
Ada Comstock Candy Counter	8,373.62	9,041.60
Men's Gym Towel Fund	15,179.95	14,484.97
Locker Rentals	10,054.92	7,769.71
Eidsmo Clinic Building	600.00	750.00
Inter-Campus Trolley	24,317.21	25,676.66
Scientific Apparatus Repair Shop	25,829.28	34,132.74
Truck Service	3,543.01	2,098.87
Totals	\$3,533,157.46	\$3,465,253.43

Laundry—In 1949-50 a four-hour night shift, of minimum staff, was added to meet demands for laundry service by University departments beyond the capacity of the University Laundry in its present location in the basement of the Hospitals.

University Garages—Establishment of additional University parking lots has relieved considerably the shortage of garage accommodations, but there remained consistently lengthy waiting periods for inside contract parking.

Lockers—During the biennium the complete physical inventory of this department was surveyed, and a new program established for orderly routine maintenance.

Scientific Apparatus Repair Shop—Through expansion of operations afforded by the increased space allotted and the new equipment provided, the department filled all repair requests and also designed and constructed various types of special equipment needed for instruction and research at the University.

Truck Service and Transportation—The former storage garage adjacent to the Storehouse and Shops building was converted, at a minimum of expense, into a repair garage in 1949-50, in partial and temporary satisfaction of the need for an adequate repair garage for servicing the University fleet of trucks and passenger cars. A small amount of necessary equipment has been purchased. In keeping with the University policy of replacement each year of a small number of vehicles which have become impractical to operate, twelve passenger cars and ten trucks were replaced in 1948-49, and three passenger cars and six trucks in 1949-50.

During 1948-49 the Transportation Department was established, for the purpose of making available to University departments passenger cars, light trucks, station wagons, and a bus, at a rental fee, for the transporting of staff, students, and materials. At the

close of the biennium the department controlled for dispatching two cars, two panel trucks, one station wagon, and one thirty-two-passenger bus.

The Department of Service Enterprises in the biennium has been faced with problems of rising costs and decreasing enrollments. The accompanying table shows the departments of the University operated under the supervision of Service Enterprises, with comparative gross earnings for both years of the biennium.—J. C. POUCHER, *director*.

SUMMARY OF CASH GIFTS, 1948-49

	Description	Number	Amount	Total
Loan Funds				
	New	5	\$ 3,454.76	
	Additions to previous gifts	4	534.42	\$ 3,989.18
Scholarship funds				
	New	17	37,295.57	
	Additions to previous gifts	46	57,917.51	95,213.08
Fellowship funds				
	New	11	31,531.10	
	Additions to previous gifts	46	180,016.34	211,547.44
Prizes				
	New	6	5,725.00	
	Additions to previous gifts	36	3,570.00	9,295.00
Research funds				
	New	66	520,864.22	
	Additions to previous gifts	90	640,013.43	1,160,877.65
Miscellaneous funds				
	New	29	124,957.94	
	Additions to previous gifts	30	1,257,096.86	1,382,054.80
	Totals	386		\$2,862,977.15

CASH GIFTS, 1948-49

Amount	LOAN FUNDS—NEW	Year Established
\$ 1,000.00	From Robert A. Schmitt, through the Greater University Fund, to establish a loan fund for graduate and postgraduate students in music	1949
1,000.00	To establish the Frances M. Money Memorial Loan Fund	1948
	\$700.00 Minnesota District of the American Association of Medical Social Workers	
	300.00 Frank B. Money	
850.15	To establish the Chinese Student Emergency Aid Fund to help meet the financial crisis faced by Chinese students	1948
	\$500.00 A. T. Johnson	
	138.65 Campus Chest, through the Greater University Fund	
	111.50 Thirteen donors	
	100.00 Alpha Phi Omega	
504.61	To establish a emergency loan fund for students at the University of Minnesota, Duluth Branch	1949
	\$250.00 L. D. Rawn	
	200.00 J. D. Mahoney	
	54.61 Senior Class of 1948, Duluth Branch	
100.00	From Mrs. Florence N. Hively, through the Greater University Fund, to establish a loan fund for students in Home Economics in the School of Agriculture or College of Agriculture, Forestry, Home Economics and Veterinary Medicine, in honor of Carlotta M. Brown	1948
\$ 3,454.76		

LOAN FUNDS—ADDITIONS TO PREVIOUS GIFTS

\$ 250.00	Minnesota State Pharmaceutical Association Loan Fund	1945
197.13	All-University Council Foreign Students Aid Fund	1943
	\$152.13 Campus Chest	
	45.00 Women's Society of University Lutheran Church of Hope	
50.00	Mortar Board Emergency Loan Fund	1944
37.29	Minneapolis Advertising Club Loan Fund	1947
\$ 534.42		

SCHOLARSHIP FUNDS—NEW

Amount		Year Established
\$ 12,500.00	From Philco Corporation, through the Greater University Fund (\$2,500 per year for five years) to establish five scholarships of \$500 each in the field of electrical engineering in the Institute of Technology as a memorial to David Grimes	1949
10,000.00	Greater University Fund unrestricted scholarships	1949
5,592.15	To establish a scholarship at the University of Minnesota, Duluth Branch, in accordance with the will of Tollof Thompson	1949
2,000.00	From Tozer Foundation, Incorporated, to provide scholarship assistance to graduate students of the University of Minnesota	1949
1,375.00	To establish a scholarship in milling engineering	1949
	\$500.00 General Mills, Incorporated	
	500.00 International Milling Company	
	100.00 King Midas Flour Mills	
	100.00 Tennant and Hoyt Company of Lake City, Minnesota	
	100.00 Atkinson Milling Company	
	50.00 Hubbard Milling Company of Mankato, Minnesota	
	12.50 R. N. McCaull	
	12.50 George Wagner	
978.42	From the Government of Iraq (custody only), scholarship funds awarded to Khalid Tahsin Ali	1949
900.00	To establish a Henry L. Williams Memorial Scholarship Fund (through the Greater University Fund)	1949
	\$300.00 Frank E. McNally	
	300.00 Frank G. McCormick	
	300.00 W. M. Goodrich	
750.00	From Socony-Vacuum Oil Company to establish a scholarship in civil engineering	1949
500.00	From the Minneapolis Gas Light Company, through the Greater University Fund, for a scholarship in Agriculture, Forestry, and Home Economics	1948
500.00	From James F. Lincoln Arc Welding Foundation (annually) to establish two scholarships	1948
500.00	From an anonymous donor to establish an annual traveling scholarship to a senior fellow or first year staff man in the Department of Surgery	1949
400.00	From Maurice L. and Arthur C. Melamed to establish a scholarship fund in honor of Louis Melamed	1948
400.00	From an anonymous donor for a scholarship to be used during 1948-49 to be known as the Faith Thompson Scholarship Fund	1948
400.00	From Delta Phi Lambda, through the Greater University Fund, to establish the Anna Von Helmholtz-Phelan Scholarship in Creative Writing to be awarded to a junior student in the College of Science, Literature, and the Arts, to be used in the senior year of study	1949
250.00	From Artists Course sale of stage seats for Rudolph Serkin piano recital	1948
200.00	From Mrs. Guy F. McDonald (annually) through the Greater University Fund, to establish a scholarship in memory of John Mars McDonald	1948
50.00	From Mrs. Marianne Graham McPheeters to establish a scholarship in honor of Misses Harriet and Vetta Goldstein	1949
\$ 37,295.57		

SCHOLARSHIP FUNDS—ADDITIONS TO PREVIOUS GIFTS

\$ 25,000.00	Rockefeller Foundation Studies in Northwestern History	1943
4,725.00	Tozer Foundation, Incorporated, Scholarship Fund	1947
4,075.00	Sears-Roebuck Agricultural Scholarship	
	\$2,950.00 (college)	1947
	1,125.00 (school)	1937
3,000.00	F. H. Peavey, Van Dusen-Harrington Scholarship	1947
3,000.00	John Morrell and Company Graduate Scholarship in Bacteriology	1948
2,500.00	Maurice L. Rothschild Scholarship	1947
1,690.00	All-University Scholarship Fund	1945
	\$500.00 For Mrs. Joseph T. T. Ling, held in trust by Hamline-Asbury School of Nursing	
	300.00 National Association of Secondary School Principals (for James E. Bye)	
	200.00 Bayport Foundation	
	157.50 B. C. Gamble Charitable Trust	
	157.50 P. W. Skogmo Charitable Trust	
	150.00 Drs. Duma C. and Ann W. Arnold	
	125.00 Women's Club of Ridgewood, New Jersey	
	100.00 Women's Auxiliary of the Minneapolis Urban League	
1,500.00	Borden Agricultural Scholarship Award	1945
1,500.00	James Cowin Scholarship Fund	1948
1,200.00	Creative Music Scholarship Fund	1947
1,000.00	Flour City Architectural Education Fund (George B. Melcher Prize)	1945
900.00	Mando Graduate Scholarship Fund	1946
844.59	Campus Chest Scholarship Fund	1947
750.00	Grace Ellis Ford Scholarship	1941

Amount		Year Established
556.45	Robert V. Cram Memorial Scholarship Fund	1948
	\$473.45 Friends of the late Robert V. Cram	
	70.00 Mrs. Robert V. Cram	
	10.00 Mrs. Phyllis H. Thornley	
	3.00 Marjorie H. Thurston	
500.00	Izaak Wal Scholarship (custody only)	1947
500.00	Lura C. Hutchinson Scholarship	1945
500.00	Law Faculty Scholarship Fund	1925
500.00	Douglas Scholarship Fund	1946
400.00	RCA Scholarship Fund	1945
300.00	National Hillel Commission Scholarship	1946
300.00	F. H. Peavey Company-Van Dusen-Harrington Company Undergraduate Scholarship	1947
250.00	Presser Foundation Scholarship Fund	1930
225.00	Minnesota State Pharmaceutical Association Scholarship	1917
200.00	Chi Psi Fraternity Scholarship Fund	1946
200.00	Mary Farrell Coffman Scholarship Fund	1945
200.00	American Society of Civil Engineers Scholarship—Northwestern Section	1946
200.00	Frank H. Jacobson Scholarship Fund	1948
159.00	Encyclopaedia Britannica Films Tuition Scholarship	1947
147.25	William A. O'Brien Scholarship Fund	1947
100.00	Burpee Award in Horticulture	1946
100.00	Minneapolis Women's Advertising Club Scholarship	1931
100.00	Northwest Daily Press Association Scholarship	1935
100.00	Leora E. Cassidy Scholarship	1944
100.00	Marion L. Vannier Scholarship	1930
100.00	Grace C. Nelson Scholarship Fund	1946
75.00	Minnesota Masquers Scholarship Fund	1948
60.22	Caleb Dorr Fund (college scholarships and prizes)	1920
60.00	Sigma Alpha Iota Alumnae Group Scholarship Fund	1947
50.00	John Corrin Hutchinson Scholarship Fund	1945
50.00	Agricultural Faculty Women's Club Scholarship Fund	1923
50.00	Alpha Zeta Scholarship Fund	1922
50.00	Home Economics Association Scholarship Fund	1924
50.00	Phi Upsilon Omicron Scholarship	1926
50.00	Theta Sigma Phi Scholarship	1939
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\$ 57,917.51		

FELLOWSHIP FUNDS—NEW

\$ 8,531.10	From Reserve Mining Company to establish fellowships in mining, metallurgy, geology, or other fields important to the subject of taconite processing, from funds originating from the sale of pig iron produced from a blast furnace smelting test	1948
6,000.00	From Minnesota Mining and Manufacturing Company to establish a postdoctorate fellowship in the School of Chemistry under the direction of Dr. I. M. Kolthoff	1949
4,500.00	From Pillsbury Mills, Incorporated, to establish a fellowship for study of enzymes in relation to cereal grains and products	1948
4,500.00	Greater University Fund Fellowships	1949
1,800.00	From Buckman Laboratories, Incorporated, to establish a fellowship covering research on antibiotics	1948
1,500.00	From General Mills to support a research assistantship for Professor J. J. Ryan to be awarded to Chang-Kaing Tsai	1949
1,200.00	From Field Foundation, Incorporated, to establish a fellowship for Feike Feikema	1948
1,000.00	From the Twin Cities Chapter of the American Friends of the Hebrew University for a fellowship to support Izaak Wal, a graduate student in plant pathology and botany	1949
1,000.00	From Inflico, Incorporated, to establish a fellowship in civil engineering for a period of two academic quarters (Sanitary Engineering Fellowship)	1949
1,000.00	From Sylvania Electric Products Company to establish a fellowship in electrical engineering	1949
500.00	From the National Foundation for Infantile Paralysis, Incorporated, for laboratory expenses of Dr. Vernon Herschel Mark's research project	1949
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\$ 31,531.10		

FELLOWSHIP FUNDS—ADDITIONS TO PREVIOUS GIFTS

\$ 73,184.00	Minneapolis General Hospital Fellowships for 1948-49	1935
33,240.00	Affiliated Hospital Fellowships	
	\$13,800.00 Charles T. Miller Hospital	
	2,760.00 surgery	1947
	2,760.00 medicine	1946
	2,760.00 obstetrics and gynecology	1946
	2,760.00 radiology	1946
	1,380.00 pathology	1947
	1,380.00 ophthalmology	1948

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Amount		Year Established
9,660.00	Northwestern Hospital	
	\$2,760.00 medicine	1946
	2,760.00 pediatrics	1946
	2,760.00 surgery	1946
	1,380.00 pathology	1947
8,280.00	St. Barnabas Hospital	
	\$2,760.00 medicine	1946
	2,760.00 surgery	1946
	2,760.00 pediatrics	1946
	1,500.00 Quain and Ramstad Fellowship Fund—radiology	1946
12,950.00	From the American Foundation for Pharmaceutical Education	
	\$7,650.00 Fellowship in Pharmaceutical Chemistry	1946
	5,300.00 Fellowship in Pharmacognosy	1946
4,500.00	Du Pont Postdoctorate Fellowship in Chemistry	1946
4,272.89	From Carbide and Carbon Chemicals Corporation	
	\$2,300.00 Fellowship in Organic Chemistry	1946
	1,972.89 Fellowship	1946
4,200.00	From Procter and Gamble Company	
	\$2,400.00 Fellowship in Chemical Engineering	1948
	1,800.00 Predoctoral Fellowship in Physical Chemistry	1947
3,600.00	Alpha Phi Cardiac Fellowship Fund	1947
3,485.00	Shell Fellowship in Chemistry	1947
3,000.00	Minnesota Mining and Manufacturing Company Fellowship	1946
3,000.00	Quaker Oats Fellowship Fund	1946
3,000.00	Swift and Company Nutrition Fellowship	1945
2,800.00	United States Rubber Company Postgraduate Fellowship in Chemistry	1947
2,800.00	Du Pont Postgraduate Fellowship in Chemistry	1946
2,800.00	Du Pont Postgraduate Fellowship in Chemical Engineering	1946
2,760.00	St. Paul Children's Hospital Fellowship Fund	1945
2,700.00	Monsanto Chemical Company Graduate Fellowship in Organic Chemistry	1946
2,500.00	Pillsbury Mills, Incorporated, Fellowship	1948
2,400.00	From Allied Chemical and Dye Corporation	
	\$1,200.00 Fellowship in Chemistry (plus tuition)	1941
	1,200.00 Fellowship in Chemical Engineering (plus tuition)	1941
2,353.00	Norwegian-American Graduate Fellowship Fund	1945
	\$1,753.00 from 87 donors	
	500.00 N. C. Beim	
	100.00 Thor Knutsen	
2,000.00	Midland Cooperative Wholesale Graduate Fellowships	1946
1,760.00	Shell Fellowship in Geology	1947
1,400.00	Washburn Home Fellowship	1939
1,350.00	Firestone Fund	1934
1,331.45	Miller Hospital Fellowship Fund	1941
1,000.00	McConnon and Company Industrial Fellowship	1945
800.00	Rockefeller Foundation Fellowship in Surgery	1945
750.00	E. J. Longyear Company Graduate Fellowship in Economic Geology	1946
55.00	Conway MacMillan Memorial Fund Fellowship in Botany	1946
25.00	E. G. Cort Memorial Fellowship Fund	1947
\$ 180,016.34		

PRIZES—NEW

\$ 3,500.00	From James A. and Sabra M. Hamilton	
	\$2,000.00 for a James A. Hamilton Achievement Award in Hospital Administration	1949
	1,500.00 for a Sabra M. Hamilton Award in Hospital Administration	1949
2,000.00	From the National Creamery Buttermakers' Association to establish a fund for the presentation of medals to the Dairy Products Judging Team and payment of a part of the expense of sending the team to the judging contest	1948
150.00	From the <i>Northwestern Druggist</i> to establish two prizes in the amounts of \$100 and \$50 for the best articles written by students in the junior and senior classes in pharmacy	1948
75.00	From the <i>Minnesota Quarterly</i> to establish three yearly English composition awards of \$25 for outstanding work published in advanced writing magazine	1949
	Merck Index, Merck Manual, and Reagent Chemicals and Standards from Merck and Company, Incorporated, to be awarded annually to that senior student in the College of Pharmacy who has earned the highest scholastic average in the three years of professional work	1949
\$ 5,725.00		

PRIZES—ADDITIONS TO PREVIOUS GIFTS

\$ 2,500.00	Borden Undergraduate Research Award in Medicine	1945
385.00	Northern States Power Company Rural Electrification Awards	1944
200.00	Magney, Tusler and Setter Prize	1948
175.00	John S. Pillsbury Prizes in Speech	Prior to 1926
100.00	Southern Minnesota Medical Association Prize (and medal)	1930
75.00	Lambda Alpha Phi Prize	1929
75.00	American Society of Mechanical Engineers, Twin Cities Section	1924

Amount		Year Established
50.00	Louise M. Powell Prize	1928
10.00	Stephen H. Somsen Scholarship Award in Education, Duluth Branch	
	Theta Sigma Phi Leadership Award (certificate and name engraved on permanent plaque)	1945
	Delta Sigma Phi Scholarship Key	1929
	Phi Delta Junior Scholarship Award (gold bracelet)	1939
	Alpha Kappa Psi Junior Scholarship Key	1937
	University Business Women's Club Scholarship Key (gold key)	1939
	Chemistry Faculty Prize (\$25 in books)	1946
	Chi Epsilon Prize (\$9 in books)	
	Northwestern Section of American Society of Civil Engineers Prize (entrance fees, one year's dues ASCE, and engineering handbook)	1924
	Rho Chi Award in Pharmacy (one year's membership in American Pharmaceutical Association)	1939
	Alpha Kappa Gamma Prize (gold key)	1945
	Sigma Delta Chi Scholarship Award (certificate)	1945
	Alpha Kappa Psi Scholarship Medal	1937
	Alpha Chi Sigma Twin City Alumni Association Prize (\$10 in books)	1929
	American Institute of Architects Prize (medallion)	1929
	Eta Kappa Nu Prize (\$5 handbook)	1931
	Kappa Epsilon Award	1937
	Lehn and Fink Medal	1923
	Phi Lambda Upsilon Prize	1926
	Kappa Tau Alpha Prize (membership certificates)	
	Subscription to <i>Journal of Dental Research</i>	
	Subscription to <i>American Journal of Orthodontia</i>	
	Subscription to <i>Oral Surgery, Oral Medicine, and Oral Pathology</i>	
	Annual membership in the <i>Journal of Dentistry for Children</i>	
	Subscription to <i>Journal of Dentistry for Children</i>	
	Award by American Academy of Dental Medicine	
	Special award by Mr. Ferguson	
	Omicron Kappa Upsilon Keys (and certificate)	
\$ 3,570.00		

RESEARCH FUNDS—NEW

\$ 159,791.00	From the United States Public Health Service	
\$32,804.00	For research on intracellular enzymes—Dr. J. J. Bittner	1948
29,082.00	For research on mouse mammary cancer and mouse leukemia—Dr. H. O. Halvorson (medicine)	1948
24,960.00	For polarographic studies of cancer—Dr. I. M. Kolthoff (medicine)	1948
16,675.00	For research on the use of the mass spectrometer in anesthesia and surgical problems (medicine)	1948
11,139.00	For research on Newcastle disease in man—Dr. J. M. Adams (medicine)	1948
6,480.00	For research on the reactions of the hepatic parenchyma of mice in injury and repair—Dr. W. L. Williams (medicine)	1948
6,156.00	For research on the effect of radioactivity upon hemoglobin metabolism—Dr. H. Horns (medicine)	1948
6,000.00	For research on inhibition of hyaluronidase (medicine)	1949
5,292.00	For research on the mechanism of body temperature regulation—Dr. Allan Hemingway (medicine)	1948
5,054.00	For research on mesenteric artery and vein—Dr. A. J. Kremen (medicine)	1948
4,698.00	For research on conjugation of sterids in the body—Dr. S. L. Cohen (medicine)	1948
4,104.00	For research on the hepato-renal syndrome—Dr. J. S. McCartney (medicine)	1948
3,780.00	For research on blood glucose level in rats—Dr. A. Kirschbaum (medicine)	1949
2,527.00	For research on the biology of human breast cancer—Dr. S. C. Reed (medicine)	1948
540.00	For research on intubation of the human bowel—Dr. J. J. Wild (medicine)	1948
500.00	For research on the effect of anemia with and without starvation on healing of a standard wound—Dr. Yoshio Sako (medicine)	1948
100,300.00	From Carnegie Corporation of New York for support of a program in interdisciplinary research in Social Relations (Graduate School)	1948
35,036.22	For cancer research—Dr. J. J. Bittner (medicine)	1948
\$35,000.00	Damon Runyon Memorial Fund for Cancer Research, Incorporated	
36.22	Society for the Preservation and Encouragement of Barber Shop Quartet Singing in America	
31,000.00	From an anonymous donor to establish the Mary Anderson Fund for Cancer Research (medicine)	1949

Amount		Year Established
21,115.00	From the American Cancer Society	
\$8,250.00	For research on the chemical and metabolic characterization of mouse mammary carcinoma—Dr. C. P. Barnum (medicine)	1949
8,140.00	For research on metabolism of perfused organs studied with isotopic carbon compounds—Dr. Nathan Lifson (physics)	1949
4,725.00	For research on chemotherapy of mouse leukemia—Dr. A. Kirschbaum (medicine)	1949
15,000.00	From the Legislative Advisory Committee for research on the control of the European corn borer (agriculture)	1948
14,000.00	From the Lederle Laboratories Division of the American Cyanamid Company	
\$7,500.00	For research on influenza in swine—Dr. H. O. Halvorson (agriculture)	1949
6,500.00	For research on brucellosis—Dr. W. W. Spink (agriculture)	1948
10,010.00	For the John J. Bittner Cancer Research Fund (medicine)	1948
\$10,000.00	From the sale of surplus mice to establish an endowment fund, the principal and income of which would be available for salaries, supplies, travel, journals, lectures, etc., incident to research in the field of cancer and/or related problems	
10.00	Barbara Knight	
10,000.00	From M. & R. Dietic Laboratories, Incorporated, for research in infant nutrition—Dr. I. McQuarrie (medicine)	1948
10,000.00	(Per annum) From Weatherstrip Research Institute for an investigation of the effects of weatherstrips when applied to various types of windows (technology)	1949
10,000.00	From E. L. du Pont de Nemours and Company to provide financial assistance for fundamental research in Chemistry (technology)	1949
8,000.00	To establish a research on convulsive disorders—Dr. I. McQuarrie (medicine)	1949
\$4,000.00	Schering Corporation	
4,000.00	Ciba Pharmaceutical Products, Incorporated	
7,500.00	From Swift and Company for research on chronic brucellosis—Dr. W. W. Spink (medicine)	1949
6,800.00	From the Life Insurance Medical Research Fund for research on the physiology of autonomic centers and action of sympatholytic substances—Dr. Ernst Gellhorn (medicine)	1949
6,540.00	From Refrigeration Research Foundation and the American Dairy Association for research on physical stability of frozen milk (agriculture)	1949
6,000.00	From Corn Products Sales Company to establish a research on residual sugars in bread (agriculture)	1948
5,625.00	Greater University Fund—research and related projects	1949
5,600.00	From the Nutrition Foundation, Incorporated, to establish a research on fatty acids—Dr. W. O. Lundberg (medicine)	1949
4,600.00	From the Helen Hay Whitney Foundation to provide salary and research support in the field of rheumatic fever—Dr. R. A. Good (medicine)	1948
4,000.00	From Sharples Chemicals, Incorporated, for research on the effect amine salts of 2,4-dichlorophenoxyacetic acid have on the growth of certain crop plants (agriculture)	1948
3,600.00	From Dr. Salsbury's Laboratories for research on the effects of 3-nitro-4-hydroxyphenylarsonic acid in the diet of swine (agriculture)	1948
3,240.00	From the National Research Council for research on glands of internal secretion in the fetus—Dr. L. J. Wells (medicine)	1948
3,193.00	From Eli Lilly and Company for pregnancy anemia studies—Dr. R. G. Holly (medicine)	1949
3,000.00	From Sandoz Chemical Works, Incorporated, to establish a research on the effects of adrenalin inhibitors on peripheral circulation (medicine)	1948
3,000.00	From the Estate of Martha Washburn Allin for surgical research in cancer—Dr. O. H. Wangenstein (medicine)	1948
3,000.00	From Brown and Bigelow to aid in the establishment of a surgical research laboratory in connection with the graduate training program (Ancker Hospital Research Fund) (medicine)	1949
3,000.00	From the Brewers Yeast Council, Incorporated, for research on the nutritive properties of yeast (agriculture)	1949
2,940.00	From the American Heart Association, Incorporated, for research on the effect of reducing the plasma potassium concentration of the contractile process in cardiac muscle—Dr. R. M. Reinecke (medicine)	1949
2,500.00	From the National Paint, Varnish, and Lacquer Association for research on paint and paint peeling—Professor F. B. Rowley (technology)	1949
2,000.00	From Wilson and Company, Incorporated, to establish a research on a supplemental pig feed (agriculture)	1948
1,875.00	From Henry K. Beecher for support of an anesthesia death rate study—Dr. O. H. Wangenstein (medicine)	1948
1,864.00	From Pillsbury Mills, Incorporated, for research on the nature of irritation produced by powdered enzymes—Drs. R. N. Bieter and H. N. Wright (medicine)	1949
1,822.00	From Winthrop-Stearns, Incorporated, for pharmacological and clinical investigations on certain myelographic agents under the direction of the the School of Medicine (medicine)	1948
1,810.00	From Audio Development Company for research on efficiency of a bone conductor transducer (technology)	1948

DIVISIONS OF BUSINESS ADMINISTRATION

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Amount		Year Established
1,803.00	To establish a fund in memory of Dr. Luthard N. Bergh to be used in the field of medical education and research (medicine)	1948
	\$500.00 Dr. George S. Bergh	
	500.00 Mrs. Gunhild Bergh	
	500.00 Dr. Solveig M. Bergh	
	100.00 Inger Bergh	
	203.00 from 53 donors	
1,500.00	From Minnesota Dairy Industry Committee to establish a research on raw milk (agriculture)	1948
1,500.00	From the American Academy of Allergy for research on the culture and identification of allergenic molds (medicine)	1948
1,450.00	From Minnesota Mining and Manufacturing Company for research on fluoro-carbons—Dr. R. N. Bieter (medicine)	1948
1,250.00	(\$1,000 annually) From Hawaiian Sugar Planters' Association to establish a research in determining nitrogen isotope abundance ratios with a mass spectrometer (physics)	1948
1,000.00	From Dr. J. C. Davis to establish the George P. Douglas Fund for Medical Research (medicine)	1949
1,000.00	From R. B. Ferguson to establish the Richard L. Varco Fund for Surgical Research (medicine)	1949
1,000.00	From Atlas Powder Company to establish a research on the staling of bread (agriculture)	1949
750.00	From the American Medical Association to establish a research on fructose in rats—Dr. R. M. Reinecke (medicine)	1948
500.00	From Dr. Charles E. Rea for surgical research—Dr. O. H. Wangenstein (medicine)	1948
500.00	From George LaBelle for surgical research—Dr. O. H. Wangenstein (medicine)	1948
400.00	To establish a research on the effectiveness of flame cultivation (agriculture)	1948
	\$200.00 equipment and fuel from Northwest Hydrogas Company	
	200.00 United Petroleum Gas Company	
300.00	From Northwest Retail Feed Association, Incorporated, for an investigation on the toxicity of treated seed grains as feed for swine (agriculture)	1948
150.00	From the American Cyanamid Company to establish a research on drugs that are related to anesthesiology—Dr. R. T. Knight (medicine)	1949
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\$ 520,864.22		

RESEARCH FUNDS—ADDITIONS TO PREVIOUS GIFTS

\$ 350,377.44	From the United States Public Health Service	
	\$39,928.00 For research on genesis of mammary cancer in mice (medicine)	1947
	30,000.00 For research on diet, activity, and hypertension (medicine)	1947
	28,394.00 For research on fluorescein dyes (medicine)	1948
	25,000.00 For cancer teaching and clinic research (medicine)	1948
	22,086.00 For porphyrin metabolism research (medicine)	1947
	19,701.00 For research on aging in relation to diet (medicine)	1947
	18,582.48 For research on gastric cancer (medicine)	1947
	17,949.00 For research on brucellosis (medicine)	1947
	17,022.00 For research on the physiology of virus interaction (medicine)	1947
	14,646.96 For research in the etiology of acid peptic ulcer (medicine)	1947
	13,701.00 For research on the metabolism and composition of the skeleton (medicine)	1947
	13,392.00 For research on the synthesis of anti-malarial drugs containing "tracer elements" (technology)	1948
	13,311.00 For research on the development of the pump-oxygenator (medicine)	1947
	11,286.00 For research on leukemia in mice (medicine)	1947
	10,800.00 For histochemical studies on the stomach (medicine)	1946
	10,800.00 For research on the epidemiology and epizootiology of anthropod-borne virus encephalides (medicine)	1947
	9,396.00 For a cockroach study (medicine)	1947
	9,000.00 For studies on the inhibition of hyaluronidase in health and disease (medicine)	1947
	8,956.00 For research in toxic substances in water (medicine)	1947
	7,657.00 For research on the sclerotic nerve cell (medicine)	1946
	3,888.00 For research on interactions of proteins (medicine)	1947
	2,565.00 For research on the relation of gastritis to the carcinoma of the stomach (medicine)	1946
	2,316.00 For research on mammary tumor development in mice (medicine)	1946
55,496.00	From the National Foundation for Infantile Paralysis	
	\$15,716.00 plus overhead—For research on host cell-virus relationship (medicine)	1949
	14,040.00 plus overhead—For medulla study (medicine)	1949
	13,950.00 plus overhead—For polio research—pharmacology (medicine)	1949
	8,770.00 plus overhead—For research on bone and muscle growth (medicine)	1949
	3,020.00 plus overhead—For study of pulmonary edema (medicine)	1949

Amount		Year Established
50,006.00	Cancer Research Fund	
	\$50,000.00 Minnesota Cancer Society, Incorporated	
	3.00 Mr. and Mrs. K. T. Osterud	
	3.00 Mr. and Mrs. Magnus Olson	
34,217.00	From the American Cancer Society, Incorporated	
	\$12,292.00 For research on the therapy of breast cancer (medicine)	1948
	10,000.00 For research on the mammary tumor milk agent (medicine)	1946
	6,925.00 For research on the genetics of human breast cancer (medicine)	1948
	5,000.00 For research on the mammary cancer in mice (medicine)	1946
13,072.09	Star and Tribune Newspaper Studies Fund (journalism)	1944
12,475.25	Wyeth Incorporated Research on Anemia (medicine)	1948
10,280.00	From the Research Corporation	
	\$5,680.00 For the Williams-Waterman Fund (technology)	1947
	4,600.00 For research on the synthesis of polycyclic compounds (technology)	1949
10,000.00	American Dairy Association Research Fund (agriculture)	1943
9,000.00	Donald P. Ordway and Mrs. Marian Sherman Ordway Fund for Surgical Research (medicine)	1946
7,500.00	Minnesota and Ontario Paper Company Research (technology)	1940
5,000.00	Insulation Board Institute Research Fund (technology)	1941
5,000.00	Elsa U. Pardee Foundation Cancer Research (medicine)	1946
4,575.65	For the Malignant Disease Research Fund (medicine)	1946
	\$2,000.00 Mr. and Mrs. R. C. Lilly, through the Minnesota Medical Foundation	
	1,000.00 Estate of the late Mrs. Martha Allin	
	1,000.00 K. W. McKee	
	300.00 Charles J. Upin	
	110.65 Mrs. Vinton Anderson	
	165.00 From 20 donors	
4,500.00	Lederle Laboratories Research in Animal Diseases (agriculture)	1944
4,500.00	Corn Products Refining Company Research (technology)	1948
3,500.00	Swift and Company Research in Biochemistry (agriculture)	1947
3,110.00	For the Pharmacology Research Fund (medicine)	1946
	\$1,500.00 Ciba Pharmaceutical Products, Incorporated	
	750.00 American Cyanamid Company	
	500.00 Hoffman-La Roche, Incorporated	
	360.00 G. D. Searle and Company	
3,000.00	Federation of Paint and Varnish Production Clubs Research (technology)	1946
3,000.00	Midwest Barley Improvement Fund (agriculture)	1947
3,000.00	American Dry Milk Institute, Incorporated, Nutrition Fund (agriculture)	1946
2,900.00	Jane Coffin Childs Memorial Fund for Medical Research, Leukemia in Mice Research Fund (medicine)	1941
2,900.00	Battelle Memorial Institute Research (agriculture)	1946
2,500.00	National Research Council Research on Sterid Metabolism (medicine)	1947
2,500.00	Flora Rosenblatt Fund for Cancer Research (medicine)	1944
2,500.00	Soy Flour Association Research (agriculture)	1946
2,400.00	Northwest Research Foundation Fund (technology)	1933
2,400.00	American Cyanamid Company Research (agriculture)	1946
2,206.00	Minnesota Cancer Society Incorporated Tumor Research (medicine)	1946
2,000.00	Northwest Feed Manufacturers Research Fund (agriculture)	1948
2,000.00	Rock Analysis Laboratory (geology)	1929
2,000.00	Augustus L. Searle Fund for Surgical Research (medicine)	1940
2,000.00	Alvina D. Wieck Memorial Fund for Cancer Research (medicine)	1947
2,000.00	B. F. Nelson Research Fund (medicine)	1947
1,725.00	Quaker Oats Company Research on Improvement in Oats (agriculture)	1947
1,675.00	For the Owen H. Wangensteen Fund for Surgical Research (medicine)	1945
	\$275.00 Dr. O. H. Wangensteen	
	250.00 Joseph J. Mensik	
	250.00 Mr. and Mrs. Frederick Van Dusen	
	250.00 Mrs. Ellard A. Walsh	
	200.00 Mrs. Etta C. Salinger	
	200.00 Jules Ebin	
	150.00 Judge Earl J. Lyons	
	100.00 Mr. Irving H. Green	
1,605.00	For Clarence Dennis Fund for Surgical Research (medicine)	1947
	\$1,500.00 Max J. Byer	
	105.00 Dr. Clarence Dennis	
1,500.00	Milk Distributor's Research Fund (agriculture)	1936
1,200.00	Kraft Foods Sweet Cream Buttermilk Fund (agriculture)	1947
1,000.00	Leo and Frances Pritzker Fund for Surgical Research (medicine)	1947
1,000.00	National Research Council Pediatrics Research (medicine)	1947
1,000.00	Austen Cargill Fund for Surgical Research (medicine)	1948
1,000.00	Research on Brain Metabolism (medicine)	1941
600.00	Middle West Soil Improvement Committee Fund (agriculture)	1940
600.00	Agricultural Supply Company Fund (agriculture)	1946
500.00	Tennessee Corporation Fungicide Research Fund (agriculture)	1944
500.00	From the Community Chest of South St. Paul	1946
	\$250.00 to Undulant Fever Research Fund	
	250.00 to Brucellosis Research and Travel Fund (medicine)	
500.00	Experimental Medical Research Fund (medicine)	1942
500.00	Ciba Pharmaceutical Products, Incorporated Research on Hormonal Factors in Undescended Testis (medicine)	1945

Amount		Year Established
500.00	Robert A. Cooper Fund for Surgical Research (medicine)	1945
500.00	Borden Company Soy Bean Research Fund (medicine)	1944
500.00	Dr. and Mrs. Harry B. Zimmerman Fund for Surgical Research (medicine)	1943
500.00	Dr. N. Logan Leven Fund for Surgical Research (medicine)	1946
352.50	Samuel Hirschfeld Fund for Surgical Research (Malignant Disease Research Fund) (medicine)	1946
	\$350.00 Mr. and Mrs. Jerome Hirsh	
	2.50 Mrs. Ruth F. Guthmann	
300.00	Winthrop-Stearns Research in Epilepsy Fund (medicine)	1946
200.00	Mrs. Tillie Nelson Fund for Surgical Research in Cancer (medicine)	1947
140.50	Rheumatic Fever Research Fund (medicine)	1945
100.00	Eric Ajax Memorial Fund (Malignant Disease Research Fund) (medicine)	1948
75.00	Frank E. Burch Research Fund in Ophthalmology (medicine)	1943
25.00	Max B. Hoffman Memorial Fund—Lee Mark Foundation (medicine)	1947
\$ 640,013.43		
MISCELLANEOUS FUNDS—NEW		
\$ 44,480.00	From the United States Public Health Service	
	\$37,500.00 For undergraduate training in psychiatry—Dr. D. W. Hastings	1949
	4,980.00 For undergraduate training in dentistry—Dr. H. B. Clark	1948
	2,000.00 For financing a course in child psychiatry in the Center for Continuation Study	1949
28,000.00	From Carnegie Corporation of New York	
	\$16,000.00 To establish a secretariat for community organizations in Minnesota	1949
	7,000.00 To enable Dean T. R. McConnell to study developments in higher education in England and other countries	1948
	5,000.00 For a symposium on populations to be conducted by the Center for Continuation Study	1948
24,500.00	From the Minnesota Crop Improvement Association for construction of a building to be known as the Minnesota Crop Improvement Building to be located on the St. Paul Campus	1948
6,584.84	From Zelle, Nicholson, Mills Trust for equipment for the Heart Hospital for use in connection with research on heart disease	1948
5,000.00	From the American Cancer Society to establish a professorship in cancer research in memory of Dr. W. A. O'Brien	1948
4,000.00	From H. Rowatt Brown, through the Greater University Fund, to establish an endowment fund for the maintenance of the carillon bells, and for scholarships for students who may play the bells	1948
2,900.00	From the Minnesota Department of Health to be applied toward the salary of a member of the public health nursing staff	1949
2,700.00	From the Minnesota State Department of Health for a project to study methods of training parents through observation of their own children	1948
2,000.00	From the Minnesota Department of Health to assist in the expense of conducting a Summer Session workshop for public health nurses and teachers	1949
1,500.00	From Oliver Iron Mining Company to defray in part the cost of the new campus for the Duluth Branch	1948
1,148.00	From the Duluth Art Association and private individuals in Duluth to apply on the salary of Mr. Burchfield, who will teach art in the second term of the Summer Session	1949
518.28	From Dr. Wallace P. Ritchie to establish the Harry Park Ritchie Memorial Fund	1948
349.46	From the Class of 1948 of the School of Agriculture for the purchase of a memorial plaque for World War II veterans or for movie camera equipment	1949
256.87	From Regent R. L. Griggs for the Duluth Branch budget	1948
200.00	From the Public Administration Clearing House to apply toward the work of producing a bibliography for use in the project on human nature in public administration	1948
162.70	From the Class of 1947 of the West Central School and Station for the purchase of a recorder	1948
133.87	From an anonymous donor to the occupational therapy budget for the purchase of materials for use of hospital patients	1948
100.00	From the Ladies Auxiliary of the Minnesota Veterinary Medical Association for the purchase of books for the School of Veterinary Medicine library	1949
100.00	From the Grand Forks Clinic for a pathology museum to be known as the Minnesota Medical Foundation—E. T. Bell Fund	1949
75.00	From the Key Club of the West Central School and Station to purchase clover leaf bang boards for the gymnasium	1949
66.89	From Frances E. Andrews for the purchase of a film for the film library of the Audio-Visual Extension Service	1949
50.00	From the Country Dance Group to apply toward the construction of the new Farm Union Building	1949
50.00	From the Key Club of the West Central School and Station to purchase a memorial for World War II veterans at the West Central School and Station	1948
42.03	From the Class of 1948 of the West Central School and Station to purchase a new whistle	1949
40.00	From two donors for the purchase of books on hospital administration	1949
\$ 124,957.94		

MISCELLANEOUS FUNDS—ADDITIONS TO PREVIOUS GIFTS

Amount		Year Established
\$ 943,657.00	From the United States Public Health Service	
	\$815,326.00 For the Mayo Memorial Building Fund	1948
	35,272.00 For the Psychiatric Nursing Fund	1947
	29,136.00 For the Advanced Mental Hygiene Program	1947
	27,730.00 For the Cancer Detection Clinic	1947
	23,060.00 For the training of psychiatric social workers	1947
	6,733.00 For the compilation and editing of material on global epidemiology	1947
	6,000.00 For psychiatric training	1947
	400.00 For training in clinical psychology	1947
100,000.00	From the Minnesota Department of the American Legion for the Heart Research Professorship Fund	1948
80,339.16	For the Variety Club Heart Hospital Fund	1946
	\$80,000.00 Variety Club of the Northwest	
	339.16 From 18 donors	
50,000.00	From the Minnesota Division of the American Cancer Society for the Mayo Memorial Fund	1944
22,527.00	For the Cancer Detection Clinic Fund	1947
	\$22,500.00 Minnesota Division of the American Cancer Society, Inc.	
	27.00 From three donors	
25,121.00	Minnesota Association for Crippled Children and Disabled Adults	1946
20,000.00	Frederick B. Wells, Jr., Trust Fund (200 shares of F. H. Peavey and Company Common Stock)	1945
4,000.00	Junior League of Minneapolis Medical Social Worker Fund	1947
2,500.00	Hormel Institute Fund	1942
1,883.70	For the 4-H Club Fund	1931
	\$1,000.00 Federal Cartridge Company	
	495.00 Northern States Power Company	
	200.00 J. R. Watkins Company	
	150.00 Pride Hybrid Company	
	38.70 Atwood-Larson Company	
1,323.00	Booth Memorial Hospital Fund	1940
1,300.00	Minnesota Jewish Council 4-H Club Fund	1942
1,264.00	For Friends of the University Library Fund	1944
	\$1,200.00 H. W. Wilson, through the Greater University Fund	
	64.00 From five donors	
905.00	For the Frank Fitch Grout Fund	1947
	\$200.00 Oliver Iron Mining Company	
	100.00 Pickands Mather and Company	
	150.00 Inter-State Iron Company	
	100.00 Donald M. Davidson	
	355.00 From twelve donors	
850.00	Minnesota State Department of Health Parent Education Fund	1948
500.00	Duluth Clinic Foundation Lectureship	1946
250.00	Edward F. Waite Publication Fund	1945
212.00	William Harvey Emmons Fund	1944
	\$110.00 Frank F. Grout	
	112.00 From eight donors	
200.00	Judd Lectureship in Medicine and Surgery	1933
200.00	Guild Memorial Lectureship	1947
50.00	Center for Continuation Study Improvement Fund	1942
10.00	Greater University Fund	1947
5.00	Fred B. Snyder Fund	1948
\$1,257,096.86		

BOOK GIFTS, 1948-49

To the Law Library—more than 1,700 volumes of legal pamphlets, texts, reports, session laws, and statutes, as well as some 400 numbers of legal periodicals, including:

Constitution of Italy autographed by President Enrico de Nicola

700 volumes of texts, court reports, and session laws from Horace W. Roberts, Mankato, Minnesota

59 volumes of session laws and statutes from James L. Hetland, Minneapolis, Minnesota

45 volumes of miscellaneous legal material from M. R. Waters and Son, Incorporated, Minneapolis, Minnesota

52 volumes from the Jerome Jackman estate through John M. Edlund, Minneapolis, Minnesota

31 volumes from Messrs. Carleton, Cherry, and Norton, Minneapolis, Minnesota

256 numbers of periodicals from Rex H. Kitts, Minneapolis, Minnesota

116 numbers of periodicals from Messrs. Meighen, Knudson, Sturtz, and Peterson, Albert Lea, Minnesota

The entire stock of *The Brief*, a legal periodical, and transportation charges from St. Louis from Albert Chandler, St. Louis, Missouri

Personal copy of briefs and records of the Supreme Court from the Honorable Harry H. Peterson of the Minnesota Supreme Court

To the Library—5,700 gifts including:

131 medical books from Mrs. Robert Turnbull, Fosston, Minnesota

9 volumes including several items to be added to the Kierkegaard collection from Mrs. David F. Swenson, Minneapolis, Minnesota

4 Nineteenth Century medical books from Miss Lois Bentley, Minneapolis, Minnesota

797 volumes from the Minneapolis Public Library, Minneapolis, Minnesota

650 auction catalogs from Parke-Bernet Galleries, Incorporated, New York, New York

- 33 miscellaneous books from Mrs. C. C. Bovey, Wayzata, Minnesota
 194 assorted books from George S. Titus, Minneapolis, Minnesota
 3 Japanese-English dictionaries and 315 miscellaneous periodicals from Mrs. Harry Snyder, Minneapolis, Minnesota
 568 volumes of books, serials, and documents, many in the fields of physical sciences, biological sciences, and literature, from the Minneapolis Public Library, Minneapolis, Minnesota
 Books and pamphlets and other materials from the library of the late Ray P. Chase from Mrs. Ray P. Chase, Anoka, Minnesota
 316 volumes of French literature representative of the work of the Realists during the period of the 1830's to the middle 1860's from Nils G. Sahlin, Minneapolis, Minnesota
 7 cartons of miscellaneous Cyrus Northrop manuscript material for the Archives from J. W., Warren, and Northrop Beach, Minneapolis, Minnesota
 Volumes 1 to 8 of a projected 30-volume set of *Svensk Uppslagsbok*, 2nd edition, from Forlagshuset Norden, Bokforlag, Malmo, Sweden
 18 books from Mrs. Richard M. Elliott, St. Paul, Minnesota
 Collection of 236 poems of the late Oscar W. Firkins from his sisters, Orra and Frances, to be placed in the Arthur Upson Room
 Gift of a rare old newspaper, the August 16, 1809 issue of the *Columbian Sentinel*, Boston, from Dr. and Mrs. Leslie W. Foster to the School of Journalism Library
 4 volumes of books entitled *The International Gallery* from Miss Edna Moore of St. Paul, Minnesota, to the University Gallery
 30 bound volumes and considerable periodical and pamphlet material on fungi and lichens and some foreign publications of the late nineteenth century from Mr. and Mrs. Ray S. Huey to the Duluth Branch Library
 11 books, valued at \$50, from the James F. Lincoln Arc Welding Foundation, Cleveland, Ohio, to the Northwest School and Station, Crookston, Minnesota
 2 volumes of *The Stage and Its Stars*, 10 volumes of *Character Sketches from Romantic Fiction and Drama*, and an old illustrated copy of Shakespeare's *A Midsummer Night's Dream* from Mrs. Mary A. Nelson, St. Paul, Minnesota to the University Theatre

MISCELLANEOUS GIFTS, 1948-49

- To the University Gallery:
 Bedspread from Leah May Gaymon, Hastings, Minnesota
 To the University Theatre:
 Old theater magazines from Mark J. Markson, Stillwater, Minnesota and Marjorie Herrman Cox, San Ansilmo, California
 Large handwoven paisley shawl, dating from 1860, from Elizabeth Cockran, Minneapolis, Minnesota
 Costume clothing of the 1840 period from Mrs. Bessie T. Gislason, Minneapolis, Minnesota
 Thirteen dresses, one velvet lounging robe, one broadcloth cape, one white Mirabou jacket, and one black velvet coat, of the period 1920 to 1930, from Mrs. F. W. Bullard, Minneapolis, Minnesota
 Hats and hat accessories from Sally Meyers, Minneapolis, Minnesota
 Miscellaneous jewelry and clothing from Mrs. Lynwood G. Downs, Minneapolis, Minnesota
 To the Mechanical Engineering Department:
 Welding and cutting equipment and repair and rebuilding service from Smith Welding Equipment Corporation
 Major welding and cutting equipment, with maintenance service, from the Linde Air Products Company, Minneapolis, Minnesota
 A No. 21 Bliss Inclined Press from the E. W. Bliss Company
 Major welding and cutting equipment, with maintenance service, from Air Reduction Sales Company, Minneapolis, Minnesota
 150 tons of pig iron, produced in blast furnace test conducted at the Mines Experiment Station, from Oglebay, Norton, and Company, Cleveland, Ohio, through the Reserve Mining Company, to the Mines Experiment Station
 9,000 aerial photographs from various parts of the United States to be used in courses in map interpretation and in the interpretation of topography from aerial photographs from Mark Hurd of Minneapolis, Minnesota to the Department of Geology
 One typewriter, purchased for \$307.40 from an anonymous gift to the Rosemount Hospital, to the Occupational Therapy Department of the University Hospitals
 Print of the film "Energy Release from Food" from Fern Fox of Minneapolis, Minnesota
 Television set from William Elson to the pediatrics service of the University Hospitals
 One 25-foot tractor-mounted sprayer from the Super-Six Manufacturing Company, Incorporated, Minneapolis, Minnesota, to the Department of Agriculture
 Laboratory and office equipment and books, appraised valuation \$5,929.25, bequest in the will of Dr. R. G. Green, to the Department of Bacteriology and Immunology
 Ethnological specimens from Bolivia and Peru from Pearl K. Englund, St. Paul, Minnesota, to the Department of Anthropology

ASSIGNMENTS OF PATENT APPLICATIONS, 1948-49

- Serial No. 771,678, George W. Holt and William G. Kubicek, Tracheotomy Inhalator Apparatus and Method
 Serial No. 40,433, Dr. W. O. Lundberg, Methods for Preparing Peroxides of Unsaturated Fatty Acids and the Like
 Serial No. 41,687, Dr. A. O. C. Nier, Differential Collector Systems for Mass Spectrometers
 Serial No. 41,493, Dr. A. O. C. Nier, Ion Collector for Mass Spectrometers
 Serial No. 75,752, Kjell Magnus Tigerschiold, Method of Producing Balls from Fine-grained Ore Minerals

THE PRESIDENT'S REPORT

PATENTS RECEIVED, 1948-49

No. 2,440,327, Application Serial No. 516,081, Dr. Bryce L. Crawford, Jr., "Hot" Double-base Powder
 Argentine Patent No. 62,322 (corresponding to Lauer Antioxidant United States Patent No. 2,373,192) Improvements in or Relating to the Production of Plant Antioxidants and the Product Resulting Therefrom
 No. 2,408,924, Dr. Ole Gisvold, Plant Extracts and Methods of Producing Same
 No. 2,421,117, Dr. Ole Gisvold, Processes for Producing Plant Extracts
 No. 2,421,118, Dr. Ole Gisvold, Plant Extracts and Methods of Producing Same
 No. 2,444,346, Dr. Ole Gisvold, Recovery of Nordihydroguaiaretic Acid from Plant Extracts
 No. 2,446,856, Dr. Lee I. Smith, Methods of Treating Phenols
 No. 2,444,960, Dr. Lee I. Smith and Joseph A. Sprung, Processes of Preparing Carbinols

SUMMARY OF CASH GIFTS, 1949-50

Description	Number	Amount	Total
Loan funds			
New	2	\$ 1,550.00	
Additions to previous gifts	10	1,705.27	\$ 3,255.27
Scholarship funds			
New	19	37,890.89	
Additions to previous gifts	43	53,186.32	91,077.21
Fellowship funds			
New	15	55,177.50	
Additions to previous gifts	39	115,865.55	171,043.05
Prizes			
New	1	300.00	
Additions to previous gifts	38	1,162.50	1,462.50
Research funds			
New	53	281,631.42	
Additions to previous gifts	106	865,744.81	1,147,376.23
Miscellaneous funds			
New	27	144,098.79	
Additions to previous gifts	34	2,220,426.17	2,364,524.96
			\$3,778,739.22

CASH GIFTS, 1949-50

LOAN FUNDS—NEW

Amount		Year Established
\$ 1,000.00	From the Minneapolis Association of Sales Managers, through the Greater University Fund, for a loan fund in the School of Business Administration	1949
550.00	From the Minneapolis International Club for a loan fund for needy foreign students (Cosmopolitan Club Loan Fund)	1950
\$ 1,550.00		
\$ 675.00	LOAN FUNDS—ADDITIONS TO PREVIOUS GIFTS	
	Chinese Students Emergency Aid Fund	1948
	\$525.00 Chinese Ministry of Education	
	150.00 Rotary Club of Minneapolis, through the Greater University Fund	
300.00	Minnesota Student Foundation Loan and Scholarship	1943
176.21	Frank J. Percival Loan Fund in Physical Education	1945
176.21	Frank J. Percival Loan Fund in Romance Languages	1945
150.00	F. D. Lindquist Loan Fund in the School of Business Administration, through the Greater University Fund	1924
103.85	Householders Loan Fund, through the Greater University Fund	1942
100.00	All-University Council Foreign Students Aid Fund	1943
15.00	Law Alumni Loan Fund	1923
5.00	Public Administration Alumni Student Aid and Loan Fund	1946
4.00	General Student Loan Fund	1922
\$ 1,705.27		

SCHOLARSHIP FUNDS—NEW

\$ 25,000.00	From John and Mary R. Markle Foundation (\$5,000 a year for five years) to establish a scholarship grant for Dr. George E. Moore	1949
3,200.00	From Minnesota Dental Foundation, Incorporated, to establish two scholarships in the School of Dentistry	1950
2,100.00	To establish a scholarship in the Division of Library Instruction	1950
	\$1,200.00 Transferred from the Friends of the University Library Fund	
	900.00 H. W. Wilson	
1,200.00	From Ben D. Black (\$200 annually for six years) through the Greater University Fund, for an Appreciation Scholarship in the School of Business Administration	1950

Amount		Year Established
1,000.00	From Dr. Christopher Graham, through the Greater University Fund, for an unrestricted scholarship of \$250 a year for four years in memory of Oliver J. Niles	1950
1,000.00	From Julia Marshall, through the Greater University Fund, to establish a scholarship for able and needy students	1949
900.00	From the Advertising Club of Minneapolis, through the Greater University Fund, for a scholarship in the field of advertising	1949
750.00	From the National Association of Furniture Manufacturers for a scholarship in wood technology (furniture) for student interested in a career in the furniture industry	1949
750.00	From the National Association of Furniture Manufacturers, through the Greater University Fund, for a scholarship in the Wood Utilization Department of Mechanical Engineering	1949
503.89	Through the Greater University Fund for scholarships for American Indian youths in the School of Agriculture, St. Paul	1949
500.00	From Alpha Alumni Chapter of Phi Upsilon Omicron for a scholarship for a graduate student in home economics from a foreign country	1949
210.00	From Sigma Sigma Chapter of Sigma Alpha Iota for an annual scholarship of \$60 in the Department of Music	1949
150.00	From the Advertising Club of St. Paul, through the Greater University Fund, for a scholarship in the field of advertising	1950
150.00	From the LaGrange Chapter of Alpha Zeta Honorary Agricultural Fraternity, to establish the Alpha Zeta Traveling Scholarship (annually) in the College of Agriculture, Forestry, Home Economics, and Veterinary Medicine	1949
100.00	From the University of Minnesota Women's Club of Detroit for a scholarship (annually) for a worthy graduate or undergraduate student	1950
100.00	From alumni, staff and friends of the School of Nursing, through the Greater University Fund, for a scholarship (annually) for worthy students in nursing curricula (Katharine J. Densford Scholarship)	1950
100.00	From Zeta Chapter of Sigma Theta Tau for a scholarship in the field of nursing	1950
100.00	From the Minnesota Furniture Salesmen's Club for a scholarship in the School of Forestry	1950
77.00	From various donors, through the Greater University Fund, to establish the Speech and Hearing Clinic Scholarship Fund to help provide clinical services in speech and hearing for deserving persons	1950
\$ 37,890.89		

SCHOLARSHIP FUNDS—ADDITIONS TO PREVIOUS GIFTS

\$ 10,505.00	Law Faculty Scholarship Fund	1925
	\$10,000.00 Proceeds of group insurance policy of Wilbur H. Cherry	
	505.00 Anonymous	
7,000.00	Iraq Government Scholarship (for Khalid Tahsin Ali)	1949
6,900.00	Tozer Foundation Scholarship Fund	1947
5,781.75	From Sears Roebuck Foundation	
	\$2,406.75 Agricultural Scholarship (college)	1947
	2,250.00 Foundation Scholarship	1942
	1,125.00 Agricultural Scholarship (schools)	1937
4,049.00	Through the Greater University Fund for the Henry L. Williams Memorial Scholarship	1949
3,375.00	Through the Greater University Fund for the Milling Engineering Scholarship Fund	1949
2,500.00	Maurice L. Rothschild Scholarship Fund	1947
1,930.00	All-University Scholarship Fund	1945
	\$355.00 State of Maryland, through the Board of Morgan State College	
	300.00 Brother of Taysir Farouki (for Taysir Farouki)	
	300.00 National Association of Secondary School Principals of the NEA	
	250.00 Morgan State College (for Walter E. Purviance)	
	200.00 Woman's Club of Ridgewood, New Jersey	
	200.00 Bayport Student Aid Scholarship Committee	
	112.50 B. C. Gamble Charitable Trust	
	112.50 P. W. Skogmo Charitable Trust	
	100.00 Mrs. G. E. Beutler	
1,600.00	Creative Music Scholarship	1947
	\$1,200.00 C. O. Kalman	
	400.00 Drs. F. E. B. Foley and E. Richardson	
1,500.00	American Cyanamid Company Graduate Scholarship	1947
1,000.00	Flour City Architectural Education Fund (George B. Melcher Prize)	1945
900.00	Mando Graduate Scholarship Fund	1946
700.00	Frank H. Jacobson Scholarship Fund	1948
600.00	RCA Scholarship Fund	1945
511.29	Campus Chest Scholarship Fund	1947
500.00	Baruch Blum Scholarship	1946
500.00	Minneapolis Gas Light Company Service Scholarship	1948
400.00	Faith Thompson Scholarship Fund	1948
320.00	Alpha Mu Chapter of Phi Mu Alpha Sinfonia Scholarship	1946
300.00	F. H. Peavey-Van Dusen Harrington Company Undergraduate Scholarship	1947
300.00	National Hillel Commission Scholarship	1944
250.00	Presser Foundation Scholarship Fund	1930

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Amount		Year Established
200.00	Chi Psi Fraternity Scholarship	1946
200.00	Mary Farrell Coffman Scholarship	1945
200.00	John Mars McDonald Memorial Scholarship	1948
200.00	American Society of Civil Engineers Scholarship, Northwestern Section	1946
100.00	AWS Scholarship (Associated Women Students)	1946
100.00	Burpee Award in Horticulture (Scholarship)	1946
100.00	Minneapolis Women's Advertising Club Scholarship	1947
100.00	Tozer Foundation, Incorporated, Graduate Scholarships	1949
100.00	Grace C. Nelson Scholarship	1946
100.00	Northwest Daily Press Association Scholarship	1935
54.71	William A. O'Brien Scholarship Fund	1947
50.00	Walter R. Strubel Memorial Scholarship	1945
50.00	Agricultural Faculty Women's Club Scholarship	1923
50.00	Alpha Zeta Scholarship Fund	1922
50.00	Phi Upsilon Omicron Scholarship	1926
50.00	Theta Sigma Phi Scholarship	1939
46.57	Robert V. Cram Memorial Scholarship	1948
10.00	Florence Munson Wilson Memorial Scholarship	1947
3.00	Hubert H. Humphrey Scholarship	1947
\$ 53,186.32		

FELLOWSHIP FUNDS—NEW

\$ 28,250.00	From the American Cancer Society, Incorporated	
	\$16,000.00 For a fellowship in surgery (two years)	1949
	\$9,000.00 (\$8,000.00 to Dr. Donald J. Ferguson; \$1,000.00 to University)	
	7,000.00 (\$6,000.00 to Dr. Suad Asad Niazi; \$1,000.00 to University)	
	7,750.00 For a fellowship in physiology (two years)	1949
	(\$6,750.00 to Dr. T. H. Newberry; \$1,000.00 to University)	
	4,500.00 For a fellowship in physiological chemistry for Dr. Lee W. Wattenberg	1950
5,000.00	From the Abbott Research Laboratory for a post-doctoral fellowship in organic chemistry, under the direction of Professor R. M. Dodson	1949
5,000.00	From E. R. Squibb and Sons for a research fellowship on rheumatoid arthritis, under the direction of Dr. E. C. Kendall	1949
4,787.50	From the Sister Elizabeth Kenny Foundation	
	\$3,600.00 For an advanced or postgraduate fellowship in physical medicine	1949
	1,187.50 For a fellowship in pediatrics for one medical fellow	1949
3,000.00	From the Rockefeller Foundation for a fellowship for Professor Eric Bentley to aid him in his studies of the contemporary European theater	1949
2,200.00	From the National Life Insurance Foundation of Mexico for a fellowship for Dr. J. J. Alvarez-Ierena at the Mayo Foundation	1949
1,500.00	From the Frank B. Jewett Fellowship Trust, Bell Telephone Laboratories, for expenses of Dr. David E. Mann in connection with his fellowship from Bell Telephone Laboratories	1949
1,500.00	From Kimberly-Clark Corporation for a graduate research fellowship in forestry	1950
1,440.00	From the Ralston Purina Company for a fellowship in veterinary medicine	1950
1,400.00	From the English Speaking Union, Minnesota Branch, for a fellowship for Anthony Lowe, London, England, in the field of agricultural economics	1949
600.00	From Tau Beta Beta, Incorporated, for a fellowship in physics for Catherine Stevens	1949
500.00	From Polanie, a group of Twin Cities women of Polish descent interested in the advancement of Polish art and culture, for a fellowship for a graduate student of Polish extraction	1950
\$ 55,177.50		

FELLOWSHIP FUNDS—ADDITIONS TO PREVIOUS GIFTS

\$ 29,190.00	Affiliated Hospital Fellowships	
	\$10,500.00 Northwestern Hospital	
	\$3,000.00—pediatrics	1946
	3,000.00—surgery	1946
	3,000.00—medicine	1946
	1,500.00—pathology	1947
	9,000.00 St. Barnabas Hospital	
	\$3,000.00—pediatrics	1946
	3,000.00—surgery	1946
	3,000.00—medicine	1946
	7,500.00 Charles T. Miller Hospital	
	\$3,000.00—medicine	1946
	1,500.00—obstetrics and gynecology	1946
	1,500.00—surgery	1947
	1,500.00—radiology	1946
	2,190.00 Quain and Ramstad Clinic Fellowship Fund—radiology	1946
20,200.00	From E. I. du Pont de Nemours and Company	
	\$9,000.00 chemistry (postdoctorate)	1946
	5,600.00 chemical engineering (postgraduate)	1946
	5,600.00 chemistry (postgraduate)	1949

Amount		Year Established
17,300.00	Swift and Company Nutrition Fellowship (for a two-year period)	1945
10,000.00	Minneapolis-Honeywell Research Fellowship	1946
7,550.00	From American Foundation for Pharmaceutical Education	
	\$3,900.00 Pharmacognosy fellowship	1946
	1,850.00 pharmaceutical chemistry	1946
	1,800.00 chemistry	1946
3,600.00	Minnesota Mining and Manufacturing Company Fellowship	1946
3,520.00	From Shell Development Company	
	\$1,760.00 Fellowship in Chemistry	1947
	1,760.00 Fellowship in Geology	1947
3,060.00	St. Paul Children's Hospital Fellowship in Pediatrics and Research (Webb Publishing Company)	1945
2,800.00	United States Rubber Company Predoctoral Fellowship	1947
2,400.00	Allied Chemical and Dye Corporation Fellowship	1941
2,400.00	Procter and Gamble Company Fellowship in Chemical Engineering	1948
2,000.00	Midland Cooperative Wholesale Graduate Fellowships	1946
1,800.00	Procter and Gamble Company Predoctoral Fellowship in Physical Chemistry	1947
1,588.00	Norwegian-American Graduate Fellowship Fund, through the Norwegian Luncheon Club	1945
1,432.55	Miller Hospital Fellowship (from Dr. E. P. Burch)	1941
1,350.00	Firestone Fund	1934
1,200.00	Eastman Kodak Company Fellowship (plus tuition and fees)	1948
1,200.00	American Association of University Women—Minnesota State Division Fellowship	1943
1,200.00	Abbott Laboratories Fellowship in Chemistry	1945
750.00	E. J. Longyear Company Graduate Fellowship in Economic Geology	1946
750.00	Minneapolis Women's Club Fellowship	1948
500.00	Consolidated Vultee Aircraft Fellowship	1943
75.00	Clara Ueland Fellowship Fund, through the Greater University Fund	1928
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\$ 115,865.55		

PRIZES—NEW

\$ 300.00	From the Cooperative Foundation (annually) for the Thomas F. Ellerbe Prize in Architecture, \$150 to be awarded in 1949 to J. G. Rauma	1949
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\$ 300.00

PRIZES—ADDITIONS TO PREVIOUS GIFTS

\$ 200.00	C. H. Johnston Prize in Architecture	1948
200.00	Magney, Tusler, and Setter Prize	1948
175.00	John S. Pillsbury Prizes in Speech	Prior to 1926
168.75	Sabra M. Hamilton Award in Hospital Administration	1949
168.75	James A. Hamilton Achievement Award in Hospital Administration	1949
100.00	Southern Minnesota Medical Association	1930
75.00	English Composition Awards	1949
75.00	American Society of Mechanical Engineers, Twin Cities Section	1924
	Alpha Kappa Psi Junior Scholarship Medallion	1937
	Alpha Chi Sigma Twin City Alumni Association Prize	1929
	University Business Women's Club Scholarship Key	1939
	Wulling Club Key	1930
	Theta Sigma Phi Leadership Award (certificate and name engraved on permanent plaque)	1945
	Delta Sigma Phi Scholarship Key	1929
	Phi Delta Junior Scholarship Award (gold bracelet)	1939
	Alpha Kappa Psi Junior Scholarship Key	1937
	Chemistry Faculty Prize (\$25 in books)	1946
	Chi Epsilon Prize (\$9 in books)	
	Northwestern Section of American Society of Civil Engineers Prize (entrance fees, one year's dues ASCE, and engineering handbook)	1924
	Rho Chi Award in Pharmacy (one year's membership in American Pharmaceutical Association)	1939
	Alpha Kappa Psi Scholarship Medal	1937
	Alpha Chi Sigma Twin City Alumni Association Prize (\$10 in books)	1929
	Eta Kappa Nu Prize (\$5 handbook)	1931
	Kappa Epsilon Award	1937
	Lehn and Fink Medal	1923
	Phi Lambda Upsilon Prizes	1926
	Subscription to <i>Journal of Dental Research</i>	
	Subscription to <i>American Journal of Orthodontia</i>	
	Subscription to <i>Oral Surgery, Oral Medicine, and Oral Pathology</i>	
	Annual membership in the <i>Journal of Dentistry for Children</i>	
	Subscriptions to <i>Journal of Dentistry for Children</i>	
	Award by American Academy of Dental Medicine	
	Special award by Mr. D. N. Ferguson	
	Omicron Kappa Upsilon Keys (and certificate)	
	One year's membership in American Society of Dentistry for Children	
	Alpha Omega Scholarship Award	
	Five-year subscription to <i>Journal of Dental Medicine</i>	
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\$ 1,162.50		

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RESEARCH FUNDS—NEW

Amount		Year Established
\$ 111,018.00	From the United States Public Health Service	
\$22,278.00	For research on etiologic agents in respiratory diseases (\$11,139 a year for two years) under the direction of Dr. John M. Adams (medicine)	1949
18,655.00	For a study of the etiologic and immunologic bases for the rheumatic fever complex under the direction of Dr. J. T. Syvertson (medicine)	1949
17,172.00	For research on the structure, development and permeability of insect cuticle (\$5,724 annually for three years) under the direction of Dr. A. G. Richards (agriculture)	1949
9,093.00	For research on drugs under the direction of Dr. W. G. Kubicek (medicine)	1949
7,452.00	For development of technique for a non-suture anastomosis under the direction of Dr. R. L. Varco (medicine)	1949
7,374.00	For research on sympatholytic drugs under the direction of Dr. F. J. Kottke (medicine)	1949
6,632.00	For studies on ACTH effects in rheumatic patients under the direction of Dr. F. H. Adams (medicine)	1950
5,373.00	For research on parametric electrocardiograms under the direction of Dr. Otto H. Schmitt (Science, Literature, and the Arts)	1949
4,384.00	For research on experimental diabetes mellitus under the direction of Dr. E. T. Bell (medicine)	1950
3,348.00	For research on hypopotassemia on the central nervous system under the direction of Dr. R. M. Reinecke (medicine)	1949
3,132.00	For research on glomerulonephritis in inbred mice under the direction of Dr. Arthur Kirschbaum (medicine)	1949
2,389.00	For research on arteriosclerosis in diabetes under the direction of Dr. E. T. Bell (medicine)	1949
540.00	For research on fluoride turnover in the mammalian skeleton under the direction of Dr. William Savchuck (medicine)	1949
540.00	For research on evaluation of vitamin deficiencies in spiroptera cancer of the forestomach of rats under the direction of Dr. C. R. Hitchcock (medicine)	1949
540.00	For research on heart failure under the direction of Dr. R. R. Bobb (medicine)	1950
540.00	For research on hemorrhagic state under the direction of Dr. R. M. Nelson (medicine)	1950
540.00	For research on pathogenesis of coronary sclerosis under the direction of Dr. Paul H. Lober (medicine)	1950
540.00	For research on inhibition of acid production under the direction of Dr. W. D. McBride (medicine)	1950
496.00	For studies on hereditary ataxia under the direction of Dr. J. W. Schut	1950
50,000.00	From the American Cancer Society, Incorporated, for research on new hormone compounds in their relation to cancer (medicine)	1949
20,000.00	From the Harza Engineering Company for preparation of models for a dam in El Salvador under the direction of Professor Lorenz G. Straub (technology)	1950
18,000.00	From the Lexington Foundation, Incorporated, for research on egg transplantation in the bovine (agriculture)	1950
8,000.00	From Minnesota Valley Canning Company (\$1,600 annually for five years) for research on control of root and foot-rot diseases of peas (agriculture)	1949
7,208.44	From the estate of Minnie Funk for cancer research (medicine)	1949
7,000.00	From the Investors Diversified Services, Incorporated, for research on capital formation to be undertaken by the staff of the School of Business Administration	1950
6,280.00	From the American Spice Trade Association for a study of antioxidant properties in spices (agriculture)	1949
5,000.00	From Felix M. Frederiksen for research on blue cheese (agriculture)	1950
4,500.00	From the Upjohn Company for testing of two new antibiotics under the direction of Dr. W. W. Spink (medicine)	1949
3,250.00	From the American Cancer Society, Incorporated, for research on caloric restriction in mammary cancer in mice under the direction of Dr. M. B. Visscher (medicine)	1950
3,000.00	From C. C. Glover, Jr., for liver research under the direction of Dr. C. J. Watson (medicine)	1950
3,000.00	From the Gerber Products Company for a study of phosphatase in the digestive disorders of infants and children (medicine)	1949
3,000.00	For research on Rh haptens in the Department of Obstetrics and Gynecology (medicine)	1949
\$2,500.00	Minnesota Society for Crippled Children	
500.00	David H. McVey	
3,000.00	From the Corn Industries Research Foundation for studies on starch and its derivatives (agriculture)	1950
2,912.50	From Max L. Rysdon for research in obstetrics and gynecology under the direction of Dr. J. L. McKelvey (medicine)	1949
2,791.00	From the Minnesota Mining and Manufacturing Company for research on toxicity and sensitivity of adhesive (medicine)	1949
2,781.48	From McLaughlin Gormley King and Company for research on toxicity of aerosol preparations containing pyrethrum derivatives (medicine)	1950

Amount		Year Established
2,500.00	From the VioBin Corporation for research on wheat germ oil and vitamin E in the diet of pigs under the direction of Dr. Walter O. Lundberg (Hormel Institute)	1949
2,500.00	From Merck and Company, Incorporated, for research on the use of the animal protein factor supplements in rations for poultry (agriculture)	1949
2,000.00	From the American Dry Milk Institute, Incorporated, for a study of the effect of heat on milk properties (agriculture)	1949
2,000.00	From the American Society of Heating and Ventilating Engineers for research on solar energy (technology)	1950
1,600.00	From the Pan American Sanitary Bureau for studies on brucella antigens under the direction of the Division of Veterinary Medicine (agriculture)	1950
1,500.00	From Charles Pfizer and Company, Incorporated, for research on Terramycin (medicine)	1950
1,500.00	From International Baby Chick Association (annually) for research on the variant pullorum (agriculture)	1949
1,500.00	For research on udder tissues in dairy heifers (agriculture)	1950
	\$1,000.00 Minnesota Valley Breeders Association	
	500.00 Southern Minnesota Breeding Federation	
1,230.00	From the Universal Oil Products Company for research on Sustane under the direction of the Hormel Institute	1950
1,000.00	From Theodore R. Damask for research on convulsive disorders (medicine)	1949
1,000.00	From the Shell Development Company for equipment for research for the School of Chemistry (technology)	1949
1,000.00	From Smith, Kline, and French Pharmaceuticals for assistance to Professor W. E. Parham in his research program during the summer of 1950 (technology)	1950
900.00	From the United States Rubber Company for a study of chemical seed treatment of legume crops (Naugatuck Chemical Fund) (agriculture)	1949
300.00	From the AGSCO Chemicals, Incorporated, for research on the use of dusts and sprays for the control of insects (agriculture)	1950
150.00	From an anonymous donor through the Greater University Fund for research in physical medicine (medicine)	1950
110.00	From Mrs. Lucile Rovner in memory of her husband for research in the field of Hodgkin's disease (medicine)	1949
100.00	From the Eutectic Welding Alloys Corporation for research under the direction of Professor Jean Piccard (technology)	1950
\$ 281,631.42		

RESEARCH FUNDS—ADDITIONS TO PREVIOUS GIFTS

\$ 525,586.66	From the United States Public Health Service	
	\$51,596.00 For research on the development of a pump oxygenator (medicine)	1947
	42,933.00 For research on the metabolism and composition of the skeleton (\$14,311 a year for three years) (medicine)	1947
	39,402.00 For research on ageing in relation to diet (medicine)	1947
	30,000.00 For research on diet, activity, and hypertension (medicine)	1947
	30,000.00 For research on relation of human caloric and activity habitus to the cardiovascular system (medicine)	1949
	27,216.00 For research on interactions of proteins (\$6,804 a year for four years) (medicine)	1947
	26,912.00 For epidemiological studies (\$13,456 a year for two years) (medicine)	1946
	25,000.00 For cancer teaching and clinical cancer research (medicine)	1948
	22,086.00 For research on porphyrin metabolism (medicine)	1947
	21,925.00 For research on mammary cancer in mice (medicine)	1947
	20,322.36 For research on fluorescein dyes (medicine)	1948
	18,582.00 For cancer research (medicine)	1948
	17,010.00 For research on the mass spectrometer (medicine)	1948
	17,000.00 For studies on the inhibition of hyaluronidase (medicine)	1947
	15,714.00 For polarographic studies of cancer (medicine)	1948
	15,618.00 For research in etiology of acid-peptic ulcer (medicine)	1947
	14,711.00 For research on mouse mammary cancer and mouse leukemia (medicine)	1948
	12,852.00 For research on toxic substances in water (medicine)	1947
	11,421.00 For research on the role of the cockroach as a carrier of organisms (medicine)	1947
	11,139.00 For research on newcastle disease (medicine)	1948
	9,000.00 For histochemical studies on the stomach (medicine)	1946
	7,673.40 For research on sclerotic nerve cell (medicine)	1946
	6,750.00 For research on leukemia in mice (medicine)	1947
	5,879.00 For research on conjugation of sterids in the body (medicine)	1948
	5,011.00 For studies on the mechanism of body temperature regulation (medicine)	1948
	5,000.00 For research on mesenteric artery and vein (medicine)	1948
	4,330.90 For research on biology of human breast cancer (medicine)	1948
	4,104.00 For research on the hepatorenal syndrome (medicine)	1948
	3,780.00 For research on effect of blood glucose level in rats (medicine)	1949
	2,619.00 For research on relation of gastritis to the carcinoma of the stomach (medicine)	1947

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Amount		Year Established
60,385.00	From the National Foundation for Infantile Paralysis, Incorporated	
\$18,482.00	For polio research—pharmacology (medicine)	1949
17,387.00	For research on host-cell virus relationship (medicine)	1949
14,301.00	For a medulla study (medicine)	1949
4,734.00	For polio research—physiology (medicine)	1949
3,481.00	For research on bone and muscle growth (medicine)	1949
2,000.00	For research on public health (medicine)	1946
49,071.00	From the American Cancer Society, Incorporated	
\$10,000.00	For research on the mammary tumor milk agent (medicine)	1946
8,140.00	For research on metabolism of perfused organs (medicine)	1949
7,281.00	For research on chemical and metabolic characterization of mouse mammary carcinoma (medicine)	1946
7,000.00	For research on therapy of breast cancer (medicine)	1948
6,925.00	For research on genetics of human breast cancer (Science, Literature, and the Arts)	1948
5,000.00	For research on mammary cancer in mice (medicine)	1946
4,725.00	For research on chemotherapy of mouse leukemia (medicine)	1949
26,750.00	From the Life Insurance Medical Research Fund	
\$19,400.00	For research on hypertension (medicine)	1946
7,350.00	For research on physiology of autonomic centers (medicine)	1949
18,607.55	For the Malignant Disease Research Fund (medicine)	1946
\$10,675.00	Minnesota Medical Foundation	
2,000.00	Marguerite H. Forman Estate	
1,013.55	From 56 donors	
1,000.00	Harry Davis	
500.00	Minnesota Medical Foundation from Estate of Birdie M. Dredge	
500.00	B. M. Daniels	
500.00	K. W. McKee	
500.00	E. W. Wylie	
400.00	Philips Kindy	
269.00	Friends of George Lewis	
250.00	Agnes Oas	
250.00	Charles J. Upin	
250.00	Friends of Medical research	
200.00	Otto Gildemeister	
200.00	Mrs. Henriette V. Loufek	
100.00	Elise B. Kirk	
18,500.00	From Lederle Laboratories Division, American Cyanamid Company	
\$ 7,500.00	For research on virus diseases in swine (agriculture)	1949
6,500.00	For research on brucellosis (medicine)	1948
4,500.00	For research in animal diseases (agriculture)	1944
17,000.00	Star and Tribune Newspaper Studies Fund (Science, Literature, and the Arts)	1944
13,500.00	M and R Dietetic Laboratories, Incorporated, Research (medicine)	1948
13,398.00	Wyeth Incorporated Research on Anemia of Infants (medicine)	1947
10,000.00	E. I. du Pont de Nemours and Company Chemistry Research Fund (technology)	1949
10,000.00	American Dairy Association Fund for Research (agriculture)	1948
9,700.00	From the American Dry Milk Institute	
\$5,000.00	For research in breadmaking (agriculture)	1948
4,700.00	For studies of lactose in nutrition (agriculture)	1947
6,198.00	Eli Lilly and Company Pregnancy Anemia Studies (medicine)	1949
5,680.00	Research Corporation—Williams-Waterman Fund (medicine)	1947
5,175.00	Quaker Oats Company Research on Improvement in Oats (\$1,725 a year for three years) (agriculture)	1947
4,828.00	Minnesota Cancer Society, Incorporated, Tumor Research (medicine)	1946
4,600.00	Nutrition Foundation, Incorporated, Vitamin E Research (agriculture)	1946
4,500.00	Middle West Soil Improvement Committee Research (agriculture)	1940
4,500.00	Corn Products Refining Company Research (technology)	1948
4,500.00	Insulation Board Institute Research (technology)	1941
3,600.00	Dr. Salsbury's Laboratories Research (Hornel Institute)	1948
3,240.00	National Research Council Research on Glands of Internal Secretion in the Fetus (medicine)	1948
3,200.00	Superior Metal Products Company Research (technology)	1940
3,000.00	American Academy of Allergy Research (agriculture)	1948
3,000.00	Minnesota and Ontario Paper Company Research (technology)	1940
3,000.00	Federation of Paint and Varnish Production Clubs (technology)	1946
3,000.00	Battelle Memorial Institute Research (agriculture)	1946
2,500.00	Flora Rosenblatt Fund for Cancer Research (medicine)	1944
2,250.00	For the Pharmacology Research Fund (medicine)	1946
\$1,500.00	Ciba Pharmaceutical Products Company	
750.00	Lederle Laboratories, American Cyanamid Company	
2,000.00	Sandoz Chemical Works, Incorporated, Ergot Derivatives Research (medicine)	1948
2,000.00	Northwest Feed Manufacturers Research (agriculture)	1949
2,000.00	Augustus L. Searle Fund for Surgical Research (medicine)	1938
2,000.00	B. F. Nelson Research (medicine)	1947
1,655.60	Midwest Barley Improvement Fund (agriculture)	1947
1,522.50	For the Heart Disease Research Fund (formerly the Rheumatic Fever Research Fund) (medicine)	1945
\$1,000.00	From estate of Emma Gebser	
522.50	From 43 donors	

Amount		Year Established
1,500.00	Dr. Henry K. Beecher Fund Study Relation to Anesthesia Deaths (medicine)	1949
1,500.00	Rock Analysis Laboratory (Science, Literature, and the Arts)	1929
1,100.00	For the Frank E. Burch Research Fund in Ophthalmology (medicine)	1943
	\$1,000.00 Dr. Frank E. Burch	
	100.00 Dr. Jay Conger Davis	
1,025.00	For the Richard L. Varco Fund for Surgical Research (medicine)	1949
	\$ 750.00 Mrs. Carlton C. Hitchcock	
	275.00 Mr. and Mrs. Robert Broad	
1,000.00	Soy Flour in Bakery Products Research (agriculture)	1945
1,000.00	Erie Mining Company Research Fund (agriculture)	1948
1,000.00	Hawaiian Sugar Planters' Association Research (Science, Literature, and the Arts)	1948
1,000.00	Austen S. Cargill Fund for Surgical Research (medicine)	1948
930.00	For the Clarence Dennis Fund for Surgical Research (medicine)	1947
	\$ 300.00 Mr. and Mrs. E. B. Gerig	
	200.00 Malcolm I. Lindsay	
	150.00 Professor D. G. Paterson	
	100.00 Dr. J. A. Johnson	
	100.00 E. F. Lang	
	80.00 Professor C. Frederick Koelsch	
535.00	For the Harry and Anne Reicher Fund for Surgical Research (medicine)	1947
	\$ 500.00 Harry J. Reicher	
	35.00 From 2 donors	
500.00	Ciba Pharmaceutical Products, Incorporated Research	1945
500.00	American Society of Agricultural Engineers Cooperative Grain Drill Research (agriculture)	1948
500.00	Tennessee Corporation Fungicide Fund (agriculture)	1944
500.00	Naugatuck Chemical Fund	1949
500.00	Experimental Medical Research Fund (medicine)	1942
400.00	Lutbard N. Bergh Memorial Fund from seven donors (medicine)	1948
300.00	Agricultural Supply Company Fund (agriculture)	1946
250.00	Brucellosis Research and Travel Fund (from Community and War Relief Chest Fund of South St. Paul) (medicine)	1946
250.00	Dr. and Mrs. Harry B. Zimmermann Fund for Surgical Research (medicine)	1943
250.00	American Academy of Arts and Sciences—Astronomical Research (Science, Literature, and the Arts)	1950
230.00	Sigma Xi Research Fund (Graduate School)	1936
200.00	Eric Ajex Memorial Fund (Malignant Disease Research Fund) (medicine)	1948
100.00	Minnesota Medical Foundation Research on Brucellosis (medicine)	1941
100.00	Dr. O. H. Wangenstein Fund for Surgical Research (medicine)	1945
70.50	Through the Greater University Fund for the John J. Bittner Cancer Research Fund (medicine)	1948
42.00	Max B. Hoffman Memorial Fund (medicine)	1947
15.00	Samuel Hirshfeld Fund for Surgical Research (Malignant Disease Research) (medicine)	1946

\$ 865,744.81

MISCELLANEOUS FUNDS—NEW

\$ 52,371.00	From the United States Public Health Service	
	\$28,000.00 For support of a program for cardiovascular teaching (\$14,000.00 a year for two years)	1949
	9,250.00 For cancer education for nursing instructors	1949
	6,674.00 For a course in cancer nursing and control	1949
	5,016.00 For training in advanced psychiatric social work	1949
	3,431.00 For improvement of museum facilities used in teaching neuro-anatomy under the direction of Dr. E. A. Boyden	1949
50,000.00	From the Elsa U. Pardee Foundation (\$5,000 a year for ten years) for a professorship in cancer biology under the direction of Dr. J. J. Bittner	1950
8,000.00	For an Analog Computing Center for use in the Institute of Technology	1950
	\$5,000.00 Minnesota Mining and Manufacturing Company	
	2,000.00 Cargill, Incorporated	
	1,000.00 Al Johnson Construction Company	
7,500.00	From the James F. Bell Charitable Trust for the purchase of two valuable items for the University Library	1950
5,000.00	From the Minnesota State Department of Health (United States Public Health Service Funds) to conduct a mental health survey in Nobles County under the direction of Dr. John E. Anderson	1950
5,000.00	For publication of <i>The Biology of Human Starvation</i> under the direction of Dr. Ancel Keys	1949
	\$2,500.00 Nutrition Foundation, Incorporated	
	2,500.00 Research Corporation	
4,500.00	For the support of a Symposium on Cardiovascular Diseases	1950
	\$3,500.00 Variety Club of Minneapolis	
	1,000.00 Mayo Foundation	
3,250.00	From the Sister Elizabeth Kenny Institute to cover one half of the salary of Dr. James Bosma as attending pediatrician at Elizabeth Kenny Institute, Incorporated	1949
2,500.00	From the Edward W. Hazen Foundation to provide funds for a conference on religion in state universities	1949

Amount		Year Established
1,625.00	To establish a memorial book collection in the School of Journalism in honor of Thomas Heggen	1950
\$1,000.00	Mr. and Mrs. T. O. Heggen, Mrs. Duvall O'Neal, and James E. Billings	
500.00	Mrs. Laura M. Smith	
100.00	Lyceum Theatre	
25.00	Sigma Delta Chi	
1,500.00	From the National Foundation for Infantile Paralysis, Incorporated, to pay one half the salary of a social worker to assist postpolio patients at University Hospitals	1950
621.49	Through the Greater University Fund to establish a fund in the School of Dentistry for various educational purposes without other means of support (i.e., equipment, publications, scholarships) to be known as the Alfred Owre Memorial Fund in Dentistry	1949
393.30	From the Class of 1949, School of Agriculture, for the purchase of an electric clock in the School of Agriculture dining room	1949
370.00	For furnishings for a "J. C. Litzenberg Memorial Room" in the Mayo Memorial Building	1950
\$200.00	Dr. J. A. Johnson	
170.00	From six anonymous donors, through the Greater University Fund	
325.00	From the Minnesota Dental Foundation for purchase of motion picture equipment for the School of Dentistry	1950
323.00	From Samuel C. Gale as a donation to the work of the State Organization Service, a Department of the General Extension Division	1950
300.00	From the National Research Council to cover secretarial help, long distance calls, and other expenses in connection with Dr. W. W. Spink's work as chairman of the Inter-American Congress on Brucellosis	1950
300.00	For a fund to enable young men from the Department of Surgery to attend meetings and present papers	1950
\$200.00	Dr. Charles E. Rea	
100.00	Dr. Owen H. Wangenstein	
120.00	From various donors, through the Greater University Fund, for a fund to receive gifts for various purposes and needs in the School of Agriculture	1950
40.00	For the School of Public Health (hospital administration budget) for purchase of books on Hospital Administration	1950
\$20.00	W. H. Tusler	
20.00	George Ulmer, Jr.	
25.00	From Paul A. Ohman for use in the children's recreation room in the Hospital, given in memory of Mark Ohman	1949
20.00	From Eleanor Schultz for the Psychopathic Hospital Fund	1950
15.00	From Victor Christgau, through the Greater University Fund, for the Minnesota Academy of Science—Cedar Creek Forest Fund	1950
<hr/>		
\$ 144,098.79		

MISCELLANEOUS FUNDS—ADDITIONS TO PREVIOUS GIFTS

\$1,902,111.17	From the United States Public Health Service	
\$950,000.00	For the Mayo Memorial Building Fund	1948
485,000.00	For the Variety Club Heart Hospital Fund	1945
296,001.17	For the Health Service Building (through the Minnesota Department of Health)	1947
42,415.00	For training of psychiatric nurses	1947
41,673.00	For the advanced mental hygiene program	1947
27,730.00	For the Cancer Detection Clinic	1947
25,426.00	For training of psychiatric social workers	1947
14,944.00	For compilation and editing of material on global epidemiology	1947
7,950.00	For psychiatric training	1947
6,000.00	For training in clinical psychology	1947
4,972.00	For undergraduate training in dentistry	1948
100,000.00	American Legion Memorial Heart Professorship	1948
81,402.25	For the Variety Club Heart Hospital Fund	1945
\$80,000.00	Variety Club of the Northwest	
1,000.00	Minneapolis Gas Company (for equipment)	
200.00	The Flox Company, Incorporated	
100.00	Mrs. Mary Helen Lemm (for equipment)	
85.50	From seven donors	
16.75	From three donors (for equipment)	
35,001.50	Through the Greater University Fund for the Minnesota Medical Foundation—E. T. Bell Fund	1947
27,507.00	Mayo Memorial Building Fund	1948
\$25,000.00	Minnesota Division, American Cancer Society	
2,500.00	Minneapolis Gas Company	
7.00	Junior Class in Occupational Therapy	
20,276.50	For the Cancer Detection Clinic Fund	1947
\$20,000.00	Minnesota Division, American Cancer Society	
276.50	From nineteen donors	
20,000.00	W. K. Kellogg Foundation Nursing Education Fund	1946

Amount		Year Established
6,518.00	For the William A. O'Brien Professorship in Cancer Research	1948
	\$6,500.00 Minnesota Division, American Cancer Society	
	18.00 Dr. Lillian B. Parson	
6,508.25	For the 4-H Club Fund	1931
	\$1,600.00 Standard Oil Company of Indiana	
	1,000.00 Federal Cartridge Corporation of Minneapolis	
	910.00 From twelve companies through the National Committee of Boys and Girls Club Work in Chicago	
	500.00 United States Rubber Company	
	400.00 Farm Underwriters Association of Chicago	
	311.00 Chicago and Northwestern Railway System	
	275.00 Chicago, Milwaukee, St. Paul, and Pacific Railway Company	
	256.00 Chicago, Rock Island, and Pacific Railroad of Chicago	
	200.00 Kellogg Company	
	200.00 J. R. Watkins Company	
	150.00 Pride Hybrid Company of Dassel, Minnesota	
	140.00 Mrs. Charles R. Walgreen and Edward Wilson of Chicago	
	131.25 Republic Steel Corporation	
	125.00 Land O'Lakes Creameries of Minneapolis	
	125.00 First District Association of Land O'Lakes Creameries of Litchfield	
	110.00 Minnesota Rural Youth Federation	
	75.00 Columbia Broadcasting System, Incorporated	
5,514.50	Through the Greater University Fund for the Friends of the University Library Fund	1944
3,000.00	Frances Miller Brown Endowment Fund	1948
2,700.00	Minnesota State Department of Health Parent Education Fund	1948
2,500.00	Minnesota State Department of Health Mental Hygiene Program	1949
2,100.00	Coordinator of Religious Activities Fund	1947
	\$1,075.00 Congregational Conference of Minnesota	
	1,000.00 Westminster Presbyterian Church	
	25.00 Christ Lutheran Church of St. Paul	
1,324.00	For the Booth Memorial Hospital Fund	1940
	\$1,000.00 Salvation Army Booth Memorial Hospital	
	324.00 Anonymous donors	
1,300.00	Minnesota Jewish Council 4-H Club Fund	1942
600.00	Minnesota Museum of Natural History Special Collections Fund	1942
	\$ 300.00 James Ford Bell	
	300.00 Wildlife Management Institute	
566.00	Endowment Fund of the School of Nursing	1936
500.00	Student Project for Amity Among Nations (SPAN)	1947
454.00	Through the Greater University Fund for the Music Development Fund	1949
200.00	Guild Memorial Lectureship	1947
200.00	Judd Lectureship in Medicine and Surgery	1933
133.00	Minnesota Medical Foundation Pediatrics Travel Fund	1945
10.00	Through the Greater University Fund for the St. Paul Campus Union Fund	1949
\$2,220,426.17		

BOOK GIFTS, 1949-50

To the University Library:

- Forty-eight issues of periodicals and 213 literary and reference books from the Silas McClure estate
- From Professor R. E. Scammon, Branson, Missouri:
 - 4 filing cabinets of reprints, theses, manuscripts
 - 24 drawers 3x5 card file bibliography, references and notes
 - 1 case of 12 drawers containing charts and manuscript material
 - 167 books, mainly in the fields of anatomy, biography and growth
- Thirty-six bound and 12 unbound Danish Language publications from Mrs. Jules W. Aubry, New York, New York
- Six books, including *Northwestern Druggist, Vol I. Compendium of History and Biography of Minneapolis and Hennepin County, Minnesota, 1914, and Half Century of Minneapolis, 1908*, H. B. Hudson, from Emerson G. Wulling, LaCrosse, Wisconsin
- Five hundred twelve architectural magazines from Mrs. Robert E. Hansen, Minneapolis
- A collection of drawings for children's books from Dr. Irvin Kerlan
- A collection of artists proofs and other typographical items from Florian Kraner
- Photostats of illustrations from Florian's books in envelopes, appropriately marked, also commercial ads attached
- Drawings for *Creche* (Christmas Manger) as printed on color press sheet
- Color proof press sheets for *Funny Bunny* and copy of the book (made available by Dorothy Bennett)
- Three volumes of catalog of the Frick Collection from the Frick Art Reference Library, New York, New York
- Five books concerning Finnish artists, to the Duluth Branch Library from Clara Stocker, as a memorial to Carl H. Salmien
- The following for the Kerlan Collection of children's books from Dr. Irvin Kerlan, Washington, D. C.:
 - Manuscript of *Peter Piper's Pickled Peppers* (by Mable L. Hunt)
 - Unique copy of *Peter Piper's Pickled Peppers*, inscribed by artist, Katherine Milhous, and also by Dr. Kerlan
 - Two matted originals by Lois Lenski

Copy of *Scarlet Letter* with F. O. C. Darley drawings
 Number of dust jackets by Robert Lawson and one by Lynd Ward
 Originals by Florian Kraner (wood blocks):
Picture Book of the Bible
Young Fighters of the Soviet by Vera Edelstadt
Famous Myths
Wonder Tales of Giants and Dwarfs

MISCELLANEOUS GIFTS, 1949-50

One cold room from the Mayo Clinic to Engineering Experiment Station for inclusion in the new Mechanical-Aeronautical Engineering Building
 A portrait of Dr. Folwell from Mrs. E. E. Nicholson
 One hundred and sixty-five specimens of mosses and 76 specimens of liverworts to the University Herbarium, collected during the University of Minnesota Botanical Expedition to Hudson Bay under the direction of Dr. E. C. Abbe
 Twenty items from her art collection, plus books and prints, from Mrs. George P. Tweed, Duluth
 Twenty-eight natural color lantern slides from Mr. and Mrs. L. W. King, St. Paul, to the Department of Geology and Mineralogy
 Special electrical equipment from the Radio Corporation of America to the Electrical Engineering Department
 A rotary drill machine (Longyear FH2, Serial No. 836) complete with single pump and tank from Oliver Iron Mining Company to the School of Mines
 Three elephantine folio volumes of John James Audubon's mammals to the Museum of Natural History from Regent James F. Bell
 A mechanical record player from the Key Club of the West Central School and Station to the school lunch room
 A small two-cylinder German air-cooled engine to the Department of Aeronautical Engineering from the Marvin A. Northrop Aeroplane Company, Minneapolis
 An upright piano from Donald Cain to the Audio-Visual Education Service
 A cup-type Geiger-Mueller counter with preamplifier from the Texas Company to the Department of Radiation Therapy, University of Minnesota Hospitals
 Equipment valued at \$3,470 from nine industrial firms to the Mechanical Engineering Department Foundry
 To the University Theatre:
 1910 costumes and full dress suit from Mrs. W. C. Wild, Minneapolis
 Nineteenth century costumes from Mrs. Theodore Crocker, Minneapolis
 1930 costumes from Mrs. David Thompson, University Theatre
 Four guns from Paul Joncas, University Theatre

ASSIGNMENTS OF PATENT APPLICATIONS, 1949-50

Assignment of application for patent Serial No. 100,959, Dr. Ole Gisvold, Digitalis

PATENTS RECEIVED, 1949-50

British Patent No. 615,519, British Patent Application No. 7991/45, (Montonna et al. U. S. No. 529,426) Process of Preparing Fibers and Yarns
 British Patent No. 618,406, British Patent Application No. 8361-2/44, (Gisvold U. S. No. 478,321 and No. 490,149) Process of Producing Plant Extracts
 Patent No. 2,500,173, application of Dr. Ole Gisvold, Serial No. 719,931, Extraction of Digitalis Glycosides
 Canadian Patent No. 462,570 (United States Serial No. 529,426) Dr. Ralph E. Montonna, Dr. Lloyd H. Reyerson, and Elias Amdur, Flax Processes
 Patent No. 2,468,771 (Serial No. 529,426) Dr. Ralph E. Montonna et al., Processes of Preparing Fibers and Yarns
 Patent No. 2,490,278, Application of Dr. A. O. C. Nier, Serial No. 783,433, Mass Spectrometer Tube Ion Source Assembly
 Patent No. 2,486,199, Application of Dr. Alfred O. C. Nier, Serial No. 615,322, Methods and Apparatus for Determining Leaks

TRADE MARK CERTIFICATE RECEIVED, 1949-50

Certificate of registration of the trade-mark "Minnesota Blue Cheese" in the State of Minnesota

SUMMARY OF FINANCIAL OPERATIONS, 1949-50

The data which follow constitute a brief summary of the financial report for the year ended June 30, 1950. A complete annual financial report for each year of the biennium has been published separately and is available on request.

SOURCES OF UNIVERSITY INCOME

From the State

The Legislative Maintenance Appropriation \$12,252,019.00
 For the general support of instructional, research, and administrative departments, and maintenance of buildings and grounds, including the Department of Agriculture, the agricultural schools and experiment stations, and the Duluth Branch.

<i>The 23/100 Mill Tax</i>	295,992.47
The standing direct property tax for the general support of the University.	
<i>The State's share of the cost of indigent patients at the University of Minnesota Hospitals</i>	698,315.38
<i>The Special Projects administered and carried on by the University for the general benefit of the people of the state</i>	1,064,439.00
These special projects include Agricultural Extension, County Agents, Beneficiation of Manganiferous Ores, Soils Survey, Dairy Manufacturing, Medical Research, Live Stock Sanitary Board, Crop Breeding and Testing, Child Welfare, Psychopathic Hospital Maintenance, Mastitis Control, Potato and Vegetable Research, General Research, Minnesota Institute of Research, Home Demonstration and 4-H Club Work, Agricultural Research—Rosemount, Hybrid Corn Maturity Tests, Brucellosis Research and School of Agriculture Student Aid Fund.	
<i>The Physical Plant Extensions</i>	7,425,000.00
1945 and 1947 Building Fund Receipts—Mayo Memorial Building, \$1,500,000.00; 1947 Building Fund Receipts—Classroom Building, \$640,000.00; Social Science Building, \$697,000.00; Central Heating Plant Boiler, \$275,000.00; Chemical Engineering Building, \$800,000.00; Veterinary Medicine Building, \$430,000.00; Animal and Poultry Husbandry Building, \$402,000.00; Home Economics Addition, \$150,000.00; Mechanical-Aeronautical Engineering Building, \$700,000.00; Branch Stations, \$170,000.00; 1949 Building Fund—Duluth Science Building, \$330,000.00; College of Education Building, \$25,000.00; Heating Plant—St. Paul, \$100,000.00; Library Building—St. Paul, \$20,000.00; Duluth Physical Education Building, \$25,000.00; Physics Addition, \$200,000.00; Central Heating Plant Boiler, \$25,000.00; Chemical Engineering Building, \$250,000.00; Social Science Building, \$103,000.00; Veterinary Medicine Building, \$113,000.00; Animal and Poultry Husbandry Building, \$205,000.00; Branch Stations, \$265,000.00.	
From the Federal Government	
<i>Instruction, Research, and Extension</i>	1,267,043.20
This income is divided: for instruction, \$143,236.24; for agricultural research, \$272,820.10; for agricultural extension, \$850,986.86.	
From the Permanent University Fund	566,637.23
The principal of the fund, amounting to \$25,807,029.24 on June 30, 1950, was derived from land set aside by the Federal Government and 10 per cent of the occupational tax on iron ore. The income is used for general university support.	
From the Swamp Land Fund	94,394.51
The principal of the fund was derived from land set aside by the State of Minnesota. The University participates in the income.	
From Fees and Receipts	9,071,125.60
This income is divided: student tuition fees, \$4,541,141.49; counties' share of indigent hospital patients, \$698,315.38; other hospital receipts, \$1,431,713.14; dental infirmary receipts, \$113,422.28; other departmental receipts such as laboratory fees, sales of livestock and agricultural products, \$2,270,703.81; miscellaneous, \$15,829.50.	
From Service Enterprises and Revolving Funds	7,908,215.70
This includes income from such service enterprises as dormitories, dining halls, veterans' housing, printing, laundry, University Press, Concerts and Lectures, University Theatre, and Health Service, and from such revolving funds as seed distribution fund, towel funds, locker funds, and private duty nurses' funds. (Of this amount \$76,099.39 was used for plant expansion.)	
From Trust Funds	4,855,290.83
The trust funds include gifts and donations for scholarships, prizes, and income from endowments for teaching, research, and the care of the sick. Of this amount \$553,926.80 was used for plant extension.	
From Intercollegiate Athletics	892,126.31
Total Receipts	\$46,390,599.23
<i>Free Unencumbered Balance, July 1, 1949</i>	6,899.32
Grand Total	\$46,397,498.55

EXPENDITURES FOR UNIVERSITY OPERATION

For Administration of the University	\$ 1,246,628.21
The expenses of the offices of the President, the Vice Presidents, the Comptroller, the Dean of Students, the Dean of Admissions and Records, Office of Civil Service Personnel, and other general administrative offices.	
For the General University	1,911,918.09
The expenses of the library, general bulletins and publications, lectures and convocations, the storehouses, truck service, inter-campus trolley, and other services of an all-university character.	
For Instruction and Research	18,315,540.42
The expenses of college instruction and research, the Duluth Branch, agricultural schools and experiment stations, the University of Minnesota Hospitals, Summer Session, Agricultural and General Extension (General Funds, \$13,474,004.80, Federal Funds, \$1,243,046.25 exclusive of \$7,081.36 Federal Funds included in General University total; Special State Appropriations and Income, \$3,598,489.37 exclusive of \$80,160.00 included in General University and \$2,180.83 included in Physical Plant.)	

For Physical Plant Operations	2,835,262.99
The expenses of maintaining and operating the buildings and other improvements on the land of the Minneapolis Campus and the St. Paul Campus.	
For Physical Plant Extension	8,624,953.44
Morris Heating Plant, \$131,264.09; Crookston Water System, \$25,767.49; Chemical Engineering Building, \$839,842.38; Classroom Building, \$276,185.61; Boiler—Central Heating Plant, \$237,598.14; Dormitory for Men, \$1,736,451.42; Social Science Building, \$489,019.71; Veterinary Medicine Building, \$563,940.53; Home Economics Addition, \$60,441.94; Animal and Poultry Husbandry Building, \$473,853.36; Winter Sports Building, \$69,797.16; Duluth Science Building, \$378,367.04; Williams Arena Improvements, \$918,911.33; Bookstore Remodeling, \$104,876.00; Pattee Hall Remodeling, \$47,444.86; Heating Plant—St. Paul Campus, \$59,487.47; Agricultural Hall—Morris, \$28,169.79; Storm Sewer, \$85,927.59; Mechanical-Aeronautical Engineering Building, \$359,815.51; Mayo Memorial Building, \$126,623.99; Health Service Addition, \$567,699.66; Variety Club Heart Hospital, \$526,812.72; purchase of real estate, \$198,038.48; relocating Fifteenth Avenue S.E., \$41,790.04; miscellaneous, \$276,827.13.	
For Service Enterprises and Revolving Funds	7,130,470.58
This includes expenditures for such service enterprises as dormitories, dining halls, veterans' housing, printing, laundry, University Press, Concerts and Lectures, University Theatre, and Health Service, and for such revolving funds as seed distribution fund, towel funds, locker funds, and private duty nurses' funds.	
For Trust Fund Purposes	4,034,280.56
Scholarships, fellowships, prizes, and trust fund expenditures for teaching and research, care of the sick and other trust purposes.	
For Intercollegiate Athletics	801,996.45
The operating expenses of intercollegiate athletics and that part of the physical education expense paid from receipts of intercollegiate athletics.	
Transfers and Adjustments	1,492,833.60
Depreciation of endowed properties, \$40,000.00 (Flour and Corn Exchange Building); miscellaneous transfers between endowment, current, loan, and plant funds, \$146,757.58; outstanding obligations and allotment increases, \$1,324,186.47 (current funds, \$965,736.79; plant funds, \$358,449.68); decreases in current fund reserves, \$18,110.45.	
Total Expenditures, Transfers, and Adjustments	\$46,393,884.34
<i>Free Unencumbered Balance, June 30, 1950</i>	3,614.21
Grand Total	\$46,397,498.55

A FEW INTERESTING FACTS ABOUT THE UNIVERSITY

Student Enrollment	1946-47	1947-48	1948-49	1949-50
Collegiate	36,578	34,131	35,935	35,174
Fall Quarter—2nd Week	(27,103)	(28,312)*	(27,243)	(25,084)
Non-Collegiate	15,915	17,276	18,606	23,575
Extension	19,086	18,015	18,525	18,640
Staff—All Funds				
Academic†	2,733	3,084	2,977	3,128
Civil Service†	2,777	3,315	3,530	3,738
Colleges				
Science, Literature, and the Arts	30			
Institute of Technology	14			
Department of Agriculture	32			
Medical Sciences	18			
College of Education	12			
Graduate School	13			
Schools of Dentistry, Law, Pharmacy, Business Administration, and Library Instruction, University and General				1
Colleges—each				13
Duluth Branch				
Land—June 30, 1950		Acres		Value
Minneapolis Campus		193.53		\$4,789,265.98*
St. Paul Campus—Agriculture		702.56		695,696.91
University of Minnesota—Duluth Branch		174.46		44,682.22
Branch Stations				
Crookston		915.89		142,650.97
Morris		823.82		61,137.53
Grand Rapids		454.60		34,095.00
Duluth		282.74		41,401.00
Waseca		597.30		70,752.50
Cloquet		3,702.09		66,446.39
Excelsior		229.89		41,271.22
Rosemount Research Center		8,000.00		1,617.04
Total		16,076.88		\$5,989,016.76

Buildings—June 30, 1950	Major		Minor§		
	Number	Value	Number	Value	
Minneapolis Campus	70	\$32,001,182.18	44	\$ 293,787.45	
St. Paul Campus—Agriculture	33	4,655,546.60	47	359,916.61	
Off-Campus Buildings			19	537,755.84	
U. of M.—Duluth Branch	7	1,418,411.24	3	20,249.86	
Branch Stations					
Crookston	11	762,465.67	42	175,079.73	
Morris	11	813,709.76	21	145,162.32	
Duluth	2	70,038.74	22	74,486.57	
Grand Rapids	4	301,629.50	28	108,239.44	
Itasca			43	61,501.13	
Waseca	1	27,429.02	37	91,074.57	
Excelsior			26	75,080.96	
Cloquet			33	56,663.83	
Rosemount Research Center	1	100,796.44	57	196,763.64	
Total	140	\$40,151,209.15	422	\$2,195,761.95	
Equipment—June 30, 1950	Total		Livestock	Books and Museum Collections	Other
Minneapolis Campus	\$12,129,396.05			\$6,414,947.80	\$5,714,448.25
Department of Agriculture	2,357,223.60	\$203,065.00		402,329.90	1,751,828.70
Duluth Branch	327,872.34			123,060.14	204,812.20
Service Enterprises	2,219,129.42				2,219,129.42
Trust Funds	992,815.12			2,781.29	990,033.83
Total	\$18,026,436.53	\$203,065.00		\$6,943,119.13	\$10,880,252.40
Endowment—June 30, 1950				Value	
For general purposes				\$25,807,029.24	
Unassigned funds operating temporarily as an endowment				440,098.46	
For student aid—scholarships, prizes, and loans				884,840.45	
For educational purposes				6,332,726.89	
For other purposes				2,148,181.85	
Endowment—subject to annuity				607,340.12	
Total				\$36,220,217.01	
Loan Funds—June 30, 1950				\$ 530,113.01	

The University's complete "Financial Report" will be mailed upon request.

* Includes Duluth Branch for the first time.

† Reduced to a full-time basis.

§ Valuation \$25,000 and under.

—W. T. MIDDLEBROOK, *vice president*

PUBLICATIONS OF THE FACULTIES

A list of the publications of the faculties of the University of Minnesota for 1948-49 is published as Volume LII, No. 58, and for 1949-50 as Volume LIII, No. 61, of the University of Minnesota Bulletin Series.

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