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UNIVERSITY *of* MINNESOTA

The Biennial Report of the President
of the University of Minnesota
to the Board of Regents
1946-1948

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THE PRESIDENT'S REPORT

*To the Honorable Board of Regents
University of Minnesota*

GENTLEMEN: I have the honor to submit herewith a report covering the activities, programs, and progress of the University of Minnesota for the biennium ended June 30, 1948.

The duty of an educational administrator is to speak of education. I should like nothing better than to discuss with you the progress made by the University in the fields of general and specialized training. In this connection I should like to call to your attention the pressing educational problem of our age: how to prepare a young man or woman to be both a competent worker and a good citizen. However, in this report, I am forced to discuss something much simpler and, for the moment, almost equally important.

The ordinary person, when he thinks of a university, usually assumes certain things as "given." Where there are teachers and students there must also be classrooms and laboratories, light and heat, paper, books and pencils. Given a school, we assume the physical facilities. This is not always the case. One has only to look at the present plight of most European universities to learn the true story. In Greece, students receive one pencil and twenty-five sheets of paper a year. At the Free University of Berlin, classrooms are unheated and students take lecture notes wearing gloves. Since chairs are limited, many students sit on the floor.

We can be truly thankful that most schools in the United States do not have to worry about these basic needs. And yet, the most important educational problem of the biennial period of 1946-48, and one of the most important problems we shall have to face for years ahead, is largely a physical one. It is the problem of overcrowded classes and an understaffed faculty. It is the problem of fitting almost 27,000 students into a physical plant built for less than 15,000. It is, in a word, the problem faced by the famous "old woman who lived in a shoe."

The Enrollment Bulge—The student population of the University of Minnesota has grown steadily through the years. The physical plant has, in a rough and ready way, managed in some measure to keep up with that growth. But with the enactment of the G. I. Bill of Rights, millions of young men and women, who otherwise would have been denied higher education, suddenly found themselves on their way to college. In 1940, fall quarter registration at the University of Minnesota was 14,986. By 1946 enrollment had jumped to 27,103. Almost all of this increase was attributable to the return of veterans.

While the number of students was doubling, there was no corresponding increase in our physical facilities. Buildings do not grow over night. Between the conception and the construction of a new laboratory or a research center, there is a long, complicated, time-consuming process. Though faced with an almost overnight increase of 13,000 students, we have been forced to carry on with our existing resources. We have had to absorb these new students into our existing dormitories, laboratories, classrooms, and recreational spaces.

It is at this point that a primarily physical problem becomes a truly serious educational problem.

There is an optimum size for each class. It will differ with the subject matter and the advancement of the students. At the undergraduate level, in

many subject-matter areas, let us say the optimum size of the ordinary class is twenty. At the graduate level let us say it is ten. What happens when that ten becomes twenty and that twenty becomes forty? First, students will participate less. There will be less chance to test an idea in the proving ground of class discussion. Second, teachers will talk more. Discussion will be replaced by lecture. A lecture, as every educator knows, is a one-way process. A sound education, however, must involve give and take, with the consequent sharpening of ideas. Something fundamentally important drops out when this disappears.

At the same time classes were being enormously enlarged, we were forced to increase the total number of classes. This meant longer, more arduous hours for the teaching staff. It meant less opportunity for teachers to know their students as individuals, to help them direct their activities, to develop the kind of personal relationship that can be so valuable in working with a young mind. It meant that teachers had to spread themselves thinner and thinner, giving less and less time to more and more students. In the end, of course, it meant additional teachers had to be hired.

This was not an easy undertaking. There is a limited supply of teachers and most of them are employed. But we needed more teachers and we obtained more teachers. I should like to be able to report that all our staff additions were of a high quality. It is true that many of our new teachers are excellent. It would be less than honest, however, to say that all of them are of a standard we would normally employ, for they are not.

The consequence of the sudden increase in postwar students coupled with the lack of a corresponding increase in our physical plant is that the individual student is not now receiving the attention and guidance he has the right to expect. There has been a lowering of standards. This is not to say students are not being educated. Most young men and women at the University of Minnesota will still graduate well rounded in personality and competent in their professions. Even so, a student entering the University of Minnesota today does not have the same educational opportunity as was given in prewar days.

A Philosophy of Education—The questions immediately arise: Are the current conditions a necessity? Did we *have* to accept all these new students?

First, I should like to point out that there were many applicants with excellent academic records whom we did not accept. About 13,000 such applications were rejected. Most of these came from nonresidents. Had we accepted all who applied, the University would have been completely submerged and there would have been no education for anyone. Therefore, our policy during the current biennial period was to restrict sharply the out-of-state enrollment to make room for every qualified Minnesota resident. (It should be added that some consideration was given to outstanding students from neighboring states having close ties with Minnesota—in general, those states in the Ninth Federal Reserve District.) In other words, we accepted those we were legally and traditionally bound to accept. No Minnesota student was turned away.

It is my belief, however, that there is a much more important reason why we of the University of Minnesota have assumed the enormous burden of educating 27,000 young men and women.

Every citizen of the United States has at least two responsibilities: a responsibility to himself; a responsibility to the state. Because of the increasing complication and specialization of almost every phase of human activity, train-

ing through higher education has become a virtual necessity for everyone who practices some kind of professional, scientific, or technological skill. This preoccupation with specialization has tended to make us lose sight of our other responsibility—our responsibility as citizens who must take an equal part in making those decisions and formulating those policies which affect the very life of the nation. At bottom, we are all citizens.

There may be some persons who believe that the role of the University lies in creating an educational aristocracy to do our thinking for us. They would argue that the art of ruling is as much a specialty as medicine or law. It is my belief—it is the American belief—that the role of the University is to realize the potentialities of all men to rule their own private and collective destinies. What else is democracy! That, in the last analysis is why the doors of the University of Minnesota are open to every qualified person in the state. The University of Minnesota believes, and so do the citizens whose loyalty has over the years supported it, that the spirit of every man is ennobled through understanding. It has held this policy for ninety-eight years. It was founded in this faith.

We are, then, not only legally and traditionally, but *morally* committed to higher education expanding to meet the expanding needs and dimensions of American democracy.

The Problem of Standards—But a problem of lowered standards remains. There are those who contend this is the inevitable result of mass education. It is true that the sudden increase in enrollment has tended in some degree to lower our educational achievements. The important question is: How permanent is this condition to be?

The answer is not easy. If, for example, the physical plant is not enlarged, permanently lowered standards almost certainly will result. Population studies show that while there is likely to be a temporary decline in enrollment around 1950, there will be no return to the prewar "normal" enrollment of 15,000. As we approach 1960, the student population will probably exceed the present peak of 27,000. Babies born in the early war years in accelerated numbers will by then be of college age.

In order, therefore, to maintain the quality of educational output which has come to be associated with the University of Minnesota, we must expand. This means not only more classrooms, but more dormitories, laboratories, libraries, and study halls. A comprehensive plan embodying such a long-range building program has already been completed and is in the hands of the appropriate state agency.

High standards involve more than buildings. A student on a large campus may feel lost in the swarms that crowd into lecture halls and libraries. He is apt to feel (and on some campuses with good reason) that he is just another cog in the machine, just another number on a registration blank. The University of Minnesota has sought to avoid this. It has valiantly attempted to keep sight of each student as an individual and maintain some kind of personal relationship with him. To continue doing this our teaching and our Civil Service staff must be increased. At the moment our main problem is finding qualified instructors of undergraduate courses. In three or four years, when our tremendous freshman and sophomore classes move upward, we shall have a much more difficult task in finding experienced teachers for junior and senior years and for a much enlarged Graduate School.

The Duluth Branch—During the past year one notable step has been taken. The 1947 Legislature approved a bill authorizing the transfer to the

Regents of the Duluth State Teachers College, to become a northern branch of the University of Minnesota. The Regents accepted this offer and on July 1, 1947, the College became the University of Minnesota, Duluth Branch.

It is the present intention of the University to operate the Duluth Branch as a four-year liberal arts college, supplemented by a teacher-training program. By this action we may lighten somewhat the undergraduate load on the Minneapolis and St. Paul campuses. More important, educational opportunities will be made available more readily to the youth of the entire northern area of our state.

The new campus will become a real part of the University, not only physically, but educationally. We have already begun modification and enrichment of the curriculum, and re-ranked the staff to conform with University standards. Plans have also been made for a more extensive building program; numerous staff additions will be made. The Duluth Branch, we are determined, is not to be a stepsister of the University. It has been reorganized to stand on a basis of complete equality with the other campuses.

The Legislature and the University—The programs I have outlined will take more than planning and time. They will take money. It is a source of great pride and deep satisfaction that the people of the state, through the State Legislature, have unfailingly recognized the community of interest that exists between them and their University. Beginning with a building appropriation of more than \$7,000,000, the Legislature has rescued the University from a crisis not unlike that of the 1860's when there were grave doubts as to whether the University could continue to function. In addition to these funds for buildings, the Legislature has asked the University to organize a School of Agriculture at Waseca and a veterinary course on our St. Paul Campus. Just as the state responds to the needs of the University, so the University responds to the needs of the state.

Enrollment and Income—While buildings and equipment are essential, the final worth of a university rests inevitably on the quality of its staff. Our teachers, researchers, and Civil Service workers have been less than well paid. With costs of living threatening to rise far more rapidly than any salary adjustments that we have made, we must give thought to reducing this gap.

Competent Civil Service workers, good researchers, good teachers are, as I have said, in demand. We shall face increasingly difficult competition in our search for experienced, qualified personnel. We must avoid losing the outstanding men already on our staff. We must be prepared to meet the salaries offered by other schools, by business organizations, and by the government. For this, further legislative help will be needed.

After the year 1950 we predict a drop in enrollment. It will follow the graduation of the current huge freshman and sophomore classes composed mostly of veterans. This decline, it is to be stressed, will be temporary and must not be interpreted as a reason for a reduction in the University budget. In the first place, a reduction in the number of students will serve to reduce class size to more nearly normal dimensions. Also, a decline in enrollment will mean a corresponding loss of tuition income, one of the principal sources of University funds. Since the University, by a regulation of the Veterans Administration, is reimbursed for each veteran, regardless of his residence, on the basis of the regular nonresident tuition fee, the graduation of veterans means an even greater loss in tuition income than the graduation of a similar number of non-veterans. This we must ask the Minnesota Legislature to recognize and offset.

The Prevailing Spirit—What are we doing in the meantime? A visitor, walking down the long streets of our Minneapolis Campus, sees row on row of wooden, makeshift buildings—TSF, Temporary South of Folwell; TNM, Temporary North of Mines; TSH, Temporary South of Hospitals. There are offices in these structures, and workshops, and classrooms. Students study here, attend classes here; some are living in just such buildings.

If the visitor will walk further he will see crowded libraries and study halls, long lines in cafeterias, classrooms and lecture halls filled with 75, 100, 150 students—yes, even a thousand students.

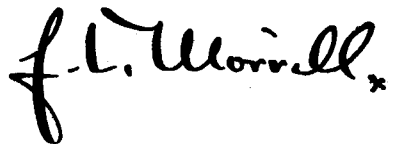
And yet, though the visitor of today sees an overworked, overcrowded campus, he finds something else as well. He finds a new seriousness, a new earnestness on the part of professors and students alike. Our new staff is making up in hard work for what it lacks in experience and numbers. Our students are giving more in self-control and determination. These *are* exciting days, educationally.

In Conclusion—During this difficult biennium, with its problems and perplexities, there is nevertheless discernible a renewed faith in the power and the worth of education. No one who has witnessed the return of the veterans to the campus, and has observed the determination and seriousness with which they have resumed their civilian life, can fail to be impressed with the extent to which faith in higher education is basic in the American tradition.

We at the University of Minnesota are proud partners in the perpetuation of that American faith. It is to strengthening it, to enlarging it, to enriching it that the University has loyally devoted itself for nearly a century. The University in a real sense symbolizes the aspirations and the hopes and the idealism of the citizens of this state who have so steadfastly supported it. Truly, this faith, bulwarked by this support, constitutes a major resource of a great commonwealth.

The pages that follow include the chronological record of what has occurred during the past biennium. First, the reader will find a record of outstanding events and activities. Included are the customary tabulations relating to personnel, physical plant, gifts, and enrollments. These data are presented to conform to tabulations in preceding reports, so that comparisons may be made. Finally, and most important, the work of the University is outlined in summarized reports of the deans of the several colleges. Present problems and future needs are here sketched.

I should, in closing, like to call to special attention those pages of the report that enumerate the honors that have come to members of the staff, and which also list the public services that staff members perform. Here indeed is a glowing record of service and distinction—the evidence that in the last analysis a university is great because of the men and women who faithfully and selflessly serve it.

A handwritten signature in cursive script, reading "F. L. Merrill", with a small asterisk at the end of the line.

Minneapolis, Minnesota
June 30, 1948

EVENTS AND ACTIVITIES
and
ACTIONS OF THE BOARD OF REGENTS

Fred B. Snyder Awarded "Builder of the Name" Medal—One of the highlights of the biennium was the Charter Day dinner, held on February 19, 1948, to honor Fred B. Snyder, chairman of the Board of Regents. On this impressive occasion, Mr. Snyder was awarded the first "Builder of the Name" medal, which was authorized in 1947 by action of the Regents.

In designating Mr. Snyder as a "Builder of the Name," the Regents publicly acknowledge an indebtedness that can be repaid only in terms of the self-satisfactions which Mr. Snyder has received as he has watched the development of the University from a mere charter on paper to one of the truly great educational institutions of the nation.

Born in 1859 in the first dwelling in the town of Minneapolis; christened at old St. Mark's in 1861; graduated from the University in 1881; admitted to the bar in 1882; first appointed as a Regent in 1912 and presiding officer of the Board since 1914; sometime alderman, president of the City Council, and acting mayor of the City of Minneapolis; representative and senator in the Minnesota Legislature; by general acclamation the dean of the Hennepin County Bar—Mr. Snyder has contributed greatly in the development of his State, his Church, his Profession, and his University. As a result of his long association with the history of each, he has erected enduring monuments, indeed, by patient and faithful leadership and by his wise counsel.

Three Alumni Awarded Medals—Gold medals were awarded by the University of Minnesota to three distinguished alumni at the annual Alumni Day dinner in Coffman Union on June 11, 1948.

President J. L. Morrill presented the "Builder of the Name" medal to E. B. Pierce '04, retiring field secretary and director of alumni relations, and "Outstanding Achievement" medals to Halsey W. Wilson '94, president and founder of the H. W. Wilson Company of New York, and Dr. William W. Will '05Md, physician at Bertha, Minnesota.

The program of University awards was established by the Board of Regents in 1947 and Mr. Pierce is the second person to receive the "Builder of the Name" medal. This honor is designed for individuals who have assisted materially in the building and development of the University.

Dr. Will and Mr. Wilson are the first recipients of the "Outstanding Achievement" medal. This medal was authorized by the Board of Regents as an award to former students of the University of Minnesota who have achieved outstanding success in their chosen fields.

Duluth Teachers College Becomes University Branch—On July 1, 1947, the Duluth State Teachers College became officially "University of Minnesota, Duluth Branch."

At their meeting on the Minneapolis Campus on June 10, 1947, the Regents of the University accepted the Duluth school as a branch of the University. A bill was passed in the 1947 session of the Minnesota Legislature authorizing the Duluth State Teachers College to offer its plant and facilities as a branch of the University of Minnesota and it was this offer which was formally accepted by the Regents at the June meeting.

The administrative officer of the University who will be the resident director of the Duluth Branch will bear the title of provost and Raymond C. Gibson, who has served as president of the Duluth State Teachers College, was appointed to this position by the Board of Regents on July 10, 1947.

President J. L. Morrill appointed a five-man committee to work on the problem of integrating policies and services of the University and the new Branch. The committee was headed by Malcolm M. Willey, vice president, Academic Administration, and included William T. Middlebrook, vice president, Business Administration, and the deans or representatives of the deans of the College of Science, Literature, and the Arts, the School of Business Administration, and the College of Education.

The Duluth Branch has buildings and equipment valued at approximately one million dollars. The enrollment during the spring term of 1947 was 930. Students enrolled at Duluth may now work toward a University degree in certain fields of study.

Following the action of the State Legislature in the matter in April, President Morrill said:

Action of the Legislature in authorizing the transfer of the Duluth State Teachers College to the Regents of the University of Minnesota constitutes an educational challenge of the utmost significance to our University staff.

First and paramount purpose must be to serve citizens of the area whose interest in the education of their sons and daughters is the dominating influence that has motivated legislative action.

May I convey to citizens of Duluth and the region of which it is a part, to the administrative staff and the students of the college friendly and cordial greetings from myself and members of my staff, and our assurance of constructive cooperation in what we hope will develop into a promising and significant education undertaking.

Resolution of Appreciation—At its meeting February 20, 1948, the Board of Regents approved the following resolution:

WHEREAS, The Legislature of 1946 transferred the Duluth State Teachers College to the Regents of the University of Minnesota, to be operated by them as the University of Minnesota, Duluth Branch; and

WHEREAS, This transfer has resulted in new and manifold relationships between the citizens of Duluth and the Regents of the University; and

WHEREAS, There have been many manifestations of friendliness and cooperation on the part of citizens of Duluth, in both private and official capacities; and

WHEREAS, Among the most significant evidences of these new friendly relationships has been the transfer by gift to the Regents of the University of Minnesota of an extensive tract of land to be developed as the future site of the University of Minnesota, Duluth Branch; and

WHEREAS, In the assembling of this tract of land, inestimable help was given to the donors by the St. Louis County Board of Commissioners, and by the Mayor and the City Commissioners of Duluth;

Therefore Be It Resolved, That the Regents of the University of Minnesota do in this formal resolution express their deep appreciation to the St. Louis County Board of Commissioners and to the Mayor and the City Commissioners of Duluth for the invaluable and significant assistance they have given in making it possible to assemble the tract of land that will in future years play such an important part in the development of the University of Minnesota, Duluth Branch; and they do direct that a copy of this resolution shall be sent to Mr. Victor J. Hultstrand, chairman of the St. Louis County Board of Commissioners, and to Mr. George W. Johnson, Mayor of the City of Duluth; and they do further direct that this resolution shall be made a part of the permanent record of the Regents, as evidence of their lasting gratitude and appreciation.

New Degrees Authorized—During the biennium the Board of Regents authorized the following degrees: master of hospital administration—authorized upon recommendation of the director of the School of Public Health, the dean of the Medical School, and the president; master of laws—a professional degree, formerly assigned to the Graduate School, in the future to be administered by the Law School; bachelor of science in nursing—with the abolition of the three-year curriculum which led to the degree of graduate in nursing, this degree culminates the work in the present five-year program; and master of education—now extended to the following fields in a five-year program: recreational leadership, social studies, natural sciences, English education, rural education, and elementary education.

The Duluth Branch was authorized to grant these degrees: bachelor of science, bachelor of arts, and associate in arts.

Summer Session Admissions Policy—Early in the biennium, the Board of Regents adopted a restrictive policy regarding admittance of nonresidents. This action was made necessary by the great influx of students, mostly veterans, to the University after the war. Since it was manifestly impossible to accommodate all these students without overcrowding existing facilities and imposing extra teaching loads on the faculty, it was agreed to restrict admittance until such time as the Regents agreed facilities were adequate.

This policy was followed throughout the college year. However, prior to the 1947 Summer Session the Board of Regents approved the following modified policy:

For admission of students to the 1947 Summer Session only, and without implication of continuing any student beyond the summer of 1947, the present nonresidency policy is extended to the impending Summer Session with the specific exception that applicants from the area to which Minnesota is educationally and economically related (essentially the Ninth Federal Reserve District plus additional contiguous state areas—Wisconsin, northern Michigan, Iowa, North Dakota, South Dakota, and Montana) will be considered under previous normal Summer Session admission requirements.

Applicants resident outside of the defined area will, in general, be subject to the present nonresidency rules. For Summer Session purposes, they will be considered provided they have any of the qualifications indicated in the following adaptation of exceptions to nonresidency regulations:

1. Former regularly admitted students of acceptable scholastic standing* or sons and daughters of former regular students of the University of Minnesota.
2. Spouses qualified by marriage to residents of Minnesota or spouses of veterans now in the University.
3. Holders of scholarships otherwise admissible.
4. Applicants to the Graduate School holding degrees and within 12 credits of admission to that school.

* Not necessarily the "C" average requirement of the present nonresidency policy.

5. Hardship cases of nonresidents in the state not primarily for purposes of entering the University of Minnesota as covered in the full statement of nonresidency regulations.
6. Individual exceptional cases approved by the dean of the college and the president of the University. (This exception is interpreted to apply to scholastically outstanding students as well as to those showing most unusual promise beyond that indicated by grades alone.)
7. Persons registered in the Graduate School, or for the degree master of education or master of laws, or equivalent.

Residents of Minnesota, Wisconsin, northern Michigan, Iowa, North Dakota, South Dakota, and Montana will be admitted under previous normal Summer Session admission requirements.

At their spring meeting in 1948, the Regents again acted upon the nonresident policy by voting to approve the following modification, effective beginning with the fall quarter of 1948:

Persons whose homes are in Montana, North Dakota, South Dakota, Iowa, Wisconsin, and upper Michigan and who are in the top 25 per cent of their high school graduating classes, or who have an average of "B" or better if they are applying for admission with advanced standing, may be considered.

Increase in Regents' Scholarships—The Regents for a number of years have approved the appointment of 45 members of the Civil Service staff as Regents' scholars. Holders are permitted to attend classes of the University up to a maximum of six hours in order that they may further train themselves for positions which they are now holding or which lie ahead in the normal course of Civil Service promotion. Because, in the judgment of the Civil Service Committee, this program has been a great success in promoting morale among Civil Service staff members and as an in-service training venture, the Regents voted at their April 11, 1947 meeting to increase the number of scholarships from 45 to 60 for the year 1947-48.

Disbursing Warrants—At its May 9, 1947 meeting the Board of Regents unanimously approved the following resolution:

WHEREAS, Under past and present practice and procedure all University funds, from whatever source derived, are deposited in the Treasury of the State of Minnesota and are disbursed therefrom by warrants signed by the State Auditor and the State Treasurer, and

WHEREAS, The State Auditor is required by statute to pre-audit all disbursements made from the State Treasury, which statute expressly excludes from its provisions the University of Minnesota, and

WHEREAS, University officers make a complete pre-audit of all University expenditures based on detailed supporting documents, which pre-audit is comparable to that made by the State Auditor as to other agencies of the State as provided by statute, and

WHEREAS, The State Auditor does not have available the necessary supporting documents for a pre-audit of University expenditures and the duplication of such documents for that purpose and the making of such pre-audit by the State Auditor would involve unwarranted expense to the University and to the State, and

WHEREAS, The expenditure of University funds by the State Auditor and State Treasurer is a routine practice involving the exercise of no discretion and no control and is unauthorized by statute, and

WHEREAS, The State Public Examiner is required by statute to audit and does audit all University accounts and reports in detail on all University income and expenditures, and

WHEREAS, Under the Territorial Act of 1851 confirmed and perpetuated by the Constitution of the State of Minnesota, the Regents of the University of Minnesota are required to elect a treasurer who "shall keep a true and faithful account of all monies received and paid out by him," and

WHEREAS, Pursuant to the requirements of said Territorial Act the Regents of the University of Minnesota have elected Julius Schmahl as treasurer of the University of Minnesota, and

WHEREAS, By the provisions of the Territorial Act and of the Constitution of the State of Minnesota as construed by the Minnesota Supreme Court, it is manifest that the deposit of University funds in the State Treasury and their disbursements by warrant signed by the State Auditor and State Treasurer are unauthorized by law, and

WHEREAS, The State Auditor and State Treasurer and the Regents of the University of Minnesota have considered and agreed upon the propositions hereinbefore set forth;

Now, Therefore, Be It Resolved by the Regents of the University of Minnesota, as follows:

1. That the State Auditor and the State Treasurer be relieved from the performance of the aforesaid functions unauthorized by law.

2. That the State Auditor and the State Treasurer be, and they hereby are, requested to draw a warrant covering all University funds in the State Treasury in favor of Julius Schmahl, Treasurer of the University of Minnesota.

3. That Julius Schmahl as Treasurer of the University of Minnesota deposit such warrant in such depositories as the Regents may direct from time to time, and disburse said funds on warrants approved by the officer or officers designated by the Regents.

Greater University Fund—The Board of Regents, on May 9, 1947, voted to approve and concur in the following resolution of the Board of Directors of the General Alumni Association:

WHEREAS, The General Alumni Association of the University of Minnesota, composed of graduates and former students thereof, is interested in forwarding the educational activities of the University and to this end desires to stimulate the interest of alumni, former students and the general public in the making of gifts to the University of Minnesota to supplement its income through an annual giving program and, incidental thereto, to encourage bequests and devises to the University, and

WHEREAS, The General Alumni Association desires to have the funds so obtained, including the proceeds of any devises or bequests to the University in cases where so indicated by the testator, placed in a fund to be known as "The Greater University Fund" sponsored by the University of Minnesota

alumni, said fund to be held in the custody of the Regents of the University of Minnesota, a public corporation.

WHEREAS, These funds so deposited are to be used from year to year for various purposes which will best advance the educational activities of the University as determined in the manner hereinafter set forth, and

WHEREAS, Such purposes cannot generally be known definitely in advance and the appropriation of funds for specific purposes each year can best be accomplished by the Board of Trustees constituted as hereinafter set forth.

Now, Therefore, Be It Resolved, Subject to the approval and concurrence herein by the University of Minnesota, acting through its Board of Regents that "The Greater University Fund" sponsored by the University of Minnesota alumni be and the same is hereby established.

Certificates of Merit for Retiring Staff Members—For many years the University has presented to retiring members of the academic staff a certificate in recognition of their years of service. This has been done on a most casual basis with no ceremony of any kind.

During the biennium it was proposed on recommendations from the director of University Relations, the Publicity Council, and the Committee on Public Relations that award of such certificates be somewhat more formalized and that certificates be given to members of the Civil Service staff who retire as well as to members of the academic staff. It was also recommended that such certificates be awarded in the name of the Regents and the president in order that the names of the recipients be recorded officially in the records of the University.

The Board of Regents therefore voted to approve, at its meeting June 10, 1947, the award of such certificates. The text of the certificate follows:

(Seal)

The University of Minnesota
In Recognition of Devoted Service
(Dates)

The Regents and the President
Express Their Gratitude and High Esteem
Through the Presentation of this
Certificate of Merit

to

_____ (name) _____

_____ (Civil Service-Academic) _____ Staff Member
Whose Name Is Inscribed in Official Records
For All Time

As One Who Has Contributed to
Our University and Our State

_____ (Date Given) _____

(Signed)

President

(Signed)

Secretary of the Regents

University Acquires Gopher Ordnance Works—In early December, 1946 occupation by the University of Minnesota of a portion of the Gopher Ordnance Works at Rosemount was approved by the War Assets Administration under terms of an "interim permit."

The permit, issued in consideration of payment by the University of \$1, authorized the University to "enter upon, occupy, and use" the 168 buildings and 8,000 acres of land at the Rosemount plant.

The University was required to maintain plant security in the area allocated to it, and make all necessary alterations and repairs.

Several University departments immediately occupied some of the buildings. University Hospitals moved its polio patients from the Fort Snelling station hospital to one of the larger buildings at Rosemount after alterations and repairs were made. This large building was converted to a 100-bed hospital.

The Department of Aeronautical Engineering took over several buildings for its huge supersonic research program.

The balance of the 19 buildings included storehouses, shop buildings, rest rooms, and cafeterias.

Long range plans of the University call for utilization of the available land and facilities for research by the Agricultural Experiment Station, Engineering Experiment Station, aeronautical, mechanical and civil engineering, cancer and polio research program, Physics Department, the School of Public Health, Army and Navy ROTC units, physiological and aviation medicine, animal husbandry, the Botany Department and University Hospitals.

With respect to acquiring the Gopher Ordnance Works as a permanent University property, the Board of Regents, at its June 10, 1947 meeting, unanimously approved the following resolution:

WHEREAS, The Regents of the University of Minnesota has made an application to the War Assets Administration for the acquisition of a portion of the Gopher Ordnance Works, owned by the United States Government, said application consisting of President J. L. Morrill's letter dated July 15, 1946, and the documentation, as amended, furnished therewith; and

WHEREAS, In a letter dated January 8, 1947, the Deputy Administrator, Office of Real Property Disposal, advises that, based on such application, the Real Property Review Board has conditionally approved the sale to the Regents of the University of Minnesota by the United States Government of the land and buildings, including machinery and equipment generally enumerated and described subject to terms and conditions set forth in the letter of May 9, 1947 to the Board of Regents from A. W. Carlson, Regional Director, War Assets Administration, Minneapolis, Minnesota, which is incorporated herein by reference and filed supplement to the minutes.

Now, Therefore, Be It Resolved, That the Board of Regents, having familiarized itself with the terms and conditions attached to such sale by the United States Government of the Gopher Ordnance Works, Rosemount, does hereby accept the terms and conditions of the sale set forth in A. W. Carlson's letter of May 9, 1947, and does hereby signify its readiness to proceed with the consummation of the transaction by signing the legend on the duplicate copy of said letter hereinbefore referred to and signifying its wish to take over the physical possession of the property at the earliest possible date; and

Be It Further Resolved, That the President or First Vice President and Secretary or Assistant Secretary of the Board of Regents of the University of Minnesota be, and they hereby are, authorized and directed to execute, deliver and accept on behalf of the Board of Regents of the University of Minnesota any and all legal instruments necessary to effect the transfer and conveyance of the Gopher Ordnance Works, at or near Rosemount, Minnesota to the Regents of the University of Minnesota, and to do all acts and things otherwise necessary to carry this transfer into effect, and to complete the transaction.

Scott Hall Named—Continuing its now well-established plan of renaming campus buildings after well-known former faculty members, the Board of Regents voted to change the name of the Music Building to Scott Hall in honor of the late Professor Carlyle M. Scott, head of the Music Department from 1904-42, and Verna G. (Mrs. Carlyle M.) Scott, manager of the University Artists Course from 1920-44.

University Creates New Milling Engineering Course—A new program in milling engineering, created by the Board of Regents in July, 1947, began in the fall of that year under the direction of John M. MacKenzie, assistant professor of mechanical engineering.

The new five-year course, supported in part by an annual \$10,000 grant from the Millers' National Federation, will train engineers for the flour milling industry through a combination of basic courses in mechanical engineering and the agricultural sciences, and specialized courses in milling design.

Because of its strategic location in one of the world's greatest flour milling centers, the University of Minnesota was selected by the Millers' National Federation to prepare engineers to cope with the mechanical problems of milling. Graduates of the course can enter the flour milling field as candidates for supervisory, plant engineering, or machine design positions, or in sales and service positions with firms which supply machinery to the industry.

Some of the new courses in the program will be taught in close cooperation with the milling industry, and will involve actual problems encountered in the mills, with the mills in Minneapolis serving in some instances as laboratories.

Graduates of the course may receive a bachelor of science degree, undesignated, as well as a bachelor of mechanical engineering degree.

School of Veterinary Medicine Established—In the fall of 1947 the School of Veterinary Medicine was established. Funds amounting to \$1,000,000 were provided by the Legislature early in the year for the purpose of expanding work in veterinary science to a full school program. The Board of Regents then created a School of Veterinary Medicine within the College of Agriculture, Forestry, and Home Economics.

Of the \$1,000,000 appropriated for the new school, the sum of \$600,000 was set aside for buildings and the balance for operational expenses during the biennium.

The entire curriculum will normally be completed in six years, the first two of which are devoted to preveterinary work in the basic sciences. The last four years are spent in specialized work in the field. The first class had 24 students enrolled.

Insurance and Retirement—A special Committee on Insurance and Retirement of the Board of Regents met December 11, 1947.

The Committee having in mind the general theory that retirement of members of the academic staff at the age of 65 instead of 68 or later is becoming the common practice, voted to approve the following changes in the University insurance and retirement plan:

1. That members of the academic staff who have rendered 25 or more years of continuous full-time service with the University be permitted voluntarily to retire on any June 30 following attainment of

age 65 with full retirement allowance. (Compulsory retirement on the June 30 following attainment of age 68 is unchanged.)

2. That any member of the staff who has rendered less than 25 years of continuous full-time service be permitted voluntarily to retire on any June 30 following attainment of age 65 on a full retirement allowance reduced by 4% for each year earlier than the compulsory retirement date.

3. That beginning July 1, 1948, all annuity contracts offered by the University have a maturity date of age 65.

4. That the present \$400 limitation representing the University's share of the annual premium be increased as follows:

For Instructors	No increase
For Assistant Professors	No increase
For Associate Professors	\$450
For Professors	\$500

5. That 20 \$1,000 units instead of 17 be mandatory, subject to the limitations imposed in (4) above.

6. That for each new member of the staff, as of June 30, 1948, the amount of group insurance be reduced \$1,000 per year beginning with age 60, to a minimum of \$5,000.

7. That the maximum total retirement allowance for instructors and research fellows be increased from \$1,000 to \$1,200 per annum but not to exceed 50 per cent of the average salary for full-time service during the five years preceding retirement.

8. That staff members of the Duluth Branch and, effective June 30, 1948, other members of the staff eligible for this retirement plan who enter University service and receive the \$10,000 group death and disability insurance after their 48th birthday receive the following retirement allowances upon retirement:

- The retirement annuity provided by the retirement contracts jointly purchased plus
- The University supplement (provided funds may permit) which would have been paid them if they had received the Group Insurance on or before their 48th birthday reduced by one-twentieth for each year later than age 48 they received the Group Insurance.

University Provision in Minnesota Constitution—The Board of Regents, at its March 12, 1948, meeting, voted to approve the following statement to be presented to the Constitutional Commission of Minnesota:

The Regents of the University recommended that the present provision relating to the University in the Minnesota Constitution be continued without change.

The present provision is Article 8, Section 4. It was in the original Constitution of the State and has continued in the same form up to the present time. It is:

"The location of the University of Minnesota, as established by existing laws, is hereby confirmed, and said institution is hereby declared to be the 'University of the State of Minnesota.' All the rights, immunities, franchises and endowments heretofore granted or conferred are hereby perpetuated unto the said university; and all lands which may be granted hereafter by Congress, or other donations for said university purposes, shall vest in the institution referred to in this section."

This provision refers to the University as already established. The first charter of the University was enacted by the Territorial Legislature in 1851. This charter vested the government of the University in a board of twelve regents elected by the Legislature; made the Board a body corporate and made it the duty of the Board to enact laws for the government of the University. Thus the charter of the University was in force when the constitutional provision was ratified in 1858.

The import of the constitutional provision was overlooked for many years. The charter was from time to time changed. The number of regents and the method of their selection were altered. The powers of the Board were modified or superseded.

In *State vs. Chase*, 175 Minn. 259 (1928) the Supreme Court of the State held that the constitutional provision perpetuated the public corporation,—the Regents of the University of Minnesota, created by the original charter and also perpetuated the rights, immunities, franchises and endowments which the original charter gave to that corporation.

Since this decision of the Supreme Court, the University has had an experience of twenty years of government under the original charter as perpetuated by the Constitution. During this period, the charter has been found adequate in every way.

Since 1928, the Board has consisted of twelve members, all elected by the Legislature in joint session. This method eliminates the danger which has been manifest in some states of political motives in the selection of the board. It is moreover highly appropriate that the Legislature which provides the support of the University should select the members of the Board which controls the expenditures of these moneys.

The constitutional provision is in accord with the traditional American policy that education at all levels should be controlled by boards specially selected for this function, and having no other duties.

University Airport—During the biennium, numerous hearings and meetings took place with the Metropolitan Airports Commission on the location of the Metropolitan Airport Terminal. The University's position on this matter was presented by the Board of Regents in October, 1947 in the following statement:

Since the University of Minnesota has its airport located in the proximity of the New Brighton site, a possible location of the future air terminal, the University of Minnesota files with the Commission the following statement:

The University of Minnesota maintains the University Airport as a facility to aid in the accomplishment of its instructional, research, and other educational objectives. The University owns the airport land and certain buildings on the land, has partial and contingent interest in certain other buildings, and has significant investments in the other airport improvements. The University requests that the Commission in its deliberations give due and proper consideration to the educational need of the University for this or an equivalent airport facility.

In the spring of 1948, the Board of Regents acted again on the airport question when it voted to authorize the vice president, Business Administration, to negotiate with the

Metropolitan Airports Commission relative to relocation of the University of Minnesota Airport under the following general terms and conditions which are approved in principle:

1. The airport will continue to be known as the University of Minnesota Airport.
2. The University of Minnesota will be granted, without charge (a) building area adequate to provide for its instructional, research, and other educational activities, and (b) access to and use of all public facilities of the relocated airport.
3. The Commission will grant the University the same rights and privileges to carry on its instructional, research, and other educational activities on the relocated site as now available on the present site.
4. The Commission will reimburse the University for expenditures made from the University funds for improvements other than buildings on the present airport; such as runways, roads, walks, and utilities which were made to adapt the present site to airport purposes.
5. The Commission will relocate the University building, with its equipment, on the new site with the foundation, sewer, water, electricity, and other utilities.
6. The Commission will make satisfactory settlements with the University lessee on the present site.
7. The University will give the Commission first opportunity to purchase the present airport site when and if it is offered for sale.
8. To expedite the proposed relocation and to avoid possible loss or lapsing of Federal funds, the Regents of the University of Minnesota at the request of the Commission will advance funds for the purchase of the approximately 280 acres needed for the presently contemplated runways and building area on the relocated site provided the Commission agrees to reimburse the University for such advance as soon as possible.

In regard to obtaining the 280 acres of land needed, the Regents voted to approve the following resolution:

That pursuant to the laws of the State of Minnesota, the Regents of the University of Minnesota have duly determined that it is necessary to take, in fee simple absolute, for the purpose of the University of Minnesota, as an addition to the University of Minnesota Airport facilities, those certain lands situate in the County of Anoka and State of Minnesota, which are hereinafter described, and hereby request the Attorney General to institute and prosecute, in the name of the Regents of the University of Minnesota, or the State of Minnesota, or both, proceedings in the district court in accordance with the statutes in such case made and provided for the taking and condemnation of said lands, in fee simple absolute, under the power of eminent domain; and it is necessary that said lands be so taken by the Regents of the University of Minnesota for the purposes hereinbefore set forth.

Approximately 300 acres of land located in Section thirty-four (34), Township thirty-one (31) North, Range twenty-three (23) West, Anoka County, Minnesota.

River Flats—A meeting of the Special Committee of the Regents to consider the acquisition of the "River Flats" was held on Thursday, April 8, 1948.

The following representatives of the Minneapolis Park Board met with the Special Committee of the Regents to consider the acquisition of the "River Flats" by the University: Commissioners Quist, Gross, Chalgren, Mrs. Armitage, Stanchfield, Leonard Johnson, Paul C. Johnson, Clifford C. Peterson, and McCarthy, Superintendent Doell, and Secretary Moore.

After a statement of the purpose of the meeting by Regent Wood, President Morrill outlined the building and campus expansion plans of the University. Commissioner Quist and Superintendent Doell indicated in a general way the plans for the use of the "River Flats" by the Park Board. After discussion it was agreed that a group of representatives of the Park Board would meet with a like group of the University in an attempt to reconcile the development plans of both the Park Board and the University for this area. Regent Wood having reported on the meeting of the Special Committee of the Board with representatives of the Park Board, voted to authorize a meeting of representatives of the University with representatives of the Park Board in an endeavor to canvass the possibilities of reconciling the development plans of the Board of Regents and the Park Board for the "River Flats" area.

Honorary Degrees—At its April 9, 1948 meeting the Board of Regents voted to approve the following statement on policy for awarding honorary degrees, as submitted to the president by Dean Everett Fraser, chairman of the Committee on Honorary Degrees:

Based upon the experience of other institutions the Board of Regents adopts the following regulations relative to the granting of honorary degrees by the University of Minnesota:

1. 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 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.
2. While the degree-giving power is unquestionably in the hands of the Board of Regents, the Board, following the experience of other institutions and recognizing that a joint responsibility rests upon

the Board of Regents and the faculty in the granting of degrees of whatever character, hereby provides that honorary degrees shall be conferred only when recommendations are made:

- a. Upon nomination by the Administrative Committee of the Senate and approval by the Board of Regents.
- b. Recommendations shall be brought to the Administrative Committee of the Senate. The Administrative Committee shall consider the qualifications of the candidates and draw up the official lists which shall be recommended to the Board of Regents for the degrees.

The Committee on Honorary Degrees understands that the Administrative Committee may act through a subcommittee, but in such case, the subcommittee shall report to the Administrative Committee, which shall itself approve the official lists which shall be recommended to the Board of Regents.

The Committee on Honorary Degrees further submitted to the president an interpretation with respect to the proposed policy governing the award of academic degrees, which interpretation was endorsed by the Regents, as follows:

It will be noted that the policy as proposed in (1) above is broader than the actions taken in the past. The Committee on Honorary Degrees has itself restricted its recommendations to:

1. Persons who have rendered distinctive service to the University.
2. Persons who have rendered distinctive public service to the State of Minnesota.
3. Graduates or former students of the University who have achieved distinction although their postgraduate careers may have been wholly outside the state.

The Committee finds that all recommendations made in the past have fallen into one or another of these three categories.

The Committee proposes that this restrictive policy should be continued and that its recommendations for honorary degrees should be limited in number and to persons within these three categories. On the other hand, the Committee believes that it should not be precluded in a special case from recommending a person of distinction in the United States or from a foreign country who does not come within any of the above three categories. In making such a recommendation the Committee should call attention to the departure in the particular case.

Radio and Television Policy—Prior to the Board of Regents meeting of June 12, 1948, President Morrill submitted a statement on the University's radio and television policy to the Regents. This reads in part as follows:

Over the years, certain practices have developed on the campus with respect to relationships with the commercial radio stations—primarily those in the Twin Cities area. The relationships with the commercial stations involve requests made of staff members to participate in programs or to assist in the preparation of programs. In some instances, the name of the University might be involved. The relationships, however, extend beyond participation by individual staff members and include requests for the use of University facilities. There have been occasions when stations have asked that certain programs be permitted to originate on the campus. Likewise, because of the general interest in certain University activities, there have been numbers of requests to broadcast such activities.

While initially one might take the position that the University name should not be associated under any consideration with sponsored programs, in practice such a position would be hard to maintain. Nor is it clear that it would be for the best interests of the University. Radio is an exceedingly effective device for carrying ideas, information, and attitudes to the people of the state. One thinks, for example, of the excellent program of Land O'Lakes on which, day by day, agricultural material of considerable importance is broadcast.

In view of this, President Morrill appointed a small committee to study the problems involved and formulate a policy which would be acceptable to all groups, including Twin Cities radio stations.

The resulting policy was acceptable and contained a great many advantages administratively. It followed in many ways the past policy adopted by the Board of Regents regarding the use of University buildings by noncampus groups. That policy was framed with sufficient definiteness, and yet left a margin of flexibility. In the same way, the radio policy provided a guiding framework that is clear and definite, and which had a certain amount of flexibility that met the interests of public service. An abbreviated statement of the policy follows:

A. On-campus radio programs which are acceptable to the University of Minnesota and serve its educational objectives may be broadcast from the University campuses. Such broadcasts may be of two types: (a) a program produced solely by an outside organization which furnishes its own talent and specializes in its own particular type of program, or (b) a program in which a radio station or an eleemosynary or nonprofit-making organization desires to utilize University events as the content of the program. All such broadcasts shall be subject to at least the following conditions:

1. The program participants and the program script shall be approved in advance and in writing by the University of Minnesota as acceptable to it. In those events where program scripts are not feasible then the broadcast outline must be approved as above.
2. The University shall be the sole judge of the acceptability of the programs.
3. No broadcast from a University campus shall place the University in a position of endorsing or opposing any candidate for political office, or the principles, platforms, or objectives of any political party, or of any religious organization, or of any special interest, commercial or otherwise.
4. When University events are involved, the station must agree to take not less than the minimum program unit which in the judgment of the University of Minnesota can be properly and advantageously broadcast.
5. The listening audience must be informed that the program being broadcast is presented through the courtesy of the University of Minnesota. This information must be conveyed in statements made at the beginning and at the end of each broadcast and at any break-in point for station identification during the broadcast.

6. Once approval has been given by the University, no changes in the script, in the program outline, or in the participants, or in any other manner may be made without the express approval of the University.
 7. Normally, the radio station or eleemosynary or nonprofit making organization shall assume all financial and other obligations involved and shall arrange in advance to reimburse the University for any expenses incurred by the University in making programs available.
 8. Normally, no staff member or student of the University shall receive any individual remuneration for participation in any sustaining program originating on a campus of the University.
 9. Whenever feasible, all radio stations in the area generally served by the University will be notified of major events on the campuses of the University and the conditions under which these events are offered through the radio stations to the general public. The University reserves the right to allocate its facilities on a priority basis.
 10. Each of the above conditions shall remain in full force and effect even when only a portion of a commercial program is made up of a University event, or originates on a campus of the University.
 11. If in the judgment of the University there occurs any infringement of the above or other conditions imposed, the University may cancel an approval already given and suspend or withdraw broadcasting privileges from any offending station.
- B. Off-campus radio programs which are acceptable to the University of Minnesota may be participated in by University personnel when the programs originate from places other than the University campuses under the following conditions:
1. Staff member participation in a commercial program must receive Regents' approval if remuneration is involved or if the activity might encroach upon the time that the staff member is expected to devote to the University.
 2. Student participation in such programs, either as individuals or as groups, is subject to the guidance and approval, within the framework of University policy, of the dean of students, if the name of the University of Minnesota is involved.
 3. No broadcast involving University staff members or students shall place the University in a position of endorsing or opposing any candidate for political office, or the principles, platforms, or objectives of any political party, or of any religious organization, or of any special interest, commercial or otherwise. The participation must be that of one who is speaking or acting as an individual without committing the University with which he is identified, and with the further proviso, moreover, that no staff member or student may endorse, directly or indirectly, any product by any testimonial recommendation, or advocacy, or be put in the position of appearing to do so on any program in which the name of the University of Minnesota is spoken or mentioned.

New Chimes Dedicated—The first and dedicatory recital of the University's new carillon bells took place on the evening of October 8, 1948. Arthur Lynds Bigelow, bellmaster of Princeton University, played the 61 Flemish chimes in a program which was heard over the campus. Alexander McCurdy, head of the Organ Department at the Curtis Institute of Music in Philadelphia, demonstrated the use of the English carillons.

The recital was given at Northrop Auditorium in recognition of the appreciation felt by the University staff and students for the gift of the bells. The entire carillon of bells was given to the University by H. Rowatt Brown of Minneapolis as a memorial to his wife.

Mr. Brown's gift also included sending Paul M. Oberg, chairman of the Music Department and campus carillonneur, to Princeton to study and learn how to play the bells under the direction of Mr. Bigelow.

Two Alumni Receive Honorary Degrees—In recognition of their outstanding achievements in their respective fields, two distinguished graduates of the University of Minnesota were honored by the University at the commencement exercises in Memorial Stadium on June 14, 1947. The honorary degree of doctor of science was conferred upon Arville Irving Levorsen '17, dean of the School of Mineral Sciences at Stanford University, and Herman Haupt Chapman '96, Yale University professor-emeritus of forestry.

Professor Chapman, who has been on the staff of Yale University since 1906, received his first and second degrees, bachelor of science in 1896, and bachelor of agriculture in 1899, from the University of Minnesota. He was awarded the degree of master of forestry at the Yale Forestry School in 1904.

Appointed superintendent of the state agricultural station at Grand Rapids, Minnesota, in 1898, Professor Chapman retained that post until he joined the United States forestry service in 1904. Two years later he became a member of the Yale Forestry School staff. After serving as Harriman professor of forest management at Yale from 1911 to 1943, he was named professor-emeritus.

President of the Geological Society of America and past president of the American Association of Petroleum Geologists, Dean Levorsen holds the degree of engineer of mines (in geology) awarded by the University of Minnesota in 1917.

After serving overseas with the 27th Engineers during World War I, he served as geologist and later as chief geologist for various oil companies. From 1936 until his appointment to the Stanford faculty in 1945, he was an independent research geologist and consultant in Tulsa, Oklahoma.

Variety Club Gives Heart Hospital Funds—A unique event in the history of the University of Minnesota took place September 23, 1946, when the Variety Club of the Northwest, an organization made up largely of people in the theater business, presented to the University a sum of more than \$250,000 for the construction of a hospital unit to be devoted to heart patients and to research especially into rheumatic fever and resultant heart disorders.

The structure will be called the Variety Club Heart Hospital and that club has pledged itself to raise \$25,000 a year toward its support.

The Variety Club Heart Hospital will be a part of the present group of University Hospitals.

Depending on building costs and additional funds available over and above the Variety Club's gift, it will provide up to 100 beds, divided half and half between patients up to 16 years of age and patients above that age.

The gift was made during colorful ceremonies at a banquet in the ballroom of Coffman Memorial Union. The Variety Club brought the famous humorist, Fred Allen, to Minneapolis to act as master of ceremonies. Allen was introduced by William Elson of the Variety Club and he in turn introduced Governor Thye, Mayor Humphrey of Minneapolis, William McCraw, national executive director of Variety Clubs, Dean Harold S. Diehl of the Medical School and Robert O'Donnell, national chief barker of the Variety Club.

Arthur W. Anderson, chief barker of the Variety Club of the Northwest, then made a speech of presentation and turned the check for the fund over to President J. L. Morrill, who responded on behalf of the University of Minnesota.

University Press Marks Twentieth Anniversary—During the biennium the University of Minnesota Press celebrated two anniversaries in March, 1947—its twentieth birthday and the twentieth anniversary of the association with the Press of Margaret S. Harding, its director. Mrs. Harding was the first woman in this country, and perhaps in the world, to direct a university press, and her contributions to creative publishing are widely known.

With the immediate needs of the University of Minnesota in the foreground, but mindful also of the timeless and international nature of scholarship, President Lotus D. Coffman in 1925 drafted, and the Board of Regents adopted, the resolutions which became the charter of the University of Minnesota Press.

On March 1, 1927, the Press began operations with Mrs. Harding as editor. Her staff consisted of a student helper, a student shipping clerk, and a part-time accountant. Today Mrs. Harding's staff consists of fifteen full-time and eight part-time employees, with new quarters in Nicholson Hall.

University Gets Grant of \$24,000,000—In an action which President J. L. Morrill has said "brings rescue to the University in time of serious crisis," the 1947 State Legislature made the largest appropriations in history for maintenance and special projects of the University of Minnesota, and also provided for the construction of more than \$7,000,000 in buildings during the two years July 1, 1947-June 30, 1949.

Total maintenance appropriations for the present University of Minnesota come for the two years to \$16,674,496, including an estimated \$250,000 a year from the statutory 23/100 millage tax. For maintenance and physical plant at the Duluth State Teachers College, now a part of the University of Minnesota, \$545,630 was appropriated, plus an additional sum to be mentioned under building funds. For the so-called special appropriations, including maintenance of the University of Minnesota Hospitals and the Psychopathic Hospital unit, a total for the two years of \$2,236,000 was voted. Sum of the three major items comes to \$19,456,126 for the two-year period.

Implicit in the increased appropriations were salary increases for both the teaching staff and the Civil Service employees. A new classification of the latter had been made by the Department of Civil Service Personnel. Contrary to an earlier rumor, these increases were not retroactive to January 1, 1947, but started on July 1. The maintenance funds were also to be used to offset the increased cost of supplies, materials, and equipment that has been universal.

Building appropriation figures amounted to \$7,187,000 for the biennium, which sum included \$480,000 for construction, improvement, and equipment at branch Schools of Agriculture.

For buildings on the Minneapolis Campus \$4,955,000 was appropriated for the two years, of which \$375,000 a year was an addition to the sum previously voted to help build the Mayo Memorial building of the Medical School. For the remainder of the Minneapolis Campus building appropriation, the proviso was made that priority be given to the chemical engineering building, a classroom building, the mechanical-aeronautical engineering build-

ing, for which \$1,469,000 had been voted for two preceding sessions of the Legislature, and improvements of the Minneapolis Campus heating plant.

For buildings on the St. Paul Campus the Legislature voted \$1,560,000 for the biennium, providing for the construction of buildings for animal and poultry husbandry, veterinary science, and home economics, with priority given to the first two mentioned above any other buildings.

The state has now appropriated \$1,500,000 toward the Mayo Memorial, more than \$1,100,000 was raised in gift subscriptions toward it in the original campaign, and a final campaign to raise the \$340,000 needed to complete it is now under way.

New Art Department—The University acquired a new department of art during the biennium, after nearly 20 years of planning.

The present department is actually a "reorganization of the old," not a new one. It combines courses which used to be handled by three departments—the Fine Arts and Art Education departments and the Institute of Technology.

The result of all this change has been a greater degree of cooperation between the departments. The colleges which had these courses can now operate with greater specialization, teaching only in their field.

Professor H. H. Arnason, chairman of the Department of Art, is the man responsible for this reorganization. He is a former professor at Northwestern and Chicago universities and also has worked for the United States Department of State.

The University Gallery, started 30 years ago, has also joined the Art Department. In the new set-up it is able to associate exhibitions more closely with material taught in classes.

Religious Coordinator—In recognition of the importance of religious work on the campus, the Regents of the University of Minnesota, in the fall of 1947, voted to create the position, "Coordinator of Students' Religious Activities," to become a functioning agency in the Office of the Dean of Students. The position also carries with it the faculty rank of associate professor. As a symbol of public interest in this pioneering work, interested churchmen in St. Paul and Minneapolis agreed to contribute to the University sufficient funds to defray the expenses of the program during its first two years. Edmund G. Williamson, dean of students, acting in close cooperation with the directors of religious foundations on the campus, called to the position Henry E. Allen, Ph.D., of Bronxville, New York, former president of Keuka College, Keuka Park, New York. Dr. Allen is not a clergyman, but has specialized in comparative religions, stressing particularly a sociological approach to religious matters. It was emphasized that the new post is not that of a civilian chaplain but its function is comparable to that of coordinator of student activities.

Four Regents Re-elected—All four members of the Board of Regents whose terms expired February 4, 1947, were re-elected by a joint session of the 1947 Legislature.

Re-elected were Albert J. Lobb, Rochester; Fred B. Snyder, Minneapolis; Sheldon V. Wood, Minneapolis; J. S. Jones, St. Paul.

The four Regents serve six-year terms, expiring in February, 1953. The joint session acted upon recommendations of the senate and house University committees.

New Staff Magazine—The first edition of *The Minnesotan*, a monthly publication for staff members of the University of Minnesota, was published October 20 by the Department of University Relations.

Eight issues of the 20-page magazine are published during the school year. The magazine is mailed to all academic and Civil Service staff members of the University.

Pictured on the cover of the first issue were views of the Minneapolis and St. Paul campuses of the University from the air. A calendar of University events was featured on the inside front cover, while the inside back cover was designated as "The President's Page" and contained a message to the staff from President Morrill.

"University Week"—Statewide observance of the first annual "University of Minnesota Week," proclaimed by Governor Luther W. Youngdahl and sponsored by the Minneapolis Junior Chamber of Commerce with the cooperation of the University's staff, students and alumni, began February 15, 1948.

Throughout the state during the week local chapters of the Junior Chamber sponsored meetings of civic leaders at which University benefits to the state were described by University staff members. Such meetings were held in St. Paul, Duluth, Stillwater, Fergus Falls, Moorhead, Owatonna, Thief River Falls, Crookston, Detroit Lakes, Mahanomen, Redwood Falls, and Fertile.

Numerous radio programs featuring the various services performed by the University were broadcast by Minnesota radio stations.

On the University Campus, open houses were held in many schools, colleges, and departments, and University students were invited to open houses in several Twin Cities industrial plants. Downtown store windows in Minneapolis and St. Paul displayed exhibits prepared by several University divisions.

Labor Negotiations—At various times during the biennium, the University entered into talks and negotiations with Union officials regarding retroactive pay and collective bargaining. During the period of negotiations, many rumors and reports were circulated, reflecting unfairly on the University. To clear up this matter, President Morrill sent out two letters to all Civil Service staff members, stating the University's position. The first letter said, in part :

[In regard to] the question of retroactive pay . . . here are the facts: University officials met with Union officials in the early part of January, 1947. These meetings were friendly and forthright. Prior to these meetings, the University had already prepared a request to the Legislature for funds to increase substantially the wages of its Civil Service employees. Most employees knew about this. . . .

The Union [then] asked for further increases effective back to July 1, 1946 [and] University representatives agreed . . . to recommend to me and the Board of Regents that the University request funds from the Legislature for certain further increases and for retroactive pay to January 1, 1947. Both of these proposals were *definitely and expressly subject to approval of the President and the Regents and to the appropriation of the necessary additional funds by the Legislature.*

In the middle of the Legislative session [it] became plainly apparent . . . that there would be no retroactive pay. [However, a bill was introduced] providing for higher wage scales . . . than those requested. . . . University officials conferred with [Union officials] and it was the consensus that it would be better for the University to try to get the proposed new state scale than for the University to . . . press for retroactive pay and the previous lower salary schedule.

Thus the facts are simple. The University [did its part] and a new plan was worked out . . . which provided . . . employees a better wage and salary plan than [originally] called for.

On the question of a collective bargaining contract, President Morrill sent a second letter, which reads in part :

In this letter I wish to discuss with you . . . the demand by the Union for a signed collective bargaining contract. . . . The University has rejected . . . and must continue to reject this demand. . . . This does not mean that demands for changes in wages, hours, and working conditions will not be considered . . . and be put into effect where reasonable and possible. It does mean that . . . such changes should be made by revision of the Civil Service rules . . . rather than by the contract method used in private industry.

A few years ago when this same [collective bargaining] issue arose, the University submitted the . . . contract to the Attorney General . . . and asked him whether that agreement could be entered into by the University. The Attorney General ruled that the University could not enter into that contract.

The Regents . . . and I have given a lot of careful thought to this question . . . [and] as a result, a set of proposals was worked out which has been submitted to the Unions and which I shall recommend for adoption by the Regents. I believe sincerely that these proposals should be approved . . . put into operation . . . and given a fair trial.

[These proposals] provide for many new—and perhaps startling—changes . . . modeled after the very best practices of the most liberal and advanced public agencies in the country. [They] provide for a method of determining collective bargaining representatives . . . [and] recognize that there may be a disagreement between the Unions and the University. . . . The proposals further call for fullest participation by the Unions in the recommendations the University makes to the Legislature each biennium regarding wages, hours and conditions of work . . . [and] a new grievance procedure and the final settlement of any unsettled grievance by an outsider agreeable to the parties to the dispute or to their representatives.

I sincerely believe that those responsible for preparing these proposals have definitely developed a workable arrangement between collective bargaining on the one hand and Civil Service on the other. . . .

After Union officials and University representatives had conferred at length and reached a mutual understanding on the foregoing questions, the Board of Regents, meeting in June, 1948 voted to adopt a general policy on collective bargaining, the main provisions of which are :

1. The Regents of the University of Minnesota, mindful of their responsibilities for the determination of basic policies of the University, are desirous of maintaining close and cordial relationships between the principal officers, department heads, and supervisory employees on the one hand, and the Civil Service employees on the other hand.

2. Of necessity, certain distinctions must be made between employees of a state and public agency, such as the University of Minnesota, and employees of private industry. Among these is the basic requirement that employment be open to all qualified citizens of the state on a competitive basis.

The Regents recognize the right of any Civil Service employee to belong to any union or other labor organization of his own choosing. Membership or nonmembership in such a union or organization cannot be a condition of employment at the University.

No inquiry shall be made by the Office of the Director of Civil Service Personnel, which recommends appointments of all Civil Service employees, or by any member of the supervisory force as to the union affiliation or nonaffiliation of an applicant for a position, or of any employee already on the payroll, and there shall be no discrimination because of union affiliation or nonaffiliation.

There shall be no intimidation or coercion of any employee by the University, or by an employee, or by any union or other labor organization to join or to refrain from joining a union or to continue or discontinue membership therein or to designate or to refuse to designate a union or other labor organization as a representative of such employee.

The Regents recognize the right of a majority of the employees in any appropriate unit of the University to select a representative, which may be a union or other labor organization to be the sole

representative for such unit in all matters of wages, hours, and other conditions of employment and authorize the Office of the Director of Civil Service Personnel to recognize such representative when so selected.

3. Hours, wages, and conditions of work are set forth in the Civil Service Rules and the Civil Service Classification and Compensation Plan, and changes therein are initially made by the Civil Service Committee subject to final approval by the Board of Regents. Such changes are made only after notice and hearings at which time representatives from the appropriate departments of the University including the Office of the Director of Civil Service Personnel as well as employees and representatives of the employees are invited to appear and to discuss the proposed changes.

4. The Regents are aware of the fact that in the cities of Minneapolis and St. Paul the wages, hours, and other conditions of employment of certain of the so-called skilled trades are governed by master or uniform contracts. The Regents are aware that some of the employees of the University are employed in these identical trades and that these employees desire to have their wages, hours, and other conditions of employment conform to the provisions of such master or uniform contracts. The Regents wish to meet this desire as far as possible. However, this practice is possible only in those classifications where the amount of work can be reduced to keep increased labor costs *within fixed budgetary limitations* without adversely affecting day to day operations. To this end, the Office of the Director of Civil Service Personnel is authorized to report periodically to the Regents, after consultation with employees in these trades and representatives of their unions, with recommendations as to which trades can be designated by the Regents as falling into this category.

Upon the receipt of this report and recommendation the Regents will determine the classifications for which the Civil Service Committee will equalize the wages, hours, overtime, holidays, vacations, and sick leave with the provisions of the so-called uniform or master contracts existing in the cities of Minneapolis and St. Paul.

5. Of necessity, the University as a state and public institution must operate on the basis of a University budget submitted to and appropriations made by the State Legislature in each biennium.

No budget estimates for a biennium will be completed until the recognized representatives of University employees have been afforded an opportunity to negotiate with the Office of the Director of Civil Service Personnel on wage rates and other conditions of employment affecting cost of operation during such biennium. All requests from such unions for changes to become effective for the next biennium must be submitted . . . not later than July 1 in the year preceding the biennium.

6. The Regents desire that there be a standard and acceptable method of settling grievances which may arise between the University and any Civil Service employee out of the interpretation of or adherence to the Civil Service Rules or the Civil Service Classification and Compensation Plan. Any such grievances which cannot be satisfactorily settled between the parties shall be referred to arbitration. One arbitrator shall be appointed by the employee or his authorized representative and one shall be appointed by the Regents. The two arbitrators so appointed shall appoint the third arbitrator, and if the two cannot agree, the third arbitrator shall be appointed by the Governor of the State of Minnesota. The arbitrators shall ascertain the facts involved in the dispute. The Civil Service Rules and the Civil Service Classification and Compensation Plan shall be applied by the arbitrators to the facts so determined, and they shall issue a written decision in the dispute. The decision of a majority of the arbitrators shall be final and binding upon the University and the employee and his representative.

Any employee of the University who desires to do so may represent himself in grievance matters and shall have the right to discuss with the appropriate University official the terms of his employment or his working conditions, including his classification under the Civil Service, but no individual agreement shall be made on a grievance or on any other matter which gives to the individual employee an advantage or a more favorable position than given to an employee who elects to be represented by a union. The disposition of a grievance presented by an employee individually will be forwarded to the representative of the employees in the unit in which such individual employee is employed, if a sole representative has been selected in such unit.

COMMITTEE ON UNIVERSITY FUNCTIONS

The following special convocations and other functions were held during the biennium under the auspices of the Committee on University Functions:

1946-47:

- July 25: Summer Session (first term) commencement exercises—George A. Selke, B.A.(Ed.) 1916, chancellor of the University of Montana, "Problems of World Citizenship"
- August 29: Summer Session (second term) commencement exercises—Bernhard M. Christensen, president, Augsburg College and Theological Seminary, "Our Chance of the Prize"
- October 3: Opening convocation—James Lewis Morrill, president of the University, "Time of Test and Trial"
- December 19: Fall quarter commencement exercises—Reuben G. Gustavson, chancellor, University of Nebraska, "Science, Religion, and the Future of Mankind"
- March 20: Winter quarter commencement exercises—Frederick L. Hovde, B.Ch.E. 1929, Minnesota, president, Purdue University, "Ideas for Individuals"
- May 15: Cap and Gown Day convocation—Stephen D. Hise, president of the Senior Cabinet, "Presentation of the Class of 1947"; James Lewis Morrill, president of the University, "Knowledge for Use"
- June 8: Baccalaureate service—The Reverend Russell Henry Stafford, B.A. 1912, Minnesota, president, The Hartford Seminary Foundation, "The Habit of Thinking"
- June 14: Commencement exercises—Malcolm M. Willey, vice president, Academic Administration, "Charge to the Class"

Special Occasions

November 16: Dads Day—Dads Day at the University is held during the football season. Fathers of University students are invited to attend a game and also a dinner. In 1946 the Iowa game was chosen. The dinner was held in the ballroom of the Coffman Union. Eldridge C. Dreher, president of the All-University Student Council, welcomed the dads to the University; Morris Bve, superintendent of schools at Anoka, responded for the dads; Edward F. Flynn, president of the Dads Association, made a report for the Association; President Morrill, the principal speaker, talked about the needs and program of the University. There were approximately 800 in attendance.

- May 10: Mothers Day—Mothers of students were invited to come to the University during the day and visit classes and other places of interest with their sons and daughters. In the evening they attended a dinner in the ballroom of the Coffman Union. Jeanne Allen, president of the All-University Student Council, welcomed the mothers to the campus; Mrs. M. W. Knoblauch responded. Malcolm M. Willey, vice president, Academic Administration, represented President Morrill who was absent from the city. There were over 1,200 present.
- June 19: Graduation exercises, Course in Applied Mortuary Science—The exercises were held in the Museum of Natural History at 8:30 p.m. J. O. Christianson, superintendent, School of Agriculture, and director, Agricultural Short Courses, gave the address. F. Lloyd Hansen, head, Correspondence Study Department, and director, Course in Applied Mortuary Science, presided and conferred the certificates.

Honorary Degrees

- June 14: At the commencement exercises in the Stadium the honorary degree of doctor of science was conferred on Henry Haupt Chapman, B.S. 1896, B.Agr. 1899, University of Minnesota; M.F. 1904, Yale University, professor emeritus, Farm Management, Yale University; and Arville Irving Levorsen, E.M. in Geology 1917, University of Minnesota, dean of the School of Mineral Sciences, Stanford University.

1947-48:

- July 24: Summer Session (first term) commencement exercises—Clemens M. Granskou, president, St. Olaf College, "The Battle of Education"
- August 28: Summer Session (second term) commencement exercises—Frank G. Boudreau, executive director, Milbank Memorial Fund, "Looking Forward"
- October 2: Opening convocation—James Lewis Morrill, president of the University, "The Trumpet's Uncertain Sound"
- December 18: Fall quarter commencement exercises—George D. Stoddard, president, University of Illinois, "Education and the Mid-Century Man"
- March 18: Winter quarter commencement exercises—Ernest C. Colwell, president, University of Chicago, "Education Is Not Enough"
- May 13: Cap and Gown Day convocation—Edward Graves, president of the Senior Cabinet, "Presentation of the Class of 1948"; Everett Fraser, dean of the Law School, "The Domain of Law"
- June 6: Baccalaureate service—Dr. John M. Phillips, pastor, First Congregational Church, Duluth, Minnesota, "The Ten Million Dollar Debtor"
- June 12: Commencement exercises—James Lewis Morrill, president of the University, "Charge to the Class"

Special Occasions

- November 1: Dads Day—Fathers of University students were invited to attend the football game with Pittsburgh and the dinner following the game. The dinner was held in the ballroom of the Coffman Union. Norman Groth, president of the All-University Student Council, welcomed the dads to the University; Coach Bernard W. Bierman responded. President Morrill was the principal speaker. There were approximately 700 in attendance.
- May 8: Mothers Day—Mothers of students were invited to spend the day at the University and visit classes and other places of interest. In the evening a dinner was held in the ballroom of the Coffman Union. Billie B. Hull, president of Associated Women Students, welcomed the mothers to the campus. Mrs. A. V. Barquist of St. Paul responded. Dean Edmund G. Williamson was the principal speaker. The attendance was approximately 600.
- June 18: Graduation exercises, Course in Applied Mortuary Science—The exercises were held in the ballroom of the Coffman Union at 7:00 p.m. The Honorable Hubert Humphrey, mayor of Minneapolis, gave the address. Dean J. M. Nolte presided and conferred the certificates. Following the commencement exercises a reception was held.

ERNEST B. PIERCE, chairman, Committee on University Functions

UNIVERSITY PERSONNEL.

CHANGES IN THE BOARD OF REGENTS

The 1947 Legislature reappointed to six-year terms expiring in February, 1953, the four members of the Board of Regents whose terms expired in February, 1947. The four are: J. S. Jones, St. Paul; Albert J. Lobb, Rochester; Fred B. Snyder, Minneapolis; and Sheldon V. Wood, Minneapolis.

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:

1946-47

- Samuel Colville Lind, dean and professor emeritus, Institute of Technology (1926-47).
William Frederick Braasch, professor emeritus of urology, Mayo Foundation (1915-47).
Edward Gheen Cheyney, professor emeritus of forestry, College of Agriculture, Forestry, and Home Economics (1905-47).
Alvin Sayles Cutler, professor emeritus of civil engineering, Institute of Technology (1907-47).
Herbert Ziegler Giffin, professor emeritus of medicine, Mayo Foundation (1915-47).
Florence Laura Goodenough, professor emeritus, Institute of Child Welfare (1927-47).
Cecil Albert Moore, professor emeritus of English, College of Science, Literature, and the Arts (1917-47).
Marbury Bladen Ogle, professor emeritus of classics, College of Science, Literature, and the Arts (1934-47).
Ruth Raymond, professor emeritus of art education, College of Education (1918-47).
Robert Meyer, clinical associate professor emeritus of obstetrics and gynecology, Medical School (1939-47).
John Peter Schneider, clinical associate professor emeritus of medicine, Medical School (1915-47).
Charles Howard Dow, assistant professor emeritus of civil engineering, General Extension Division (1918-47).
Charles Doney Freeman, clinical assistant professor emeritus of dermatology, Medical School (1913-47).
Frederick Leroy Smith, assistant professor emeritus of surgery, Mayo Foundation (1922-47).
Hall Brewer White, assistant professor emeritus of agricultural engineering, College of Agriculture, Forestry, and Home Economics (1903-47).
Julius August Felt, instructor emeritus, West Central School and Experiment Station, Department of Agriculture (1918-47).

1947-48

- Donald C. Balfour, director emeritus, Mayo Foundation since October 1, 1947 (1937-47); (continues as professor of surgery, Mayo Foundation).
Everett Fraser, dean emeritus, Law School (1917-48).
Royal Russ Shumway, assistant dean and professor emeritus, College of Science, Literature, and the Arts (1903-48).
Ernest Boynton Pierce, director of alumni relations emeritus (1904-48).
Leon Eugene Arnal, professor emeritus, School of Architecture (1919-48).
Joseph Warren Beach, professor emeritus of English, College of Science, Literature, and the Arts (1900-48).
Roy Gillispie Blakey, professor emeritus of economics, School of Business Administration (1915-48).
William Henry Bussey, professor emeritus of mathematics, College of Science, Literature, and the Arts (1907-48).
Darrel Haug Davis, professor emeritus of geography, College of Science, Literature, and the Arts (1923-48).

- Albert Martin Field, professor emeritus of agricultural education, College of Education (1918-48).
- Robert O. Green, clinical professor emeritus, School of Dentistry (1908-48).
- Frank Fitch Grout, professor emeritus of geology and mineralogy, College of Science, Literature, and the Arts (1907-48).
- Carl Albert Herrick, professor emeritus of mathematics and mechanics, Institute of Technology (1918-48).
- William Carpenter MacCarty, professor emeritus of pathology, Mayo Foundation (1915-48).
- Wilford Stanton Miller, professor emeritus of educational psychology, College of Education (1916-48).
- Frank Miller Rarig, professor emeritus of speech, College of Science, Literature, and the Arts (1908-48).
- Cornelia Kennedy, associate professor emeritus of agricultural biochemistry, College of Agriculture, Forestry, and Home Economics (1908-48).
- Julia Olive Newton, associate professor emeritus—state home demonstration leader, Agricultural Extension Division, Department of Agriculture (1919-48).
- James Martin Hayes, clinical associate professor emeritus of surgery, Medical School (1921-48).
- Leonard Francis Boon, assistant professor emeritus of civil engineering, Institute of Technology (1921-48).
- William Leslie Patterson, professorial lecturer emeritus in neuropsychiatry, Medical School (1937-48).

CHANGES IN THE FACULTIES

RESIGNATIONS, 1946-47

- Ralph E. Montonna, assistant dean, Graduate School; professor of chemical engineering; and director, Minnesota Institute of Research; effective November 30, 1946, to accept a position at Syracuse University.
- Theodore Brameld, professor, College of Education, effective at the close of 1946-47, to accept a position as professor of education, New York University.
- Samuel N. Dicken, professor of geography, College of Science, Literature, and the Arts, effective June 15, 1947, to accept a position as head, Department of Geology and Geography, University of Oregon.
- Smith Freeman, professor of physiological chemistry, Mayo Foundation, effective January 31, 1947.
- Charles A. Koepke, professor of mechanical engineering, Institute of Technology, effective at close of 1946-47, to remain in industrial engineering work.
- John R. Paine, professor of surgery, Medical School, effective June 30, 1947, to become professor of surgery, University of Buffalo Medical School and chief, Department of Surgery, Buffalo General Hospital, New York.
- Konstantin Reichardt, professor and chairman, Department of Linguistics and Comparative Philology, College of Science, Literature, and the Arts, effective June 15, 1947, to accept a position at Yale University.
- Robert P. Sharp, professor of geology, College of Science, Literature, and the Arts, effective June 15, 1947, to accept a position as professor of geomorphology, California Institute of Technology.
- Joseph O. Baker, clinical associate professor, School of Dentistry, effective at close of 1946-47, on the advice of his physician.
- Russell C. Brinker, associate professor of civil engineering, Institute of Technology, effective at close of 1946-47, to accept position at the University of Southern California.
- Alice Clendening, associate professor, School of Social Work, effective June 15, 1947, to accept a position at the University of Michigan.
- Walter B. Cline, associate professor of anthropology, College of Science, Literature, and the Arts, effective at close of 1946-47, on account of health.
- C. Stacy French, associate professor of botany, College of Science, Literature, and the Arts, effective June 15, 1947, to become director, Division of Plant Biology, Carnegie Institution of Washington, Stanford University.
- Lee A. Harker, clinical associate professor, School of Dentistry, effective at close of 1946-47, to devote all his time to private practice.
- Alan Holske, associate professor of German, College of Science, Literature, and the Arts, effective June 15, 1947, to accept a position at Brown University.

- Chester A. Hughes, associate professor of civil engineering, Institute of Technology, effective at close of 1946-47, to accept a position at Purdue University.
- Alex S. Levens, associate professor of drawing and descriptive geometry, Institute of Technology, effective at close of 1946-47, to continue his work at University of California.
- Curtis J. Lund, associate professor of obstetrics and gynecology, Medical School, effective at close of 1946-47, to accept the headship, Department of Obstetrics and Gynecology, Louisiana State University Medical School.
- Charles Peterka, clinical associate professor, School of Dentistry, effective December 15, 1946.
- Raymond F. Sletto, associate professor of sociology, College of Science, Literature, and the Arts, effective June 15, 1947, to accept a position at Ohio State University.
- Edward B. Tuohy, associate professor of anesthesiology, Mayo Foundation, effective June 30, 1947, to accept a position at Georgetown University School of Medicine.
- Julio N. Berrettoni, assistant professor, School of Business Administration, effective at close of 1946-47, to return to Iowa State College.
- Frank L. Bryant, clinical assistant professor of ophthalmology and otolaryngology, Medical School, effective April 9, 1947, to join a clinic group in Shreveport, Louisiana.
- Walter Cerf, assistant professor of philosophy, College of Science, Literature, and the Arts, effective at close of 1946-47, to accept a position at City College, Brooklyn, New York.
- Lillian Cottrell, clinical assistant professor of neuropsychiatry and mental hygienist, Students' Health Service, effective at close of 1946-47, to accept a position with Veterans Administration, San Francisco Mental Hygiene Clinic.
- Richard H. Daggy, assistant professor of entomology and economic zoology, Department of Agriculture, effective February 28, 1947.
- A. William Friend, clinical assistant professor of anesthesia, Medical School, effective May 15, 1947, to join a group of anesthesiologists in Akron, Ohio.
- Fred Genschmer, assistant professor of German, College of Science, Literature, and the Arts, effective at close of 1946-47, to accept a position as head, Language Department, North Dakota Agricultural College.
- Richard A. Hamilton, assistant professor, North Central School and Experiment Station, effective May 31, 1947.
- Charlotte S. Henry, assistant professor and psychiatric social worker in psychiatry and neurology, Medical School, effective June 30, 1947.
- John A. Henry, assistant professor of mathematics and mechanics, Institute of Technology, effective December 15, 1946, to accept a position at Bowling Green State University.
- Charles J. Hutchinson, clinical assistant professor of psychiatry and neurology, Medical School, effective June 30, 1947, to remain in the naval service.
- Milan A. Johnston, assistant professor of mechanical engineering, Institute of Technology, effective December 31, 1946.
- Everett Laitala, assistant professor of mechanical engineering, Institute of Technology, effective at close of 1946-47, to accept position at the University of Illinois.
- William R. Lovelace, assistant professor of surgery, Mayo Foundation, effective February 1, 1947, to enter private practice in New Mexico.
- Margaret P. Martin, assistant professor, School of Public Health, effective December 15, 1946.
- John W. Medlin, assistant professor of mechanical engineering, Institute of Technology, effective June 15, 1947, to join firm of Landauer and Guerrero, consulting engineers, Dallas, Texas.
- Lloyd H. Mousel, assistant professor of anesthesia, Mayo Foundation, effective September 30, 1946, to accept a position at George Washington University School of Medicine.
- Thomas H. Norris, assistant professor of analytical chemistry, Institute of Technology, effective June 15, 1947.
- Olivia T. Peterson, clinical assistant professor, School of Public Health, effective June 30, 1947, to remain permanently with American Red Cross.
- Malcolm C. Pfunder, clinical assistant professor of ophthalmology and otolaryngology, Medical School, effective at close of 1946-47.
- John F. Pohl, clinical assistant professor of surgery, Medical School, effective at close of 1946-47.
- William C. Rindsland, director, Bureau of Veterans' Affairs, and assistant professor, effective March 24, 1947, to enter private industry.

- George N. Ruhberg, clinical assistant professor of psychiatry and neurology, Medical School, effective at close of 1946-47, to take up residence in California.
- John A. Sanford, assistant professor of English, College of Science, Literature, and the Arts, effective June 15, 1947, to continue his work with War Department as a civil service employee.
- Allan F. Schirmer, assistant professor of music, College of Science, Literature, and the Arts, effective June 15, 1947.
- F. Joseph Schneider, assistant professor of sociology, College of Science, Literature, and the Arts, effective at close of 1946-47, to accept a position at Indiana University.
- Pearl Shalit, clinical assistant professor, School of Public Health, effective June 30, 1947, to join the staff of the U. S. Public Health Service, Washington, D.C.
- Catherine Snell, assistant professor, Department of Physical Education for Women, effective at close of 1946-47.
- Louis Sperling, clinical assistant professor of surgery, Medical School, effective December 31, 1946, to establish his residence in California.
- Robert G. Urquhart, assistant professor of aeronautical engineering, Institute of Technology, effective at close of 1946-47, to accept a position at University of Chicago.

RESIGNATIONS, 1947-48

- Max E. Ernst, clinical professor, School of Dentistry, effective June 15, 1948, in order to devote full time to private practice.
- Raymond E. Johnson, clinical professor, School of Dentistry, effective at close of 1947-48, to devote full time to private practice.
- Arthur W. Marget, professor, School of Business Administration, effective June 15, 1948, to accept a position as financial adviser to Ambassador-at-large Harriman, Office of International Finance, Treasury Department, Washington, D. C.
- Charles E. Rudolph, clinical professor, School of Dentistry, effective December 31, 1947.
- Charles O. Wilson, professor of pharmaceutical chemistry, College of Pharmacy, effective at close of 1947-48, to accept a position at the University of Texas.
- Willard W. Green, associate professor of animal husbandry, Department of Agriculture, effective at close of 1947-48, to accept a position as professor of animal husbandry, University of Maryland.
- Paul C. Johnson, associate professor—editor of publications, Department of Agriculture, effective October 28, 1947, to accept editorship of the *Prairie Farmer* and Station WLS, Chicago, Illinois.
- Evron M. Kirkpatrick, associate professor of political science, College of Science, Literature, and the Arts, effective June 15, 1948, to accept a permanent position with the U. S. Department of State, Washington, D.C.
- Earl G. Latham, associate professor of political science, College of Science, Literature, and the Arts, effective June 15, 1948, to accept a Joseph B. Eastman Professorship at Amherst College.
- Commander Hylan B. Lyon, associate professor of naval science and tactics, effective at close of 1947-48.
- Olaf Mickelsen, associate professor, Laboratory of Physiological Hygiene, effective at close of 1947-48, to accept a position with the U. S. Public Health Service.
- Charles E. Skinner, associate professor of bacteriology, Medical School, effective June 15, 1948, to accept the position of professor and chairman, Department of Bacteriology and Public Health, State College of Washington.
- Donald E. Strout, associate professor of library instruction, effective at close of 1947-48, to accept a position as director of the library and assistant director of the library school, Denver University.
- Anton O. Thompson, associate professor of education, Bureau of Educational Research—Field Studies and Surveys, effective December 25, 1947, to become supervisor of research, Long Beach, California, Public Schools.
- Edith E. Ames, assistant professor of home economics and assistant dining hall manager, Department of Agriculture, effective at close of 1947-48, to accept a position as head of institution management and director of food service, University of Montana.
- Lieutenant Commander Leo B. Blocker, assistant professor of naval science and tactics, Department of Naval Science and Tactics, effective July 1, 1948.
- R. Pauline Day, assistant professor, Professional Education Division, Duluth Branch, effective at close of 1947-48, to accept a position with the Laboratory School, Bemidji State Teachers College.
- Roy H. Giberson, assistant professor—state club agent, Agricultural Extension Division, Department of Agriculture, effective April 30, 1948, retired on federal retirement fund.

- H. Phoebe Gordon, assistant professor, School of Nursing, effective September 30, 1947, to accept a position at Miller Hospital, St. Paul, Minnesota.
- Joseph H. Greenberg, assistant professor of anthropology, College of Science, Literature, and the Arts, effective at close of 1947-48.
- Carroll B. Hanson, assistant professor of language and literature, Duluth Branch, effective at close of 1947-48, for climatic reasons.
- Lieutenant Commander William J. Hill, assistant professor of naval science and tactics, effective July 1, 1948.
- Fred Kolouch, Jr., assistant professor of surgery, Medical School, effective June 30, 1948, to enter private practice at the Twin Falls Clinic, Twin Falls, Idaho.
- Alice C. Linn, assistant professor—extension specialist in clothing, Agricultural Extension Division, Department of Agriculture, effective February 17, 1948, to accept a position with the Extension Service, U. S. Department of Agriculture, Washington, D.C.
- Edward J. Lofgren, assistant professor of physics, College of Science, Literature, and the Arts, effective at close of 1947-48, to accept a position as physicist, Radiation Laboratory, University of California.
- Erich O. Mader, assistant professor of plant pathology and botany, Department of Agriculture, effective May 31, 1948, to accept a position with Andrews Nursery, Faribault, Minnesota.
- Janice Mickey, assistant professor, School of Public Health, effective June 15, 1948, to accept a position with the American Red Cross.
- Marguerite Paetznick, assistant professor, School of Nursing, effective March 1, 1948, to accept a position with Denver General Hospital.
- John M. Roberts, assistant professor of anthropology, College of Science, Literature, and the Arts, effective June 15, 1948, to accept a position as assistant professor, Department of Social Relations, Harvard University.
- Magdalene E. Roller, assistant professor, School of Nursing, effective November 29, 1947, due to termination of assignment by the U. S. Public Health Service.
- Adolph A. Sandin, assistant professor, Professional Education Division, Duluth Branch, effective at close of 1947-48, to accept a position as assistant superintendent of schools, Richland, Washington.
- Jean W. Taylor, assistant professor, School of Nursing, effective December 20, 1947, to accept a position as chief nurse, Veterans Hospital, Muskogee, Oklahoma.
- Lieutenant Thomas W. Towne, assistant professor of naval science and tactics, effective June 18, 1948.
- Rolla M. Tryon, Jr., assistant professor of botany and curator of the herbarium, College of Science, Literature, and the Arts, effective March 15, 1948, to accept an associate professorship, Washington University, St. Louis, and the assistant curatorship, Missouri Botanical Garden.
- Francis R. Walton, assistant professor of classics, College of Science, Literature, and the Arts, effective June 15, 1948, to accept a position at the University of Chicago.
- Dallas Ward, assistant professor of physical education for men, effective March 18, 1948, to accept a position as head football coach, University of Colorado.

APPOINTMENTS, 1946-47

Professors

- Francis J. Braceland as professor of psychiatry (Mayo Foundation).
M.D. 1930, Jefferson Medical College.
- Norman H. Ceaglske as professor of chemical engineering.
B.S. 1928, M.S. 1929, Ph.D. 1936, University of Wisconsin.
- Eric K. Clarke as clinical professor of psychiatry and neurology.
M.D. 1916, University of Toronto School of Medicine.
- Strathmore R. B. Cooke as professor of mineral dressing, School of Mines and Metallurgy.
B.Sc. Chemistry, B.E. Metallurgy, and A.O.S.M. Metallurgy 1924-29, Otago School of Mines, Otago University of New Zealand; M.S. Metallurgical Engineering 1929-30, Missouri School of Mines and Metallurgy; Ph.D. 1933, University of Missouri.
- Colonel Richard A. Ericson as professor of military science and tactics.
United States Military Academy, West Point.
- Smith Freeman as professor of physiological chemistry (Mayo Foundation).
B.A. 1928, Park College; M.S. 1930, Ph.D. 1933, M.D. 1938, Northwestern University.

- James E. Gerald, Jr., as professor of journalism.
B.A. 1927, West Texas State Teachers College; B. Journ. 1928, University of Missouri; M.A. 1932, University of Missouri.
- Lieutenant Colonel Walter J. Gerzin as professor of air science and tactics.
B.E. 1939, St. Cloud State Teachers College.
- Captain Walter C. Holt as professor of naval science and tactics.
B.S. 1923, U. S. Naval Academy.
- Theodore Hornberger as professor of English.
B.S. 1927, M.A. 1929, Ph.D. 1934, University of Michigan.
- Harvey S. Hoshour as professor of law.
B.A. 1910, Gettysburg College; LL.B. 1914, University of Minnesota.
- Victor Johnson as professor of physiology and associate director of the Mayo Foundation, beginning April 1, 1947, and director, beginning October 1, 1947.
Ph.B. 1926, Ph.D. 1930, M.D. 1939, University of Chicago.
- William B. Lockhart as professor of law.
B.A. 1929, Drake University; M.A. 1930, LL.B. 1933, S.J.D. 1943, Harvard University.
- Guy W. C. Ross as visiting professor of political science.
B.A. 1901, University of Chicago; LL.B. 1904, Harvard Law School; M.A. 1935, University of Minnesota.
- Max O. Schultze as professor of agricultural biochemistry.
B.S. 1932, M.S. 1934, Ph.D. 1936, University of Wisconsin.
- Coral W. Topping as professor of sociology.
B.A. 1912, Queen's University (Kingston, Canada); M.A. 1921, Ph.D. 1930, Columbia University.
- Ralph H. Upson as professor of aeronautical engineering.
M.E. 1910, A.E. 1931 (honorary), Stevens Institute of Technology.
- Khalil G. Wakim as professor of physiology (Mayo Foundation).
B.A. 1929, M.D. 1933, American University of Beirut.

Associate Professors

- Henry Borow as associate professor in vocational orientation and counselor in General College.
B.A. 1939, M.S. 1942, Ph.D. 1945, Pennsylvania State College.
- Yale Brozen as associate professor, School of Business Administration.
B.A. 1939, Ph.D. 1941, University of Chicago.
- Charles L. Critchfield as associate professor of physics.
B.S. 1934, M.A. 1936, Ph.D. 1939, George Washington University.
- Stephan Epstein as clinical associate professor of dermatology.
M.D. 1925, University of Erlanger, Germany.
- Willard J. Hadley as associate professor of pharmacy.
B.S. 1938, Ohio State University; M.S. 1940, Ph.D. 1942, University of Minnesota.
- Walter W. Heller as associate professor, School of Business Administration.
B.A. 1935, Oberlin College; M.A. 1938, Ph.D. 1941, University of Wisconsin.
- Ralph L. Hossfeld as associate professor of forestry.
B.S. 1937, M.S. 1939, University of Idaho; Ph.D. 1942, University of Minnesota.
- John C. Kidneigh as associate director and associate professor, School of Social Work.
B.A. 1939, M.A. 1941, University of Utah.
- Lloyd Butler Ritchey as associate professor of mechanical engineering.
B.S. 1936, Purdue University; M.S. 1941, University of Illinois.
- Lloyd L. Smith, Jr., as associate professor of entomology and economic zoology.
B.A. 1931, University of Minnesota; M.A. 1940, Ph.D. 1942, University of Michigan.
- Eugene Stolarik as associate professor in aeronautical engineering, beginning December 16, 1946.
Ing.C. 1939, University of Prague; B.A. 1940, Carleton College; M.A. 1942, M.S. 1946, University of Minnesota.
- Margaret S. Taylor as associate professor and director of course in public health nursing.
B.S. 1932, M.A. 1935, Teachers College, Columbia University.

Lyle A. Weed as associate professor of bacteriology (Mayo Foundation).

B.A. 1927, Simpson College; M.S. 1928, Iowa State College; Ph.D. 1932, Western Reserve University; M.D. 1939, State University of Iowa.

Assistant Professors

James Aliferis as assistant professor of music.

B.S. 1936, M.A. 1939, Western Reserve University; Ph.D. 1943, State University of Iowa.

Edith E. Ames as assistant professor of home economics and assistant dining hall manager.

B.S. 1927, M.S. 1929, Kansas State College.

John W. Andeen as assistant professor of mechanical engineering.

B.S. 1936, University of Minnesota.

Ralph V. Backstrom as assistant professor and extension economist in marketing.

B.S. 1932, University of Minnesota.

Frederick E. Berger, assistant professor and head of Minneapolis Office, General Extension Division.

B.A.(Ed.) 1936, State Teachers College, Valley City, North Dakota.

Reuben Berman as clinical assistant professor of medicine.

B.A. 1929, M.B. 1932, M.D. 1933, University of Minnesota.

Julio N. Berrettoni as assistant professor, School of Business Administration.

B.Com. 1937, University of British Columbia; M.S. 1938, Iowa State College; Ph.D. 1943, University of Minnesota.

Allan H. Brown as assistant professor of botany.

B.S. 1939, University of Maryland; M.S. 1941, Ph.D. 1943, University of Rochester.

Albert L. Burroughs as assistant professor of entomology and economic zoology and School of Public Health.

B.S. 1938, University of Wyoming; M.S. 1941, Montana State College; Ph.D. 1946, University of California.

Walter Cerf as assistant professor of philosophy.

Ph.S. 1933, University of Bonn; Ph.D. 1941, Princeton University.

Edwin S. Cieslak as assistant professor, General College.

B.S. 1934, Ph.D. 1944, University of Chicago; M.S. 1938, Northwestern University.

Saul L. Cohen as assistant professor of physiological chemistry.

B.A. 1932, Brandon College of McMaster University, Canada; Ph.D. 1936, University of Toronto.

Jesse E. Edwards as assistant professor of pathologic anatomy (Mayo Foundation).

B.S. 1932, M.D. 1935, Tufts College.

Clifford O. Erickson as clinical assistant professor of psychiatry and neurology.

B.S. 1932, Macalester College; M.B. 1934, M.D. 1935, University of Minnesota.

Elizabeth G. Frame as assistant professor of physiological chemistry.

B.A. 1928, M.A. 1929, Dalhousie University; Ph.D. 1942, Yale University.

Paul R. Grim as assistant professor and director of student teaching, College of Education.

B.S. 1932, M.A. 1935, Ph.D. 1937, Ohio State University.

William W. Harris as assistant professor of aeronautical engineering.

B.Aero.E. 1932, University of Minnesota.

Charles Hatfield, Jr., as assistant professor of mathematics.

B.A. 1940 Georgetown College; M.A. 1941, University of Kentucky; Ph.D. 1944, Cornell University.

Wesley N. Herr as assistant professor of inorganic chemistry.

B.S. 1921, Ph.D. 1927, University of Chicago; M.S. 1924, Purdue University.

Roger W. Howell as clinical assistant professor of psychiatry and neurology.

B.A. 1934, M.D. 1938, University of Michigan.

Ray O. Hummel, Jr., as chief catalog librarian and assistant professor.

B.A. 1930, M.A. 1932, Ph.D. 1934, University of Nebraska; B.A. in L.S. 1936, University of Michigan.

John R. Immer as assistant professor, School of Business Administration.

B.A. 1937, Drury College; M.S. 1942, University of Illinois.

N. Kenneth Jensen as clinical assistant professor of surgery.

M.D. 1935, Washington University.

- Norman W. Johnson as assistant professor and head, Center for Continuation Study.
B.A. 1938, Harvard College; M.A. 1941, State University of Iowa.
- Otto H. Johnson as assistant professor of chemistry, General Extension Division.
B.A. 1923, M.S. 1925, Ph.D. 1939, University of Minnesota.
- Gerhard K. Kalisch as assistant professor of mathematics.
B.A. 1938, State University of Iowa; Ph.D. 1942, University of Chicago.
- Milton F. Kernkamp as assistant professor of plant pathology and botany.
B.S. 1934, M.S. 1938, Ph.D. 1941, University of Minnesota.
- Cecilia R. Ledger as assistant professor, School of Nursing.
B.S. in Nursing Education 1940, Temple University; M.A. 1942, Teachers College, Columbia University.
- Werner Levi as assistant professor of political science.
LL.D. 1934, University of Eribourg, Germany; M.A. 1943, Ph.D. 1944, University of Minnesota.
- William N. Lipscomb, Jr., as assistant professor of physical chemistry.
B.S. 1941, University of Kentucky; Ph.D. 1946, California Institute of Technology.
- Edward Joseph Lofgren as assistant professor of physics.
B.A. 1938, Ph.D. 1946, University of California.
- Douglas G. Marshall as assistant professor, School of Social Work.
B.S. 1940, Colorado State College; M.S. 1941, Montana State College; Ph.D. 1943, University of Wisconsin.
- Donald R. Mathieson as assistant professor of clinical pathology (Mayo Foundation).
B.A. 1931, M.S. 1934, M.D. 1936, University of Minnesota.
- Robert C. McClure as assistant professor of law.
B.S.L. 1937, LL.B. 1939, University of Minnesota.
- Warren G. Meyer as assistant professor of education.
B.A. 1932, University of Wisconsin; M.S. 1933, New York University.
- Janice E. Mickey as assistant professor, School of Public Health.
B.S. 1931, University of Nebraska; M.S. 1943, University of Minnesota.
- Richard Avery Miller, assistant professor of anatomy.
B.S. 1932, University of Pittsburgh; M.S. 1934, Ph.D. 1937, State University of Iowa.
- Samuel Nesbitt as clinical assistant professor of medicine.
B.S. 1931, Princeton University; M.D. 1935, Harvard University; Ph.D. 1940, University of Minnesota.
- Thomas H. Norris as assistant professor of analytical chemistry.
B.A. 1938, Princeton University; Ph.D. 1942, University of California.
- Frank Oppenheimer as assistant professor of physics.
B.S. 1932, Johns Hopkins University; Ph.D. 1938, California Institute of Technology.
- Maurice Ostrander as assistant professor of physical education for men.
B.S. 1931, M.S. 1939, M.Ed. 1941, University of Minnesota.
- William E. Parham as assistant professor of organic chemistry.
B.S. 1943, Southern Methodist University; M.S. 1944, Ph.D. 1946, University of Illinois.
- Milo J. Peterson as assistant professor of agricultural education.
B.S. 1933, University of Minnesota; M.S.A. 1937, Ph.D. 1940, Cornell University.
- Major Lemuel B. Redd as assistant professor of military science and tactics.
B.S. 1936, Utah State College.
- Roger M. Reinecke as assistant professor of physiology.
B.S. 1937, M.A. 1938, M.D. 1941, Ph.D. 1941, University of Minnesota.
- Magdalene E. Roller as assistant professor, School of Nursing.
B.Ed. 1934, National College of Education, Evanston, Illinois; M.S. in Nursing 1946, Western Reserve University.
- Jack Schubert as assistant professor, School of Dentistry, beginning February 1, 1947.
B.S. 1940, Ph.D. 1944, University of Chicago.
- Roy A. Schuessler as assistant professor of music.
B.A. 1932, University of Wichita; M.M. 1938, Northwestern University.
- Lyndell B. Scott as assistant professor, School of Social Work.
B.A. 1931, M.A. 1932, University of Nebraska.

Wilfrid S. Sellars as assistant professor of philosophy.

B.A. 1933, University of Michigan; M.A. 1934, University of Buffalo; B.A. 1936, M.A. 1937, Oxford University.

Herbert M. Stauffer as assistant professor of radiology and physical therapy.

B.A. 1935, M.D. 1939, Temple University.

Richard M. Stephenson as assistant professor of chemical engineering.

B.Chem. 1939, Ph.D. 1946, Cornell University.

Marvin Sukov as clinical assistant professor of psychiatry and neurology.

B.S. 1926, M.B. 1930, M.D. 1931, University of Minnesota.

Frederick M. Swain, Jr., as assistant professor of geology and mineralogy.

B.A. 1938, University of Kansas; M.S. 1939, Pennsylvania State College; Ph.D. 1941, University of Kansas.

Albert R. Tegge, Jr., as assistant professor of mechanical engineering, beginning March 16, 1947.

B.S. (Forestry) 1936, M.F. 1938, University of Michigan.

David W. Thompson as assistant professor of speech.

B.A. 1939, M.A. 1941, University of Minnesota.

Robert G. Urquhart as assistant professor of aeronautical engineering.

B.S. 1940, Harvard College; M.S. 1941, Harvard University.

John C. Weaver as assistant professor of geography.

B.A. 1936, M.A. 1937, Ph.D. 1940, University of Wisconsin.

Joseph W. Weinberg as assistant professor of physics.

B.S. 1936, College of the City of New York; Ph.D. 1943, University of California.

Bernard E. Youngquist as assistant professor, West Central School and Station.

B.S.(Agr.) 1939, University of Minnesota.

APPOINTMENTS, 1947-48

Raymond C. Gibson as provost, Duluth Branch.

B.A. 1932, M.A. 1936, Western Kentucky State Teachers College (Bowling Green, Kentucky); Ph.D. 1944, University of Wisconsin.

Richard K. Gaumnitz as assistant dean and associate professor, School of Business Administration.

B.Chem. 1937, M.A. 1938, Ph.D. 1942, University of Minnesota.

Professors

H. Harvard Arnason as professor and chairman, Department of Art.

B.S. 1931, M.A. 1934, Northwestern University; M.F.A. 1936, Princeton University.

Elmer R. Ausemus as professor of agronomy and plant genetics.

B.S. 1923, Kansas State Agricultural College; M.S. 1924, State College of Washington; Ph.D. 1932, University of Minnesota.

Newman A. Hall as professor of mechanical engineering.

B.A. 1934, Marietta College; Ph.D. 1938, California Institute of Technology.

William H. Hollinshead as professor of anatomy (Mayo Foundation).

B.A. 1926, M.S. 1927, Ph.D. 1930, Vanderbilt University.

Clarence E. Lund as professor of mechanical engineering and assistant director, Engineering Experiment Station.

B.M.E. 1933, M.S. 1934, University of Minnesota.

Samuel H. Monk as professor of English.

B.A. 1922, Southwestern College (Memphis, Tenn.); M.A. 1924, Ph.D. 1929, Princeton University.

Merrill F. Roff as professor, Institute of Child Welfare.

B.A. 1929, University of Wichita; M.A. 1930, University of Kansas; Ph.D. 1933, Cornell University.

Fred Smith as professor of agricultural biochemistry.

B.Sc. 1932, Ph.D. 1935, D.Sc. 1940, University of Birmingham (Birmingham, England).

Henry N. Smith as professor of English.

B.A. 1925, Southern Methodist University; M.A. 1929, Ph.D. 1940, Harvard University.

William G. Shepherd as professor of electrical engineering.

B.E.E. 1933, Ph.D. 1937, University of Minnesota.

Henry B. Steinbach as professor of zoology.

B.A. 1928, University of Michigan; M.A. 1930, Brown University; Ph.D. 1933, University of Pennsylvania.

Associate Professors

Addison M. Alspach as associate professor of fine and applied arts, Duluth Branch.

B.Mus. 1923, B.A. 1927, Findlay College; M.A. 1929, Ph.D. 1933, State University of Iowa.

Miles E. Cary as associate professor of education.

B.A. 1917, University of Washington; M.A. 1930, University of Hawaii; Ph.D. 1937, Ohio State University.

Ralph F. Berdie as associate professor of psychology and director, Student Counseling Bureau.

B.A. 1938, M.A. 1939, Ph.D. 1942, University of Minnesota.

Joseph O. Culbertson as associate professor of agronomy and plant genetics.

B.S. 1925, M.S. 1930, University of Nebraska; Ph.D. 1940, University of Minnesota.

Mark A. Graubard as associate professor of general studies.

B.S. 1926, College of the City of New York; M.A. 1927, Ph.D. 1930, Columbia University.

Ernest H. Henrikson as associate professor of speech and assistant director, Speech Clinic.

B.A. 1925, University of Oregon; M.A. 1929, Ph.D. 1932, State University of Iowa.

John E. King as associate professor and academic dean, Duluth Branch.

B.A. 1932, North Texas State Teachers College; M.S. 1937, University of Arkansas; Ph.D. 1941, Cornell University.

Edwin H. Lewis as associate professor, School of Business Administration.

B.S. 1932, Drexel Institute; M.B.A. 1933, Ph.D. 1946, University of Pennsylvania.

Charles D. May as associate professor of pediatrics.

M.D. 1935, Harvard Medical School.

Verval J. Mueller as associate professor, School of Social Work.

B.S. 1929, M.A. 1940, University of Minnesota.

Carl L. Nelson as associate professor, School of Business Administration.

B.B.A. 1931, Ph.D. 1944, University of Minnesota.

Andreas G. Papandreou as associate professor, School of Business Administration.

Attended School of Law, Political and Economic Sciences at Athens University (Greece) 1937-40; M.A. 1942, Ph.D. 1943, Harvard University.

Raymond G. Price as associate professor of education.

B.S. 1928, Indiana State Teachers College (Terre Haute); M.A. 1932, University of Chicago; Ed.D. 1945, University of Cincinnati.

Sheldon C. Reed as associate professor of zoology and director, Dight Institute.

B.A. 1932, Dartmouth College; M.A. 1933, Ph.D. 1935, Harvard University.

Benjamin Spock as associate professor of psychiatry (Mayo Foundation).

B.A. 1925, Yale University; M.D. 1929, Columbia University.

Anton O. Thompson as associate professor of education, Bureau of Educational Research, Field Studies, and Surveys.

B.E. 1932, St. Cloud State Teachers College; M.A. 1939, Ph.D. 1942, University of Minnesota.

Newell R. Ziegler as associate professor of bacteriology.

B.S. 1925, M.S. 1926, M.D. 1928, Ph.D. 1930, University of Minnesota.

Assistant Professors

Alexander Albert as assistant professor of physiology (Mayo Foundation).

B.A. 1932, St. Stephen's College; M.D. 1943, Harvard Medical School.

C. Knight Aldrich as assistant professor and mental hygienist, Students' Health Service.

B.A. 1935, Wesleyan University (Middletown, Conn.); M.D. 1940, Northwestern University.

LeRoy T. Anderson as assistant professor of electrical engineering.

B.S. in E.E. 1933, B.S. in Eng. Math. 1934, M.S. in E.E. 1934, University of Michigan.

Harlan P. Banks as assistant professor of botany.

B.A. 1934, Dartmouth College; Ph.D. 1940, Cornell University.

Robert H. Beck as assistant professor of education.

B.A. 1939, Harvard College; Ph.D. 1942, Yale University.

- Lyda C. Belthuis as assistant professor of social studies, Duluth Branch.
B.A. 1939, Iowa State Teachers College (Cedar Falls); M.A. 1943, Colorado State College of Education; Ph.D. 1947, University of Michigan.
- Bruce C. Beresford as assistant professor of horticulture, Northwest School and Experiment Station.
B.S. 1941, Iowa State College; M.S. 1947, University of Illinois.
- Bernard R. Bowron, Jr., as assistant professor of English.
B.A. 1935, University of California; M.A. 1941, Ph.D. 1947, Harvard University.
- James W. Braithwaite as assistant professor of aeronautical engineering.
B.S. 1939, M.S. 1940, California Institute of Technology.
- Robert C. Brasted as assistant professor of inorganic chemistry.
B.S. 1938, M.A. 1939, George Washington University; Ph.D. 1942, University of Illinois.
- George M. Briggs as assistant professor of animal and poultry husbandry.
B.S. 1940, M.S. 1941, Ph.D. 1944, University of Wisconsin.
- Walter A. Carley as clinical assistant professor of psychiatry and neurology.
B.S. and M.B. 1936, M.D. 1937, University of Minnesota.
- Thomas W. Chamberlin as assistant professor of social studies, Duluth Branch.
B.Ed. 1936, Eastern Illinois State Teachers College; M.A. 1937, Ph.D. 1946, Clark University.
- Laurence K. Cutkomp as assistant professor of entomology and economic zoology.
B.A. 1936, Iowa Wesleyan College; Ph.D. 1942, Cornell University.
- Edward D. DeLamater as assistant professor of bacteriology (Mayo Foundation).
M.A. 1936, Johns Hopkins University; Ph.D. 1941, M.D. 1942, Columbia University.
- Raymond M. Dodson as assistant professor of organic chemistry.
B.S. 1942, Franklin and Marshall College; Ph.D. 1947, Northwestern University.
- Charles T. Duncan as assistant professor of journalism.
B.A. 1936, M.A. 1946, University of Minnesota.
- Dorothy T. Dyer as assistant professor of general studies and senior student counselor, Student Counseling Bureau.
B.S. 1918, Ohio State University; M.A. 1937, University of Minnesota.
- Roxana R. Ford as assistant professor of home economics education.
B.S. 1930, M.S. 1940, Texas Technological College.
- Albert W. Frenkel as assistant professor of botany.
B.A. 1939, Ph.D. 1942, University of California.
- Kenneth L. Graham as assistant professor of speech.
B.A. 1936, State University of Iowa; M.A. 1939, Northwestern University; Ph.D. 1947, University of Utah.
- Henry L. Hansen as assistant professor of forestry.
B.S. 1935, Ph.D. 1946, University of Minnesota.
- John W. Henderson as assistant professor of ophthalmology (Mayo Foundation).
B.S. 1934, M.A. 1936, M.D. 1937, University of Nebraska; M.S. in Ophthalmology 1943, University of Minnesota.
- John F. Irwin as assistant professor of speech.
B.A. 1937, Ohio Wesleyan University; M.A. 1940, Ohio State University; Ph.D. 1947, University of Wisconsin.
- James J. Jezeski as assistant professor of dairy husbandry.
B.S. 1940, M.S. 1942, University of Minnesota.
- Ernest R. Johnston as assistant professor of mathematics and mechanics.
B.Ed. 1938, Illinois State Normal University; M.S. 1939, University of Illinois.
- Ruth V. Johnston as assistant professor, School of Nursing.
B.A. 1930, State University of Iowa; M.A. 1940, University of Minnesota.
- Robert J. Keller as assistant professor, Committee on Institutional Research.
B.E. 1937, Winona State Teachers College; M.A. 1940, Ph.D. 1947, University of Minnesota.
- Gisela Konopka as assistant professor, School of Social Work.
Equivalent of B.A. 1933, University of Hamburg, Germany; M.S. in Social Administration 1943, University of Pittsburgh.
- Warren S. Loud as assistant professor of mathematics.
B.S. 1942, Ph.D. 1946, Massachusetts Institute of Technology.
- Gordon M. Martin as assistant professor of physical medicine (Mayo Foundation).
B.S. 1936, Nebraska Wesleyan University; M.D. 1940, University of Nebraska; M.S. in Physical Medicine 1944, University of Minnesota.

- Kyle R. Morris as assistant professor of art.
B.A. 1939, M.A. 1940, Northwestern University; M.F.A. 1937, Cranbrook Academy of Art.
- Arthur E. Naftalin as assistant professor of political science and general studies.
B.A. 1939, M.A. 1942, University of Minnesota.
- Paul R. O'Connor as assistant professor of analytical chemistry.
B.A. 1942, Haverford College; M.S. 1944, University of Wisconsin; Ph.D. 1947, University of California.
- William V. O'Connor as assistant professor of English.
B.A. 1936, M.A. 1937, Syracuse University.
- Eugene P. Pfeider as assistant professor of mines and metallurgy.
Engineer of Mines 1932, University of Minnesota.
- John M. Rogers as assistant professor of anthropology.
B.A. 1937, University of Nebraska; Ph.D. 1946, Yale University.
- Minard W. Stout as assistant professor and principal, University High School.
B.A. 1929, Iowa State Teachers College (Cedar Falls); M.A. 1933, Ph.D. 1943, State University of Iowa.
- Leonard H. Unger as assistant professor of English.
B.A. 1937, M.A. 1939, Louisiana State University; Ph.D. 1941, State University of Iowa.
- Jeanette Vroom as assistant professor, School of Public Health.
B.Ph. 1932, University of Wisconsin; M.A. 1939, Columbia University.
- Francis R. Walton as assistant professor of classics.
B.A. 1932, Haverford College; M.A. 1933, Ph.D. 1938, Harvard University.
- Dwain W. Warner as assistant professor of zoology and Museum of Natural History.
B.A. 1939, Carleton College; Ph.D. 1947, Cornell University.
- John T. Wheeler as assistant professor, School of Business Administration.
B.B.A. 1942, University of Minnesota; Ph.D. 1947, Massachusetts Institute of Technology.
- Herman J. Wolff as clinical assistant professor of medicine.
B.S. 1927, M.D. 1930, Ph.D. 1933, University of Minnesota.
- Herbert E. Wright, Jr., as assistant professor of geology.
B.A. 1939, M.A. 1941, Ph.D. 1943, Harvard University.

PROMOTIONS AND TRANSFERS, 1946-47

- Associate Professor and Director to Dean and Professor*
Julius M. Nolte (General Extension Division)
- Director and Professor to Dean and Professor*
Horace T. Morse (General College)
- Associate Professor to Assistant Dean and Associate Professor*
Alfred L. Vaughan (General College—physical science)
- Professor and Head of Civil Engineering—Made Director of St. Anthony Falls Hydraulic Laboratory*
Lorenz G. Straub (Institute of Technology)
- Curator to Director and Associate Professor*
Walter J. Breckenridge (Museum of Natural History)
- Assistant Director to Associate Professor and Director*
Margaret Filson (Medical School—nursing services)
- Professor to Professor and Head*
Robert G. Green (Medical School—bacteriology)
- Associate Professor to Professor*
Richard T. Arnold (Institute of Technology—chemistry)
Francis M. Boddy (School of Business Administration)
Henry B. Clark, Jr. (School of Dentistry)
Mandred W. Comfort (Mayo Foundation)
Bryce L. Crawford, Jr. (Institute of Technology—physical chemistry)
John G. Darley (Student Counseling Bureau)
Ruth E. Eckert (College of Education)
Marcia Edwards (College of Education)
Henry C. T. Eggers (Institute of Technology—drawing and descriptive geometry)
Anne F. Fenlason (College of Science, Literature, and the Arts—School of Social Work)
Samuel F. Haines (Mayo Foundation)
Edward L. Hill (College of Science, Literature, and the Arts—physics)

Philip D. Jordan (College of Science, Literature, and the Arts—history)
 Richard C. Jordan (Institute of Technology—mathematics and mechanics)
 Edwin J. Kepler (Medical School—medicine)
 E. Fred Koller (College of Agriculture, Forestry, and Home Economics—agricultural economics)
 Benjamin E. Lippincott (College of Science, Literature, and the Arts—political science)
 John R. Paine (Medical School—surgery)
 Lawrence M. Randall (Mayo Foundation)
 Ernest B. Sandell (Institute of Technology—analytical chemistry)
 Robert P. Sharp (College of Science, Literature, and the Arts—geology)
 Wesley W. Spink (Medical School—medicine)
 Albert V. Stoesser (Medical School—pediatrics)
 Thomas A. H. Teeter (General Extension Division—engineering)
 Gershom J. Thompson (Mayo Foundation)
 John H. Williams (College of Science, Literature, and the Arts—physics)
 David H. Willson (College of Science, Literature, and the Arts—history)
 Harold C. Wittich (School of Dentistry)

Assistant Professor to Associate Professor

Cyrus P. Barnum, Jr. (Medical School—physiological chemistry)
 David C. Bartelma (Physical Education and Athletics)
 O. Theron Clagett (Mayo Foundation)
 Herbert E. Cleifton (College of Science, Literature and the Arts—Romance languages)
 Willis E. Dugan (College of Education)
 L. McKendree Eaton (Mayo Foundation)
 Thor W. Gullickson (College of Agriculture, Forestry, and Home Economics—dairy husbandry)
 Edwin L. Haislet (Physical Education and Athletics)
 Fulton Holtby (Institute of Technology—mechanical engineering)
 Dale B. Harris (Institute of Child Welfare—parental education)
 Arthur B. Hunt (Mayo Foundation)
 Millard H. LaJoy (Institute of Technology—mechanical engineering)
 Marie Lien (College of Education—art education)
 Nathan Lifson (Medical School—physiology)
 Olaf Mickelsen (Medical School—physiological hygiene)
 Theodore O. Olson (Medical School—School of Public Health)
 Orrin W. Potter (Institute of Technology—drawing and descriptive geometry)
 Ernest Rinke (College of Agriculture, Forestry, and Home Economics—agronomy and plant genetics)
 Dennis M. Ryan (Agricultural Extension Division)
 Mary J. Shaw (College of Science, Literature, and the Arts—philosophy)
 Taito Soine (College of Pharmacy)
 Donald E. Strout (Division of Library Instruction)
 Hugh L. Turriffin (Institute of Technology—mathematics and mechanics)
 Richard L. Varco (Medical School—surgery)
 Myron M. Weaver (Medical School—School of Public Health)
 Theodore S. Weir (College of Agriculture, Forestry, and Home Economics—horticulture)
 Cornelia T. Williams (General College)

Clinical Assistant Professor to Clinical Associate Professor

Hendrie W. Grant (Medical School—ophthalmology and otolaryngology)
 John F. Madden (Medical School—medicine)
 Dorothea Radusch (School of Dentistry)
 Harold O. Peterson (Medical School—radiology)

Instructor to Assistant Professor

Ragnar Almin (College of Pharmacy)
 Phil Brain (Physical Education and Athletics)
 James I. Brown (College of Agriculture, Forestry and Home Economics—rhetoric)
 Lois A. Day (Mayo Foundation)
 J. Francis Hartmann (Medical School—anatomy)
 Kathleen M. Jeary (College of Agriculture, Forestry, and Home Economics—home economics)

- Elmer Johnson (Department of Agriculture—School of Agriculture)
 Perrie Jones (Library Instruction)
 Raymond H. Landon (College of Agriculture, Forestry, and Home Economics—
 plant pathology and botany)
 Otis M. Larsen (Institute of Technology—mechanical engineering)
 Evrel A. Larson (Medical School—medicine)
 Leonard S. Laws (Institute of Technology—mathematics and mechanics)
 Herbert McClosky (College of Science, Literature, and the Arts—political science)
 William F. McLimans (Medical School—bacteriology)
 K. Alvin Merendino (Medical School—surgery)
 William D. Munro (Institute of Technology—mathematics and mechanics)
 Truman Nodland (College of Agriculture, Forestry, and Home Economics—agri-
 cultural economics)
 Joseph A. Nowotny (College of Agriculture, Forestry, and Home Economics—
 physical training)
 Magnus Olson (College of Science, Literature, and the Arts—zoology)
 Kenneth L. Osterud (College of Science, Literature, and the Arts—zoology)
 Lloyd J. Quaid (Institute of Technology—drawing and descriptive geometry)
 Erwin N. Reiersgord (Department of Agriculture—Northwest School and Experi-
 ment Station)
 John F. Ripken (Institute of Technology—hydraulic laboratory)
 John O. Roning (Physical Education and Athletics)
 Joseph Schneider (College of Science, Literature, and the Arts—sociology)
 Robert N. Shoffner (College of Agriculture, Forestry, and Home Economics—ani-
 mal and poultry husbandry)
 Harry W. Soderburg (Department of Agriculture—Northwest School and Experi-
 ment Station)
 John Strait (College of Agriculture, Forestry, and Home Economics—agricultural
 engineering)
 R. Dorothy Sundberg (Medical School—anatomy)
 Edwin J. Volden (Department of Agriculture—West Central School and Experiment
 Station)
 Dallas Ward (Physical Education and Athletics)
 Henry H. Young (Mayo Foundation)
- Clinical Instructor to Clinical Assistant Professor*
 Nathaniel J. Berkwitz (Medical School—psychiatry and neurology)
 Harry A. Cumming (Medical School—medicine)
 Jerome A. Hilger (Medical School—otolaryngology)
 Richard O. Leavenworth (Medical School—ophthalmology and otolaryngology)
 Robert E. Priest (Medical School—otolaryngology)
- Lecturer to Assistant Professor*
 W. Edwin Emery, Jr. (College of Science, Literature, and the Arts—School of
 Journalism)
 Clifton Gayne, Jr. (College of Education—art education)
 Fred Genschmer (College of Science, Literature, and the Arts—German)
 Rolla M. Tryon (College of Science, Literature, and the Arts—botany)
- Teaching Assistant to Instructor*
 Michael W. Feniak (College of Science, Literature, and the Arts—geology and
 mineralogy)
 Geraldine Graves (General College)
 Eleanor Holian (College of Science, Literature, and the Arts—Romance languages)
 Elmer R. John (College of Science, Literature, and the Arts—psychology)
 Virginia M. Kivits (General College)
 William F. McLimans (Medical School—bacteriology)
 Margaret Skillman (College of Science, Literature, and the Arts—geology and
 mineralogy)
- Clinical Assistant to Clinical Instructor*
 J. Allen Wilson (Medical School—medicine)
- Instructor to Lecturer*
 Clifton Gayne, Jr. (College of Education—art education)
- Lecturer to Instructor*
 John Wertz (Institute of Technology—mechanical engineering)

PROMOTIONS AND TRANSFERS, 1947-48

Professor of Psychology and Director of the Student Counseling Bureau to Assistant Dean of the Graduate School and Professor of Psychology

John G. Darley

Professor and Superintendent of West Central School and Station to Associate Director of Field Operations and Professor

Theodore H. Fenske (Department of Agriculture)

Professor and Chief of Veterinary Medicine to Professor and Director of the School of Veterinary Medicine

Willard L. Boyd (Department of Agriculture)

Associate Professor to Professor

Abe B. Baker (Medical School—neurology)

Loyst C. Caverley (Institute of Technology—electrical engineering)

Troy M. Currence (College of Agriculture, Forestry, and Home Economics—horticulture)

Clarence Dennis (Medical School—surgery)

Raymond S. Dunham (College of Agriculture, Forestry, and Home Economics—agronomy and plant genetics)

Carl J. Eide (College of Agriculture, Forestry, and Home Economics—plant pathology and botany)

Howard Gilkinson (College of Science, Literature, and the Arts—speech)

Starke R. Hathaway (Medical School—psychiatry and neurology)

John L. Heller (College of Science, Literature, and the Arts—classics)

Alexander C. Hodson (College of Agriculture, Forestry, and Home Economics—entomology and economic zoology)

Andrew Hustrulid (College of Agriculture, Forestry, and Home Economics—agricultural engineering)

Walter O. Lundberg (Hormel Institute)

Francis W. Lynch (Students' Health Service—dermatology)

Paul R. McMiller (College of Agriculture, Forestry, and Home Economics—soils)

Walter T. Pattison (College of Science, Literature, and the Arts—Romance languages)

Ethel Phelps (College of Agriculture, Forestry, and Home Economics—home economics)

Thorvald Schantz-Hansen (College of Agriculture, Forestry, and Home Economics—forestry)

Alan E. Treloar (Medical School—School of Public Health)

Alfred L. Vaughan (General College)

Charles O. Wilson (College of Pharmacy)

Assistant Professor to Professor and Head

Clifton Gayne, Jr. (College of Education—art education)

Clinical Associate Professor to Clinical Professor

Oswald Wyatt (Medical School—surgery)

Assistant Professor of Medicine to Director of Postgraduate Medical Education and Associate Professor of Medicine

George N. Aagaard

Assistant Professor to Associate Professor

James Aliferis (College of Science, Literature, and the Arts—music)

Neal R. Amundson (Institute of Technology—chemistry)

A. H. Baggenstoss (Mayo Foundation)

Eric R. Bentley (College of Science, Literature, and the Arts—English)

Paul D. Boyer (College of Agriculture, Forestry, and Home Economics—biochemistry)

Alfred C. Caldwell (College of Agriculture, Forestry, and Home Economics—soils)

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

Clarence H. Christopherson (College of Agriculture, Forestry, and Home Economics—agricultural engineering)

Ivan Doseff (College of Science, Literature, and the Arts—art)

Lynwood G. Downs (College of Science, Literature, and the Arts—German)

Elizabeth M. Fuller (Institute of Child Welfare)

Gladys Gibbens (College of Science, Literature, and the Arts—mathematics)

- Lester O. Gilmore (College of Agriculture, Forestry, and Home Economics—dairy husbandry)
 Paul R. Grim (College of Education)
 C. Irene Hayner (Library Instruction)
 Robert Hebbel (Medical School—pathology)
 Austin F. Henschel (Medical School—physiological hygiene)
 Arthur E. Hutchins (College of Agriculture, Forestry, and Home Economics—horticulture)
 Ione M. Jackson (School of Dentistry)
 Robert Jenness (College of Agriculture, Forestry, and Home Economics—biochemistry)
 Fulton Koehler (Institute of Technology—mathematics and mechanics)
 Donald B. Lawrence (College of Science, Literature, and the Arts—botany)
 Edward S. Loye (Institute of Technology—mathematics and mechanics)
 David MacMillan (Physical Education and Athletics)
 Harlan E. McClure (Institute of Technology—architecture)
 Ralph E. Miller (Department of Agriculture—School of Agriculture)
 Horace L. Thomas (College of Agriculture, Forestry, and Home Economics—agronomy and plant genetics)
 Faith Thompson (College of Science, Literature, and the Arts—history)
 Stewart C. Thomson (Medical School—School of Public Health)
 John C. Weaver (College of Science, Literature, and the Arts—geography)
 Frank M. Whiting (College of Science, Literature, and the Arts—speech)
 Robert W. Winslow (College of Education—music education)
 Edmund A. Nightingale (School of Business Administration)
 John M. H. Olmsted (College of Science, Literature, and the Arts—mathematics)
 Milo J. Peterson (College of Education—agricultural education)
 Wilfrid S. Sellars (College of Science, Literature, and the Arts—philosophy)
 Edward B. Stanford (Library Instruction)
 Charles E. Skinner (Medical School—bacteriology)
 Lucy Studley (College of Agriculture, Forestry, and Home Economics—home economics)
 Gertrude Thomas (Medical School—School of Public Health)
 James D. Winter (College of Agriculture, Forestry, and Home Economics—horticulture)
 Earl H. Wood (Mayo Foundation)
- Medical Social Worker and Instructor to Acting Director and Associate Professor*
 Lydia B. Christ (Medical School—social work)
- Clinical Assistant Professor to Clinical Associate Professor*
 Paul F. Dwan (Medical School—pediatrics)
 Harold C. Hillmann (School of Dentistry)
 Miland E. Knapp (Medical School—physical medicine)
 Thomas Lowry (Medical School—medicine)
 Donald McCarthy (Medical School—medicine)
 Harold H. Noran (Medical School—neurology)
 Theodore H. Sweetser (Medical School—surgery)
- Clinical Assistant Professor to Associate Professor*
 Roger W. Howell (Medical School—psychiatry and neurology)
- Lecturer to Associate Professor and Assistant Advisory Architect*
 Winston A. Close (Institute of Technology—architecture)
- Instructor to Assistant Professor*
 Jacob E. Bearman (College of Science, Literature, and the Arts—mathematics)
 Saul Bellow (College of Science, Literature, and the Arts—general studies)
 Frank Buckley (College of Science, Literature, and the Arts—English)
 Paul W. Bullen (Institute of Technology—drawing and descriptive geometry)
 Theodore Caplow (College of Science, Literature, and the Arts—sociology)
 Ruth Christie (College of Science, Literature, and the Arts—English)
 Pearl T. Cummings (Institute of Child Welfare)
 Frances K. del Plaine (College of Science, Literature, and the Arts—English)
 Joseph H. Greenberg (College of Science, Literature, and the Arts—anthropology)
 Ethel R. Gorham (College of Agriculture, Forestry, and Home Economics—home economics)
 Ledru O. Guthrie (College of Science, Literature, and the Arts—English)

Neith E. Headley (Institute of Child Welfare)
 Eloise M. Jaeger (Physical Education for Women)
 Hedda Kafka (College of Agriculture, Forestry, and Home Economics—home economics)
 Washington L. Lacabanne (Institute of Technology—mines and metallurgy)
 Edward H. Lambert (Mayo Foundation)
 Herschel H. Lysaker (Department of Agriculture—Northwest School and Experiment Station)
 Kenneth MacCorquodale (College of Science, Literature, and the Arts—psychology)
 Gayle W. McElrath (Institute of Technology—mathematics and mechanics)
 William E. Mussman (Law School)
 Lewis G. Palmer (Institute of Technology—drawing and descriptive geometry)
 Josephine L. Rollins (College of Education—art education)
 Athelene H. Scheid (Department of Agriculture—Agricultural Extension Division)
 Richard D. Springer (Institute of Technology—drawing and descriptive geometry)
 Harold B. Swanson (Department of Agriculture—publications)
 Mildred T. Templin (Institute of Child Welfare)

Junior Scientist to Assistant Professor

Samuel Schwartz, Jr. (Medical School—internal medicine)

Research Fellow to Assistant Professor

Frederic J. Kottke (Medical School—physical medicine)
 Robert G. Robinson (College of Agriculture, Forestry, and Home Economics—agronomy and plant genetics)

Clinical Instructor to Clinical Assistant Professor

Northrop Beach (Medical School—pediatrics)
 Solveig Bergh (Medical School—radiology)
 Blanchard K. Braum (School of Dentistry)
 John F. Briggs (Medical School—medicine)
 Fred Kolouch (Medical School—surgery)
 Alfred J. Ouellette (Medical School—pediatrics)
 Asher A. White (Medical School—medicine)

Medical Fellow to Instructor

Titus P. Bellville (Medical School—obstetrics and gynecology)
 Craig W. Borden (Medical School—medicine)

Clinical Assistant to Clinical Instructor

Stuart I. Arey (Medical School—pediatrics)
 Archibald E. Cardle (Medical School—medicine)
 John D. Gallaway (Medical School—surgery)
 Meyer Z. Goldner (Medical School—surgery)
 Conrad J. Holmberg (Medical School—ophthalmology and otolaryngology)
 Vernon L. Lindberg (Medical School—ophthalmology and otolaryngology)
 John R. Mead (Medical School—medicine)
 Richard Tudor (Medical School—pediatrics)

Teaching Assistant to Instructor

Clarence A. Johanson (College of Science, Literature, and the Arts—School of Social Work)
 Arthur L. Johnson (College of Science, Literature, and the Arts—School of Social Work)
 Richard A. Narvaez (College of Science, Literature, and the Arts—Romance languages)
 William Schofield, Jr. (Medical School—psychiatry and neurology)

Medical Fellow to Clinical Assistant

Edwin C. Burklund (Medical School—pediatrics)

LEAVES OF ABSENCE, 1946-47

Edmund G. Williamson, dean of students and professor of psychology, 80 per cent time leave with salary and 20 per cent time without salary, September 4 to December 1, 1946, to participate in a scientific project for the U. S. Department of Commerce, involving a study of personnel procedures in Germany.

Royal R. Shumway, assistant dean and professor, College of Science, Literature, and the Arts, leave with salary, January 16 to March 15, 1947, due to illness.

- John D. Akerman, professor and head, Department of Aeronautical Engineering, leave with salary, January 23 to February 22, 1947, due to illness.
- Thomas F. Barnhart, professor, School of Journalism, sabbatical furlough for 1946-47, to complete a study of small town weekly newspapers with particular emphasis on news sources, news policies, and coverage of small town and trade area activities in the various parts of the United States.
- Theodore Brameld, professor of education, leave with salary from September 16 to October 19, 1946, to represent the American Education Fellowship at a meeting of the World Education Fellowship in Australia.
- Huntington Brown, professor of English, sabbatical furlough for 1946-47, to write a book on generic types of prose style and their history and philosophical significance.
- Oscar C. Burkhard, professor and chairman, Department of German, two-thirds time with salary January 16 to March 15, 1947, due to illness.
- F. Stuart Chapin, professor and chairman, Department of Sociology and director, School of Social Work, sabbatical furlough for the winter quarter of 1946-47, for writing and research at Knoxville, Tennessee and at the University of Texas library.
- Samuel T. Coulter, professor of dairy husbandry, leave without salary for 20 per cent time September 16, 1946 to June 15, 1947 and for 1947-48, to set up a research program and act as adviser for Maple Island Farms, Inc., at Stillwater, Minnesota.
- Evan F. Ferrin, professor of animal and poultry husbandry, leave with salary, June 16 to September 15, 1947, due to illness.
- Florence L. Goodenough, professor, Institute of Child Welfare, leave without salary for winter and spring quarters 1946-47, due to illness.
- Herbert Heaton, professor of history, leave without salary, May 1 to June 15, 1947, for research work at Huntington Library, Pasadena, preparing material for memoir of the late Professor Edwin F. Gay.
- Charles A. Koepke, professor of mechanical engineering, leave without salary for 1946-47 to finish some consulting work within the Twin Cities.
- Mervin G. Neale, professor of education, 50 per cent time with salary and 50 per cent time without salary for the spring quarter of 1946-47, to serve as education adviser to the Office of Military Government, War Department.
- Harold S. Quigley, professor of political science, leave without salary for fall and winter quarters of 1946-47, to serve as director of the research and analysis unit of the civil intelligence section, U. S. Department of State, located in Japan, and sabbatical furlough for spring quarter of 1946-47, to write a book on the new government in Japan.
- Ruth Raymond, professor of art education, sabbatical furlough for the fall quarter of 1946-47, for study, research, and writing.
- Roland S. Vaile, professor, School of Business Administration, sabbatical furlough for 1946-47, to prepare a textbook on marketing, and study cooperative associations during wartime in the United States.
- George B. Vold, professor of sociology, leave without salary for 1946-47, to make a study of the prison system of Japan for the War Department.
- Warren C. Waite, professor of agricultural economics, leave without salary from September 1-15, 1946, to complete an economic study of the St. Louis milk market for the Dairy Council.
- Wilson D. Wallis, professor of anthropology, sabbatical furlough for 1946-47, to complete manuscript embodying a study of primitive science, time to be spent mostly in the San Francisco Bay area.
- G. Lester Anderson, associate professor of education, 40 per cent time with salary and 60 per cent time without salary, for the spring quarter of 1946-47, to serve as educational adviser to the Office of Military Government in Germany.
- Walter B. Cline, associate professor of anthropology, for 1946-47 (fall quarter with salary and on sabbatical leave for the winter and spring quarters).
- Robert V. Cram, associate professor of classics, continuation of leave with salary for the fall quarter of 1946-47, due to illness, and with half salary for winter and spring quarters of 1946-47.
- Charles L. Critchfield, associate professor of physics, leave without salary for fall quarter of 1946-47, to fulfill obligation to give assistance to Dr. Eugene Wigner on a project at Oak Ridge, Tennessee.
- Rudolph W. Delton, clinical associate professor, School of Dentistry, leave without salary for fall quarter of 1946-47, for rest.
- Frances Dunning, associate professor of home economics and manager dining hall, leave with salary, March 31 to June 15, 1947, for rest.

- Raymond L. Grismer, associate professor of Romance languages, sabbatical furlough for 1946-47, to study language, literature, and culture of the Spanish speaking countries of South America.
- Arthur J. Kittleson, associate professor, state leader 4-H Club, Agricultural Extension Division, leave with salary, December 1, 1946 to February 28, 1947, for rest.
- E. Fred Koller, associate professor of agricultural economics, sabbatical furlough for 1946-47, to study the financing and business management of representative farmers' cooperative marketing and purchasing organizations in various parts of the United States.
- Frances M. Money, director and associate professor, Social Service, University of Minnesota Hospitals, leave with salary, November 20, 1946 to January 29, 1947, due to illness.
- James J. Ryan, associate professor of mechanical engineering, leave without salary, 75 per cent time for 1946-47, to do research work with General Mills, Inc.
- Otto H. Schmitt, associate professor of zoology, continuation of leave without salary for the fall and winter quarters of 1946-47, for research work on the national defense program of the Office of Scientific Research and Development.
- Alice L. Shea, associate professor of sociology, sabbatical furlough for the fall quarter of 1946-47, for study and clinical practice in psychiatric social work at University of Chicago.
- Helen M. Starr, associate professor of physical education for women, leave without salary from October 1 to December 15, 1946 to continue studies on her Doctor's degree at Ohio State University and April 1 to June 15, 1947, without salary 75 per cent time, to head a demonstration project in school health education in the Minneapolis Public Schools.
- Alan E. Treloar, associate professor, School of Public Health, sabbatical furlough for the spring quarter of 1946-47, to complete revision of a book needed for teaching purposes and to study the vital statistics and medical care systems in Australia as a basis for comparative studies with those in the United States.
- Franklin G. Wallace, associate professor of zoology, continuation of leave for half-time without salary for 1946-47, to continue service as consultant in connection with the Veterans Hospital.
- James S. Webb, associate professor of electrical engineering, sabbatical furlough for 1946-47, for study and research at the California Institute of Technology.
- Lemen J. Wells, associate professor of anatomy, sabbatical furlough for winter and spring quarters of 1946-47, for research at department of embryology, Carnegie Institution of Washington, Baltimore, Maryland.
- Marguerite Booth, assistant professor of pediatrics, leave without salary for 1946-47, for travel and study in other medical centers.
- Allan H. Brown, assistant professor of botany, leave without salary for fall and spring quarters of 1946-47, to carry out commitments at University of Chicago already entered into before his present appointment.
- Cora E. Cooke, assistant professor, extension poultry specialist, Agricultural Extension Division, leave with salary, September 2-28, 1946, due to illness and death of her mother.
- Roy H. Giberson, assistant professor, state club agent, Agricultural Extension Division, leave with salary, March 11-31, 1947 and without salary, May 14 to June 30, 1947, due to illness.
- Frederick W. Hoffbauer, assistant professor of medicine, sabbatical furlough, April 1, 1947 to March 31, 1948, to devote full time to experimental investigations, with the last three months to study methods of clinical teaching as practiced in medical schools of Columbia, Cornell, and New York universities.
- Charlotte Kirchner, assistant professor and extension specialist in rural organization, Agricultural Extension Division, sabbatical furlough from October 1, 1946 to August 31, 1947, to work on Master's degree at Columbia University.
- Ruth E. Lawrence, director, University Art Gallery, and assistant professor, sabbatical furlough for 1946-47, to further progress in a study of Minnesota's clay resources to discover those suitable for ceramic purposes.
- Franz Montgomery, assistant professor of English, half-time leave without salary for the winter quarter of 1946-47, for writing.
- Frank Oppenheimer, assistant professor of physics, leave without salary for winter quarter of 1946-47, to complete one section of the linear accelerator at the University of California.

- John A. Sanford, assistant professor of English, leave without salary for 1946-47, to finish up some work for the War Department in a civil service position which started while he held a commission in the Navy.
- Catherine Snell, assistant professor of physical education for women, sabbatical furlough for 1946-47, to study for an advanced degree at Indiana University.
- Henry L. Taylor, assistant professor, School of Public Health, leave for 1946-47 (with salary fall quarter, without salary winter quarter, and for half time without salary spring quarter).
- Joseph W. Weinberg, assistant professor of physics, leave without salary spring quarter of 1946-47, unable to be released from duties at University of California.

LEAVES OF ABSENCE, 1947-48

- Clyde H. Bailey, dean and director, Department of Agriculture, and professor of biochemistry, leave without salary, May 10 to July 8, 1948, to serve as agricultural research training specialist on the American Mission for Aid to Greece.
- Julius M. Nolte, dean and professor, General Extension Division, leave without salary for 33 per cent time, August 1, 1947 to June 30, 1948, to serve as director of the Minnesota Territorial Centennial.
- Gaylord W. Anderson, Mayo professor and director, School of Public Health, leave with salary, May 16 to July 15, 1948, to give a series of lectures in Brazil, Argentina, and Chile.
- John E. Anderson, director and professor, Institute of Child Welfare, sabbatical furlough for 1947-48, to finish two books on the scientific work on children and to visit various institutions having programs concerned with the care of children, in the southern part of the United States and possibly in South America.
- William Anderson, professor and chairman, Department of Political Science, sabbatical furlough for winter quarter of 1947-48, to gather material for a work on the study of politics and for preparation of an edition of *The Federalist Papers*.
- John J. Bittner, professor of cancer research, leave with salary, July 1 to August 31, 1947, to present a series of scientific lectures in Austria and Hungary for the World Health Organization of the United Nations operating through the medical teaching missions of the Unitarian Service Committee.
- Nelson L. Bossing, professor of education, sabbatical furlough for the winter quarter of 1947-48, to complete a manuscript.
- Leo J. Brueckner, professor of education, leave without salary, November 11, 1947 to June 15, 1948, to serve as head of the Division of Elementary and Secondary Education in Germany for the War Department.
- Charles R. Burnham, professor of agronomy and plant genetics, sabbatical furlough, September 1, 1947 to August 31, 1948, to carry on special studies and investigations in cytogenics at California Institute of Technology.
- Alfred L. Burt, professor of history, sabbatical furlough for 1947-48, for writing the history of the British Empire.
- Alburey Castell, professor of philosophy, leave without salary for the fall quarter of 1947-48, to serve as visiting professor at the University of Washington.
- F. Stuart Chapin, professor and chairman, Department of Sociology and director, School of Social Work, sabbatical furlough for the spring quarter of 1947-48, to continue work on a book, *The Social Organization of Human Relations*.
- John O. Christianson, professor and superintendent, School of Agriculture, leave with salary, June 16 to July 15, 1948, to be a guest of the Swedish government.
- Samuel T. Coulter, professor of dairy husbandry (see 1946-47 leaves).
- Ruth E. Eckert, professor of education and coordinator of educational research, sabbatical furlough for the spring quarter of 1947-48, for more intensive development of the college program in higher education with special emphasis on the formulation of syllabi for basic sequence of courses.
- Herbert Feigl, professor of philosophy, sabbatical furlough for 1947-48, for research and writing in the field of philosophical and methodological problems of psychology on a Guggenheim fellowship.
- Harriet Goldstein, professor of home economics, sabbatical furlough for 1947-48, to do some work in color photography and to prepare some new illustrative material for teaching purposes.
- William L. Hart, professor of mathematics, sabbatical furlough without salary for 1947-48, for study and research in California.

- Oscar B. Jesness, professor and chief of agricultural economics, leave with salary from August 16 to September 15, 1947, to attend the International Conference of Agricultural Economists in England.
- August C. Krey, professor and chairman, Department of History, leave with salary for the winter quarter of 1947-48, due to ill health.
- Benjamin E. Lippincott, professor of political science, sabbatical furlough for 1947-48, to complete a book in political theory with time to be spent in Cambridge, New York, Washington, and London.
- Frank H. MacDougall, professor and chief, Division of Physical Chemistry, leave without salary for 1947-48, to serve as visiting professor at the University of Hawaii.
- Tremaine McDowell, professor of English, sabbatical furlough for 1947-48, to rewrite his unpublished literary biography of William Cullen Bryant from 1794 to 1825 as a document in cultural history and to study and write concerning the study and teaching of American civilization in the United States.
- William E. Peterson, professor of dairy husbandry, leave without salary, November 1 to December 26, 1947, to travel and study in Great Britain, Sweden, Norway, and Denmark, and to speak before various dairy groups in those countries.
- Homer J. Smith, professor and head, Department of Industrial Education, 40 per cent time with salary and 60 per cent time without salary during the spring quarter of 1947-48, to serve as specialist on industrial education in Germany under the War Department.
- Elvin C. Stakman, professor and chief, Division of Plant Pathology and Botany, leave without salary, July 1-15, 1947, to assist in a survey of agricultural conditions in Latin-American countries, to help determine the status of educational and research work in the natural sciences.
- Lorenz G. Straub, professor and head, Department of Civil Engineering, and director, Hydraulic Laboratory, leave with salary, May 26 to June 15, 1948, to serve as official delegate of American Geophysical Union to centennial meeting of the French Society of Civil Engineers in Paris, France, May 28 to June 5; to attend meeting of International Association for Hydraulic Structures Research in Stockholm, Sweden, June 7-9; also to serve as official representative of the Navy Department in regard to cooperative research.
- Maurice B. Visscher, professor and head, Department of Physiology, leave with salary, June 28 to July 24, 1947, to present a series of scientific lectures in Austria and Hungary for the World Health Organization of the United Nations operating through the medical teaching missions of the Unitarian Service Committee.
- Robert Penn Warren, professor of English, sabbatical furlough for 1947-48, to write a novel of Kentucky history in the early nineteenth century and to work on several research projects with time to be spent in Kentucky, France, and Italy, on a Guggenheim Fellowship.
- Cecil J. Watson, professor and head, Department of Medicine, leave with salary, November 12 to December 17, 1947, to visit medical schools and hospitals of the universities of Santiago, Chile, and Lima, Peru, and to contribute to the Congress of Medicine at San Juan, Puerto Rico.
- David C. Bartelma, associate professor of physical education, sabbatical furlough for 1947-48, to work for his Doctor's degree.
- Asher N. Christensen, associate professor of political science, leave without salary for the fall quarter of 1947-48, to serve as visiting professor at Universidad Central, Caracas, Venezuela.
- Russell M. Cooper, associate professor and assistant dean, College of Science, Literature, and the Arts, leave for 20 per cent time with salary and 80 per cent time without salary, May 1 to June 30, 1948, to accept an appointment with the United States Government as an educational and research consultant in Japan.
- Willard W. Green, associate professor of animal and poultry husbandry, leave without salary, September 1, 1947 to July 31, 1948, to organize and direct research at the Agricultural Experiment Station, University of Puerto Rico.
- Edwin L. Haislet, associate professor of physical education, leave without salary for 1947-48, to head the delinquency prevention work of the newly created Youth Conservation Commission, at the request of Governor Youngdahl.
- Walter W. Heller, associate professor, School of Business Administration, leave without salary for 1947-48, to serve as head of the Tax Section of the Finance Division, Office of Military Government for Germany (U.S.).
- Evron M. Kirkpatrick, associate professor of political science, leave without salary for 1947-48, to accept an appointment with the U. S. Department of State to promote

- and coordinate university, institutional, and private research in the fields of foreign governments and foreign relations.
- Donald B. Lawrence, associate professor of botany, leave without salary for the winter quarter of 1947-48, to act in a confidential capacity as operations analyst with the Army Air Forces.
- Marie Lien, associate professor of art education, leave without salary for the fall quarter of 1947-48, due to illness.
- J. Lewis Maynard, associate professor of chemistry, leave with salary for the winter quarter of 1947-48, due to illness.
- Ralph G. Nichols, associate professor of rhetoric, sabbatical furlough for 1947-48, for graduate work at the State University of Iowa to complete Doctor's degree.
- Sheldon C. Reed, associate professor of zoology and director, Dight Institute, leave without salary, July 1 to August 15, 1947, to finish some research projects under way at Harvard University.
- Skuli Rutford, associate professor and assistant director, Agricultural Extension Division, leave with salary, November 1 to December 31, 1947, due to injury.
- Helen M. Starr, associate professor of physical education, leave without salary for fall quarter of 1947-48; leave full time without salary, December 16-31, 1947, and for 50 per cent time without salary January 1 to March 15, 1948; for 75 per cent time without salary for spring quarter of 1947-48, to continue work on demonstration project in school health education in the Minneapolis Public Schools.
- Harold T. Widdowson, associate professor of industrial education, leave with salary, March 16 to May 15, 1948, due to illness.
- Bernard R. Bowron, Jr., assistant professor of English, leave without salary for the fall and winter quarters of 1947-48, due to illness.
- Herbert G. Croom, assistant professor, West Central School and Station, leave without salary, April 1 to June 15, 1948, for graduate study.
- Ralph W. Dawson, assistant professor of zoology, sabbatical furlough for the spring quarter of 1947-48, to continue the collection and study of the genus *Serica* and to work in various departments of entomology and zoology on material and local collections of those departments in the southwestern states.
- Allen W. Edson, assistant professor, West Central School and Station, leave with salary, July 11 to August 11, 1947, due to injuries.
- Roy H. Giberson, assistant professor—state club agent, Agricultural Extension Division, leave without salary for 1947-48, due to illness.
- Vetta Goldstein, assistant professor of home economics, sabbatical furlough for 1947-48, to do some color photography and to prepare some new illustrative material for teaching purposes.
- Frederick W. Hoffbauer, assistant professor of medicine (see 1946-47 leaves).
- Fred Kolouch, Jr., assistant professor of surgery, leave without salary, August 1, 1947 to June 30, 1948, due to illness.
- Evrel A. Larson, assistant professor of medicine, leave with salary, January 1-31, 1948, due to illness.
- Esther P. McKowen, assistant professor—district supervisor home demonstration work, Agricultural Extension Division, leave with salary, October 20 to December 5, 1947, due to illness.
- Valworth R. Plumb, assistant professor administration, Duluth Branch, leave without salary, July 1 to August 15, 1947, to complete his studies at the University of Wisconsin.
- Samuel Schwartz, assistant professor of medicine, leave without salary for 1947-48, to accept a Commonwealth Fund fellowship for study in the laboratory of Dr. Linderstrom-Lang in Copenhagen, Denmark.
- Dorothy D. Smith, assistant professor professional education, Duluth Branch, sabbatical furlough for 1947-48, for graduate study in the fields of elementary education, curriculum, and teacher training at New York University.
- Amy Wessel, assistant professor—district supervisor home demonstration work, Agricultural Extension Division, leave without salary, March 16 to May 31, 1948, to be visiting expert with the Office of Military Government for Germany in connection with women's activities and to assist in the further development of home economics educational programs and organization.
- Margaret S. Harding, director, University of Minnesota Press, sabbatical furlough for 1947-48, for rest, travel, and study.

DEATHS

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

- Gustav Bachman, professor emeritus, College of Pharmacy, November 11, 1947.
 Louis B. Bassett, associate professor emeritus of agricultural economics, October 4, 1947.
 Andrew Boss, professor emeritus of agriculture and farm management, January 13, 1947.
 Ralph H. Brown, professor of geography, February 23, 1948.
 S. Chatwood Burton, professor of architecture, March 4, 1947.
 James T. Christison, professor emeritus of pediatrics, September 14, 1946.
 Alexander R. Colvin, clinical professor of surgery, March 22, 1948.
 Harry M. Conner, associate professor of medicine, Mayo Foundation, October 18, 1947.
 Robert V. Cram, associate professor of classics, June 18, 1947.
 Julius Felt, instructor emeritus, West Central School and Station, October 6, 1947.
 George B. Frankforter, professor emeritus of organic chemistry, September 8, 1947.
 Fred W. Gaarde, associate professor of medicine, Mayo Foundation, February 10, 1948.
 Haldor B. Gislason, assistant professor emeritus of visual instruction and drama, General Extension Division, July 13, 1947.
 Robert G. Green, professor and head, Department of Bacteriology and Immunology, September 6, 1947.
 Francis E. Harrington, clinical professor, School of Public Health, May 9, 1947.
 Vernon D. Irwin, clinical instructor, School of Public Health, May 9, 1947.
 Clarence M. Jackson, professor emeritus of anatomy, January 17, 1947.
 Dunham Jackson, professor emeritus of mathematics, November 6, 1946.
 Edwin J. Kepler, professor of medicine, Mayo Foundation, October 19, 1947.
 Earle G. Killeen, professor emeritus of music, May 31, 1947.
 Winford P. Larson, professor and head, Department of Bacteriology, January 1, 1947.
 Robert O. Meyer, clinical associate professor emeritus of obstetrics and gynecology, December 12, 1947.
 Frances M. Money, director and associate professor, Medical Social Service Department, University of Minnesota Hospitals, December 13, 1946.
 William A. O'Brien, professor and director, Postgraduate Medical Education, November 15, 1947.
 Harry Oerting, clinical assistant professor of medicine, January 30, 1948.
 Oscar W. Oestlund, professor emeritus of animal biology, April 16, 1948.
 Lee W. Pollock, assistant professor of medicine, Mayo Foundation, February 2, 1947.
 Emil C. Robitshek, clinical assistant professor of surgery, June 23, 1947.
 Arthur G. Ruggles, professor emeritus of entomology and economic zoology, December 23, 1947.
 Colbert Searles, professor emeritus of Romance languages, January 15, 1947.
 Marion Weller, associate professor emeritus of home economics, July 31, 1946.
 Frank W. Whitmore, clinical associate professor of psychiatry and neurology, December 5, 1946.
 Frederick J. Wulling, dean and professor emeritus, College of Pharmacy, October 21, 1947.
 Jeremiah S. Young, professor emeritus of political science, December 30, 1947.
 Anthony Zeleny, professor emeritus of physics, December 15, 1947.

HONORS AND DISTINCTIONS

Administration—James Lewis Morrill received the LL.D. degree from the University of Wyoming in 1946 and from the University of Cincinnati in 1948. He served as president of the Association of Land-Grant Colleges and Universities during 1947-48; he was chairman, Problems and Policies Committee of the American Council on Education; a member of the Executive Council of the Minnesota Historical Society; a director of the Minnesota Radio Council; a trustee of the Minnesota Community Research Council, Inc.; and a trustee of the Minneapolis Society of Fine Arts. He served as a member of the Advisory Committee on Foreign Service Examinations, Washington, D. C.; of the Minnesota Civilian Army Council for the Commanding General of the Fifth Army; of the Board of Directors, Minnesota Chapter of the American-Scandinavian Foundation; of the State Commission on the Study of Post-High School Education; and of the Advisory Board of College Presidents of the College Scholarship Fund for Negro Students. He was a member of the Executive Committee of the National Health Conference, Federal Security Agency, Washington, D. C.

Units of Academic Administration—Malcolm M. Willey was a member of the Commission on Higher Education and of the Board of Review of the North Central Association of Colleges and Secondary Schools. He served as a member of the Public Library Inquiry of the Social Science Research Council and as a member of the Committee on Organization for Research, Social Science Research Council. He was elected to membership in the Newcomen Society of England.

Admissions and Records—True E. Pettengill served as first vice-president and member of the Executive Committee, 1946-47, and as chairman of the Committee on Resolutions, 1947-48, of the American Association of Collegiate Registrars. He was a member in 1946-47 and chairman in 1947-48 of the Committee on Special Projects, Upper Midwest Association of Collegiate Registrars.

Coffman Memorial Union—G. Ray Higgins was named regional adviser by the National Association of College Unions.

Concerts and Lectures—James S. Lombard was named executive secretary, International Platform Association.

University Library—Edward S. Bade served as Minnesota representative of the Library Section of the American Bar Association's survey of the legal profession.

G. Irene Hayner served as chairman of the Editorial Committee, 1947-48 and as chairman of the Constitution Committee, Division of Libraries for Children and Young People, 1947-48, both of the American Library Association.

James Kingsley served as a member of the Subscription Books Committee of the American Library Association; and as a member of the New Reference Books Committee of the Association of College and Reference Libraries.

Errett W. McDiarmid was elected president of the American Library Association in 1948; and has served as a member of its Executive Board since 1945. He was president of the Association of College and Reference Libraries in 1946-47 and director of the Survey of Veterans Administration Libraries during the same year.

Theodora Melone was elected a director of the Geological Society of Minnesota.

Jessie Richardson served as a member (1946-48) and chairman (1947-48) of the Program Committee of the Special Libraries Association.

Harold G. Russell was chairman of the Committee on New Reference Material, Reference Section of the Association of College and Reference Libraries.

Alma Scott was the recipient of a Regional Writing Fellowship award.

Raymond H. Shove served as chairman of the Serials Committee and of the Acquisition Department Heads of Research Libraries Round Table, both of the American Library Association. He was a member of the Committee on Reproduction of War Issues of Serial Publications of Axis and Axis-occupied Countries, Association of Research Libraries.

Edward B. Stanford served as chairman of the Board on Personnel Administration of the American Library Association; as member of the Board of Examiners for Library Positions, Minnesota State Civil Service; and as a member of the Board of Examiners for Library Positions, Los Angeles Civil Service Commission.

Donald E. Strout was elected president of the Minnesota Library Association.

Virginia B. Wilson was on the Membership Committee of the Special Libraries Association.

Museum of Natural History—Walter J. Breckenridge was elected president of the Minnesota Academy of Science for 1947-48; he was elected second vice-president of the Wilson Ornithological Club for the same year. In 1947 he was appointed to the State Board of Directors of the Minnesota Division, Isaak Walton League of America.

Donald K. Lewis was elected secretary of the Minnesota Academy of Science.

Dwain W. Warner served as a member of the Program Committees, Minnesota Section of Wildlife Society, and of the Minnesota Bird Club.

Dean of Students Office—Ralph F. Berdie served on the Psychometric Committee of the National Research Council. He attended the Office of Naval Research Seminar as one of one hundred scientists selected from the United States, 1948. He was named executive secretary of the Minnesota Psychological Association and served as member of the Committee on Employment in Relation to Youth Development, Youth Conservation Commission.

B. James Borreson served as a member of a special subcommittee of the American Council on Education to prepare a brochure on social adjustment.

Joan J. Clark was elected to membership in Psi Chi and Pi Lambda Theta.

Lynn H. Draper was elected to membership in Psi Chi. He served as a member of the Committee on Housing of the American Council on Education.

John T. Dugan was awarded a playwriting fellowship by the National Theatre Conference.

Dorothy T. Dyer served as resource specialist on the family at the Conference of Home Economics Teachers, National Home Economics Association and Department of Education; and was a member of the Executive Committee of the Minnesota Council on Family Life.

Howard Gilkinson was elected chairman of the Committee on Graduate Study, Speech Association of America.

LeRoy D. Hedgecock was elected to membership in Psi Chi. He served as hearing consultant for Minneapolis and St. Paul Departments of Special Education, Minneapolis and St. Paul Societies for the Hard of Hearing, Minnesota State School for the Deaf, and the Minnesota Society for Crippled Children.

Ernest H. Henrikson was a member of the Council of the American Speech and Hearing Association and was named a member of the Executive Committee of the Speech Correction Foundation.

Vivian H. Hewer was named treasurer of the Minnesota Psychological Association in 1948.

William S. Howell served as a member of the Committee on Intercollegiate Debate and Discussion of the National Speech Association.

Karol A. Kaiser was elected to membership in Pi Lambda Theta and to Psi Chi. She served as SPAN representative to the Conference on U. S. Student Projects in Europe called by the Carnegie Institute for International Peace in Paris, 1948.

Carol L. Lutey was elected to membership in Pi Lambda Theta.

Forrest G. Moore was elected an affiliate of the Minnesota Psychological Association; he was elected a member of the Board of Directors of the National Association of Foreign Student Advisers; and was elected to honorary membership in the Association of Cosmopolitan Clubs and the Advisory Council for the area.

Dorothy S. Nudell was elected to membership in Psi Chi and Phi Beta Kappa.

Margaret E. Patty served as national second vice-president of Chimes, national Junior women's activities honorary.

Harold W. Schofield was elected to Phi Beta Kappa at Yale University.

Edward H. Seldon was elected a member of Psi Chi.

Doris M. Seward was elected to membership in Psi Chi. She participated as program leader in the National Student Volunteer Conference at Kansas University; was National Board delegate of the YWCA to the World Conference of Christian Youth at Oslo, Norway, 1947; was U. S. delegate to the World Student Christian Federation Conference at Lund, Sweden, 1947; and was conference leader at the Geneva Regional Conference of National Intercollegiate Christian Council, 1948. She was a member of the Board of Directors of the National Intercollegiate Christian Council, 1947-48.

Martin L. Snoke served on the State Selection Board for NROTC candidates.

Katherine F. Thorn was elected to membership in Delta Kappa Gamma.

Edmund G. Williamson served on the following committees of the American Council on Education: Committee on the Study of Disabled Veterans, chairman; Commission on Accreditation of Service Experiences; Navy Scientific Personnel Advisory Committee; Committee on Student Personnel Work, chairman; Advisory Committee on Consultations Service, ex officio. He was chairman of the Committee on High School and College Relations of the Association of Minnesota Colleges; member of Committee No. 5, Pupil-Personnel Records Essential to the Education and Post-High School Placement of all Youth, Education of American Youth Conference, 1946.

H. Wilkes Wright was appointed to the Command and General Staff College, U. S. Army, as staff analyst.

Students' Health Service—Ruth E. Boynton was reappointed a member of the State Board of Health and elected vice-president. She served on the Executive Committee of the Minnesota Public Health Association; as a member of the Editorial Committee of the American Student Health Association; and as a member of the Tuberculosis Committee of the State Medical Association. Dr. Boynton was elected to fellowship in the American Association for the Advancement of Science.

Robert G. Hinckley was elected chairman of the Mental Hygiene Committee, American Student Health Association.

Ramona L. Todd was elected to membership in the American Society for the Study of Arteriosclerosis.

University of Minnesota Press—Margaret S. Harding was named a member of the National Commission on Children and Youth, U. S. Children's Bureau, and served as recorder at the 1948 meeting.

Helen Clapesattle served as consultant to the President's Commission on Higher Education, 1947.

Business Administration—Wallace V. Blomquist served as chairman of the Board of Directors, Minnesota State Employees Retirement Association.

William F. Holman was elected president of the Association of Physical Administrators of Universities and Colleges.

Laurence R. Lunden was elected secretary-treasurer of the Central Association of College and University Business Officers, 1947, 1948. He served on the Committee of the American Council on Education in connection with Federal tax legislation; and was appointed to the Council of Business Officers representing the Association of Land-Grant Colleges and Universities and the National Association of State Universities.

William T. Middlebrook served as chairman, Committee on Fiscal Relations with the Federal Government, Central Association of College and University Business Officers; and as chairman of the combined Committee on Fiscal Relations with the Federal Government, representing Eastern, Southern, Western, Negro, and Central Business Officers Associations. He was a member of the Board of Directors, Parents' Institute, Inc.

College of Science, Literature, and the Arts—Ernst C. Abbe was elected vice-president of the Minnesota Chapter of Sigma Xi, 1947-48.

Harold B. Allen served in the following capacities: chairman, Minnesota Group for Linguistics; chairman, Twin Cities Communication Committee; temporary consultant for Language Arts Committee, Minneapolis Public Schools; chairman, Minnesota Proverb Survey, American Dialect Society; chairman, Language Projects Committee of The Folk Arts Foundation; director, Linguistic Atlas of Upper Midwest; chairman, 1948, for Present-day English Group XIII, Modern Language Association of America; member, Subcommittee on Writing in the First Two Years of College; and member, Committee on English Usage, National Council of Teachers of English.

William Anderson served as a member of the Committee on Federal-State Relations, Commission on Organization of the Executive Branch of the Government (the Hoover Commission), 1947-48; and as a member of the Charter Commission, City of Minneapolis, 1946-47. He was elected a member of the American Section, International Institute of Administrative Sciences, 1948.

Ralph T. Backlund was the recipient of awards as follows: City of Minneapolis Distinguished Service Award for Betterment of Community Life; Special Citation, Heywood Brown Award, American Newspaper Guild; "Stick O' Type" Award, Chicago Newspaper Guild; 1948 Radio Award, Phi Beta, National Professional Fraternity of Music and Speech; The Billboard Award for Outstanding Achievement in Radio Programming; American Brotherhood Award, National Conference of Christians and Jews; the George Foster Peabody Citation; and the Page One Award of the Newspaper Guild of the Twin Cities.

Thomas F. Barnhart was elected president of the Advertising Club of Minneapolis, 1947-48.

Francis B. Barton was named *Officier d'Académie* (French Government cultural award), June 1948.

W. Charles Bell was elected a fellow in the Geological Society of America and was appointed to the National Research Council Committee on Cambrian Stratigraphy.

Edward Berryman served on a committee selected to consult with the Conn Instrument Company, for the improvement of electronic organs.

Raymond W. Brink was named secretary of the Mathematics Section (Section A), American Association for the Advancement of Science.

Huntington Brown served as finance chairman of the State Committee of United World Federalists; and as president of the Board of Trustees, Northrop Collegiate School. He was awarded a Guggenheim Fellowship, 1946-47.

J. William Buchta was elected president of the American Association of Physics Teachers.

Alfred L. Burt was awarded the Tyrrell Gold Medal by the Royal Society of Canada for researches in Canadian history. He was elected vice-president of the Canadian Historical Association, and was elected a fellow of the Royal Historical Society. He was the United States representative of the American Historical Association at the annual meeting of the International Committee of the Historical Sciences at Paris.

Ralph D. Casey served as a member of the Commission on Technical Needs in Press, Radio, and Film, United Nations Educational, Scientific, and Cultural Organization, Paris, 1948; as member of the American Council on Education for Journalism, 1946-48; and as advisory consultant to the State Civil Service Commission, 1948. He was the recipient of the Sigma Delta Chi national award for research in journalism and of the national research prize from Kappa Tau Alpha, national scholastic journalism society, 1946.

Mitchell V. Charnley was named chairman of the National Council on Radio Journalism; and chairman of the Peabody Awards Committee, Minnesota Radio Council.

Asher N. Christensen served as a member of the Advisory Committee, Division of International Exchange of Persons, Department of State, 1946; as a member of the Committee on Introductory Course, and as a member of the Committee on Latin America, American Political Science Association.

George P. Conger served as a member of the Advisory Committee, Watumull Foundation; and as a member of the National Board of Officers, American Philosophical Association, 1946-47.

Russell M. Cooper was appointed consultant in higher education for the Supreme Command of Allied Powers in Japan, April to June, 1948. He served as chairman of the Committee on Liberal Arts Education and as a member of the Commission on Research and Service, North Central Association of Colleges and Secondary Schools, 1946-48.

William S. Cooper was elected a fellow of the Arctic Institute of North America, 1948 (one of the initial 50 so honored).

Charles L. Critchfield served as technical consultant to Los Alamos Scientific Laboratory and as a member of the Tenth Conference on Theoretical Physics sponsored by Carnegie Institution of Washington and the George Washington University, November, 1947. He was the recipient of the Naval Ordnance Development Award presented by the U. S. Navy, Bureau of Ordnance.

James A. Cuneo was elected president, Minnesota Chapter, American Association of Teachers of Spanish and Portuguese, 1946-48. He served as a member of the International Trade Committee of the Minneapolis Chamber of Commerce; and as member of the Program Committee of Northwest World Trade Council.

A. Orville Dahl was named a member of the Committee on Pollen of the American Academy of Allergy.

Alfred de Grazia was research consultant, Council of State Governments, for the Hoover Commission on the Organization of the Executive Branch of the Government, 1947-48.

Guy Desgranges was elected president of the Minnesota-Dakotas Chapter, American Association of Teachers of French, 1947-48.

Harold C. Deutsch was named associate fellow, Library of Congress. He acted as national president and was a member of the Advisory Board of Phi Alpha Theta, national honorary history fraternity. He served as director of studies at the National War College, 1948; and was the recipient of a Medal of Freedom for services in the European Theater of Operations.

Charles T. Duncan served as a member of the Committee on Public Information, Minnesota Constitutional Commission, 1948.

Bob Eddy served as chairman of Twin Cities Newspaper Guild Committee on Awards.

Samuel Eddy served on the Committee for Research on Management of Impounded Waters, North Dakota Department of Conservation.

Richard M. Elliott served as a member of the Board of Directors, 1946-48, and as member of the Council of Representatives, 1947-48, American Psychological Association. He served on the National Research Council as representative for the American Psychological Association, 1947-48.

David Erdman was awarded a Guggenheim Fellowship, 1947-48.

Herbert Feigl was elected a fellow of the American Association for the Advancement of Science, 1947, and was awarded a John Simon Guggenheim Memorial Fellowship for 1947-48. He served as a member of the Advisory Board, International Encyclopedia of Unified Science (University of Chicago Press).

Donald N. Ferguson was named vice-president of the College Music Association, 1948; and chairman of the Examining Board of the Minnesota Music Teachers' Association, 1948.

Jacques A. Fermaud served as consular agent for France in the Twin Cities, 1946-48. He was elected national president of the American Association of Teachers of French, 1946-48; and was named *Officier d'Instruction Publique* (highest French Government cultural award), June 1948.

Paul Fetler was the recipient of the John Day Jackson Prize from Yale University, 1947; and of the Woods Chandler Prize from Yale University, 1948.

Albert W. Frenkel was invited to serve as research associate on problems of photosynthesis at the Marine Biological Laboratory, Woods Hole, Mass., 1948.

Earl R. George was recipient of the Third Annual George Gershwin Memorial Prize, 1946; and of the Third Annual James Millikin University Choral Prize, 1946. He received a grant in the form of a commission, Koussevitzky Music Foundation, 1947; and a Fellowship in Composition, Berkshire Music Center, 1946.

J. Edward Gerald was elected vice-president of the American Association of Teachers of Journalism. He was named to represent the Association on the joint merger committee of the American Association of Schools and Departments of Journalism, the American Association of Teachers of Journalism, and the American Society of Journalism School Administrators.

Neal Gross was recipient of the Social Science Research Council Demobilization Award in 1946; and the Social Science Research Council Post-Doctoral Fellowship in 1948.

Frank F. Grout was appointed a delegate to the 18th International Geological Congress in London.

John W. Gruner was elected president of the Crystallographic Society of America, 1947-48.

Alrik Gustafson was awarded a renewal of the John Simon Guggenheim Fellowship for research abroad on the life and work of August Strindberg, Swedish dramatist. He served as secretary of the Scandinavian Section, Modern Language Association of America, 1948. He was elected honorary foreign member of *Vetenskaps societeten i Lund* (Lunds Universitet, Sweden), in which only one other American holds membership.

Agnes Hansen was elected national treasurer of Sigma Delta Epsilon (graduate women's scientific fraternity affiliated with AAAS), 1948.

William L. Hart served as a member of the committee for the preparation of a career guidance pamphlet for college students of mathematics, Mathematical Association of America.

Herbert Heaton served as secretary of the Committee for Research in Economic History, Social Science Research Council.

John L. Heller served as member of the Executive Committee, Classical Association of the Middle West and South.

Edward L. Hill served as consultant to the Los Alamos Laboratory, 1946.

Paul L. Holmer was named a fellow of the National Council on Religion in Higher Education, 1946-48.

Theodore Hornberger was a member of the Council of the History of Science Society, 1946.

Gertrude Hull was a member of the Examining Board (Voice Section), Minnesota Music Teachers' Association, 1947-48.

Paul S. Ivory was named chairman of the Record Committee, Minnesota Music Educators' Association, 1948; and was co-editor, co-author, and coordinator of the Course of Study in Music, State Department of Education, 1948.

Tom B. Jones was elected secretary-treasurer of the Minnesota Chapter of the Archeological Institute of America.

Philip D. Jordan served as director of the project of writing the history of public health in Minnesota, Minnesota Historical Society; and as member of the Board, American Folk Arts Foundation, Inc.

Gerhard K. Kalisch was elected to membership in the Society of Sigma Xi.

Blanche Kendall served as national program counselor for Sigma Alpha Iota, international professional music fraternity for women, 1946-48; and as secretary-treasurer of the Minnesota Music Teachers' Association, 1948.

John C. Kidneigh served in the following capacities: member of the National Board of Directors, American Association of Schools of Social Work; member of the National Membership Committee, American Association of Social Workers; chairman of the Public Policy Committee, Twin City Chapter of the American Association of Social Workers; and president of the American Association of Schools of Social Work.

Fred L. Kildow served as executive director, Minnesota High School Press Association, 1947-48.

Clifford Kirkpatrick served on the Executive Committee, Midwest Sociological Society.

Ruth H. Koontz served as a member of the Committee on Regulation of Practice, Twin City Chapter, American Association of Social Workers.

August C. Krey served as a member of the Executive Council, American Historical Association. He was elected vice-president of the Minnesota Historical Society; president of the American Folk Arts Foundation, Inc.; and president of the Midwest Association of College Teachers of History.

Joseph J. Kwiat was awarded a Fellowship in American Studies, American Council of Learned Societies, 1947-48.

Donald B. Lawrence was appointed operations analyst for the Arctic Service of the U. S. Army, 1947-48. For this service he received a letter of high commendation.

Werner Levi served as a member, Board of Directors, Foreign Policy Association (St. Paul Branch), 1947-48; and member, Board of Directors, Jewish Family Service (St. Paul), 1946-48.

Benjamin E. Lippincott was the recipient of the Legion of Merit Award for exceptionally meritorious conduct in the performance of outstanding services in the South and Southwest Pacific.

Walter Loban was a member of the Curriculum Commission, National Council of Teachers of English; and was consultant in curriculum building for the public schools of Battle Creek, Michigan, and Grand Island, Nebraska.

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

Howard P. Longstaff was named chairman of the Committee on Professional Training below the Doctoral Level, American Psychological Association. He was a member of the Marketing Research Institute Planning Committee, Twin Cities Chapter of the American Marketing Association.

Warren S. Loud was elected to membership in the Society of Sigma Xi at Massachusetts Institute of Technology, 1947.

Clarence C. Ludwig was appointed executive secretary, Minnesota League of Municipalities. He served as a member of the National Committee on Municipal Accounting, 1946; as member of the Constitution Revision Committee; as member, Airports Committee, American Municipal Association; and member of the Executive Committee, Minnesota Safety Council.

Willem J. Luyten was elected to the Board of Directors, Minneapolis Foreign Policy Association; and to the Board of Directors, Minnesota United Nations Association.

Tremaine McDowell was named chairman of the Committee on Curricula in American Civilization, American Literature Group, Modern Language Association; chairman of the College Section and member of the Executive Committee, National Council of Teachers of English; and consultant on American Studies at various institutions. He served as a member of the Committee on American Civilization, American Council of Learned Sciences. He was awarded a Rockefeller Fellowship in American Studies, 1947-48.

T. Raymond McConnell served as a member of the Educational Policies Commission; as a member of President Truman's Commission on Higher Education and of its Executive Committee; and as a member of the Board of Directors, Educational Testing Service. In 1948 he represented the State Department at the UNESCO Preparatory Conference of Representatives at Utrecht, Netherlands; and represented the American Council on Education as auditor at the Congress of Universities of the Commonwealth, Oxford University, England, 1948. He was the recipient of a grant from the Carnegie Corporation for the study of university developments in Great Britain, 1948.

Charles H. McLaughlin served as a member of the Board of Directors, Minnesota United Nations Association. He was awarded a Social Science Research Council Demobilization Fellowship, 1946-47.

Paul E. Meehl was consultant in clinical psychology, Veterans Administration, Fort Snelling.

Clarence E. Mickel was elected permanent president of the International Great Plains Entomological Conference.

Dwight E. Minnich was awarded the honorary degree, Doctor of Science, by Miami University, Oxford, Ohio, 1946. He served as president and director of the Minnesota Human Genetics League; president and director of the Mount Desert Island Biological Laboratory; director of the Minnesota Planned Parenthood League; and as a member of the Executive Committee, American Society of Zoologists.

Samuel H. Monk was a member of the Advisory Council, Folger Shakespeare Library, Washington, D. C. He served as chairman of English II, and as Secretary of English VIII, Modern Language Association, 1947. He was awarded a Post-War Fellowship in Humanities, Rockefeller Foundation, 1946.

Verval J. Mueller was awarded a Certificate from the American Red Cross for war services.

Ralph O. Nafziger served as a member of the Accrediting Committee, Association of Accredited Schools and Departments of Journalism; and as a member of the Council on Research of the same Association. He was technical consultant of the Minnesota Poll.

Alfred O. C. Nier was a member of the Subcommittee on Nuclear Constants of the Committee of Nuclear Science, National Research Council; and chairman of the panel on physics of the Section of Physics, Committee on Growth, National Research Council.

Paul M. Oberg served as follows: executive secretary-treasurer, Minnesota Public School Music League, 1946-48; vice-president, 1947, and president, 1948, Minnesota Music Teachers' Association; president, National Association of Music Executives in State Universities, 1946; member of the Graduate Commission of the National Association of Schools of Music, 1947-48; and member of the Board of Directors of the Minnesota Music Educators' Association, 1947-48.

William Van O'Connor was the recipient of a Post-War Fellowship in the Humanities, Rockefeller Foundation, 1946-47.

Magnus Olson was appointed to the Membership Committee, American Association for the Advancement of Science, 1948.

Kenneth L. Osterud served on the Executive Committee and the Constitution Committee, American Society of Protozoologists.

Raymond Parker received a First Award for painting, Twin City Annual Exhibition, Minneapolis Institute of Arts, 1948.

Donald G. Paterson served as a member of the Panel of Experts, American Board of Examiners in Professional Psychology, Inc.; member of the subcommittee on Ethical Standards for Psychology, American Psychological Association; member, Committee on Nominations, Industrial Relations Research Association, 1948; and member, Oral Examining Committee, Minnesota Civil Service Commission.

Walter T. Pattison served as chairman of the Microfilm Committee, Modern Language Association of America, 1946-48.

Gerald R. Prescott was elected president of the College Band Directors' National Association, 1946. He served on the Board of Directors, 1946-47, and as chairman of the Policy Committee, 1948, American Bandmasters' Association. He has been a member of the Advisory Board of *Instrumentalist Magazine* since its first issue in 1946.

Harold S. Quigley was appointed research consultant, Civil Intelligence Section, General Headquarters, Supreme Commander Allied Powers, Tokyo, 1946-47.

Walter W. Quirt was the recipient of a Third Award for Painting, Wisconsin Centennial Exhibition, 1948; and had two works purchased by the Museum of Modern Art for its permanent collection, 1948.

Sheldon C. Reed served as director, Minnesota Planned Parenthood League.

Otto H. Schmitt was the recipient of a Citation by the President of the United States, the War and the Navy Departments, for outstanding scientific research during World War II.

Roy A. Schuessler was a member of the Board of Directors, Twin Cities Music Educators' Club, 1946-48.

George M. Schwartz was appointed chairman of the Governor's Committee to Coordinate the Topographic Mapping Program of the State of Minnesota.

Lloyd M. Short was awarded the honorary LL.D. degree by Knox College, 1947. He served as chairman of the following: Constitutional Commission of Minnesota, 1946-48; Advisory Committee on Personnel in the Social Sciences and Advisory Committee on Administrative Personnel, 8th Region, both of the U. S. Civil Service Commission, since 1946. He was a member of the Executive Council, Minnesota Institute for Government Research; member of the Land-Grant College—Department of Agriculture Committee on Training for Government Service; and member of the Committee on Education and Social Security, American Council on Education.

Mulford Q. Sibley was the recipient of a grant from the Social Science Research Council for the Cornell University Research in Civil Liberties.

Henry Nash Smith was a member of the Salzburg Seminar in American Studies, and was chairman of the Executive Committee, Salzburg, Austria, 1948. He served as a member of the Committee on American Studies, American Literature Group, Modern Language Association, 1948. He was awarded a Research Fellowship, Huntington Library, San Marino, California, 1946-47.

H. Burr Steinbach served as temporary executive secretary and as a member of the Governing Board (representing the National Research Council), American Institute of Biological Sciences. He was member and secretary of the Executive Committee, and a trustee, Marine Biological Laboratory.

Frederick M. Swain was elected a fellow in the Geological Society of America.

John T. Tate served as chairman of the Board of Governors, Argonne National Laboratory. He was the recipient of the Presidential Medal for Merit and of His Majesty's Medal for Service in the Cause of Freedom, by the King of England.

George A. Thiel served as chairman of the Committee on Geological Education, Geological Society of America; and as a member of the Committee on Teaching, American Association for the Advancement of Science.

Miles A. Tinker served as consultant, Panel on Psychology and Physiology, Committee on Undersea Warfare, National Research Council, 1948.

Alice Felt Tyler was awarded the honorary degree, Doctor of Humane Letters, by Knox College.

George B. Vold was elected first vice-president of the Midwest Sociological Society.

Clifford N. Wall was the recipient in 1947 of a \$1,000 award from the Research Corporation for outstanding teaching during a ten-year period.

Franklin G. Wallace served as consultant in parasitology, U. S. Veterans Hospital, Minneapolis.

Wilson D. Wallis was named chairman of Section H, American Association for the Advancement of Science, 1946-47.

George A. Warp was deputy chief, Religious and Cultural Resources Division, and legal adviser of the Civil Information and Education Section, General Headquarters, Supreme Commander Allied Powers, Japan. He served as a member of the Tort Liability Committee, Municipal Law Section, American Bar Association. He was the recipient of Commendation for Meritorious Civilian Service, 1948, and the Army Commendation Ribbon, 1946.

Robert Penn Warren was the recipient of the Pulitzer Prize in the Novel, 1947; and of a Guggenheim Fellowship, 1947-48.

John C. Weaver served in the following capacities: expert consultant to the Committee on Geographic Exploration, Research and Development Board, The National Military Establishment, 1947-48; research consultant for the Midwest Barley Improvement Association, 1946-48; and chairman of the Awards Committee, Association of American Geographers, 1948. He received a letter of commendation from the Chief of Naval Operations, U. S. Navy, upon completion of the Ice Atlas of the Northern Hemisphere, 1946.

Edward W. Weidner was a member of the Council of the American Society for Public Administration.

John H. Williams served as consultant to Los Alamos Laboratory; and as member of the Subcommittee on Neutron Standards, National Research Council.

John B. Wolf served on the Program Committee of the American Historical Association; and was a member of the John Hazen Prize Committee for the best book in French and Franco-American history.

E. William Ziebarth served as a member of the executive committee of the National Association of Educational Broadcasters; as a member of the Mayor's Council on Human Relations; and of the Governor's Youth Commission. He was a contributing editor for the *Journal of the Association for Education by Radio*; was regional director of the Association for Education by Radio; served as chairman, Radio Education Advisory Committee, St. Paul Board of Education; and was elected national chairman of Evaluation Committees of the Institute for Education by Radio.

Institute of Technology—John D. Akerman was named a fellow of the Royal Aeronautical Society (London), 1948; and was named fellow of the Institute of Aeronautical Sciences. He served as adviser to the Quartermaster Corps; and as director of the Greater Twin City Chapter of the National Aeronautics Association.

Axel B. Algren served as a member of the Research Committee of the American Society of Heating and Ventilating Engineers, 1948. He was a member of the Minnehaha Academy School Board; and a member of the Civil Service Examination Committee for the City of Minneapolis.

Richard T. Arnold was awarded a Guggenheim Fellowship. He was elected treasurer of Phi Beta Kappa; and served as a member of the Panel for Graduate Work of the American Chemical Society.

James C. Barnes served as a member of the Institute of Radio Engineers, Technical Committee on Facsimile, 1946-48.

Loyst C. Caverley was elected secretary of the American Society for Engineering Education.

W. Brook Cavin was awarded first prize in the competition for the design of the Minnesota State Veterans' Service Building on the capitol grounds in St. Paul.

Robert G. Cerny was named chairman of the Mayor's Emergency Housing Committee. He was elected executive secretary of the Civic Center Development Association and served as a member of the Progress Priority Committee, Minneapolis City Council; of the Mayor's Council on Human Relations; of the Traffic and Parking Committee, Chamber of Commerce; and of the Zoning Committee, Chamber of Commerce.

Bryce L. Crawford, Jr., served as a member of the advisory group on solid propellants for the Bureau of Ordnance, U. S. Navy.

Alfred E. Cronk served as secretary of the Minnesota Chapter, American Society of Engineering Education.

Edward W. Davis served as a member of the National Security Resources Board, Informal Conference on Iron Ore, 1948.

Raymond M. Dodson was named a fellow of the National Research Council in 1947.

Harry A. Doeringsfeld served as a member of the Committee on Examinations for Engineers in Training, State Board of Registration of Architects, Engineers, and Land Surveyors, 1946-48.

Ralph L. Dowdell served as training officer, 1946-47, and as vice-commander, 1947-48, of the U. S. Coast Guard Auxiliary, Flotilla 3, Division 1, St. Paul Flotilla. He was technical supervisor of the Restricted Project, SC-2017 with Nepa Division, Fairchild Engine and Airplane Corporation, Oak Ridge, Tennessee, 1948.

Henry C. T. Eggers was named a member of the Engineering Drawing Committee, North Midwest Section, American Society of Engineering Education, 1947-48.

Newman A. Hall had membership on the following committees of the American Society of Mechanical Engineers: sponsor for thermodynamics, Advisory Committee, Applied Mechanics Division; Gas Turbine Committee; and Special Research Committee on Gas Property.

Fulton Holtby served as a member of the Board of Directors, Northwest Chapter, Society of Plastics Engineers, 1947-48; and as a member of the National Educational Committee of the Society in 1947-48.

Robert T. Jones served as a member of the Minneapolis City Planning Commission, and of the Priorities Committee of the Minneapolis City Council. He was also a member of the Minnesota Construction Committee.

Roy C. Jones was elected president of the National Architectural Accrediting Board; and was appointed professional adviser to the State Veterans' Service Building Commission in the competition to select an architect.

Richard C. Jordan was elected national director, American Society of Refrigerating Engineers, 1946-48, and served as chairman of both the Education Committee and the Standards Committee of the Society. He was the area representative on the rating of technical institutes for the Engineers Council for Professional Development, 1947-48; and was the American Society of Heating and Ventilating Engineers representative on the Mayor's special committee on smoke abatement, City of Minneapolis.

Thomas L. Joseph served as administrative supervisor, Restricted Project SC-2017 with Nepa Division, Fairchild Engine and Airplane Corporation, Oak Ridge, Tennessee, 1948. He was a member of the Minnesota-North Dakota Resources Commission; was named chairman of the Blast Furnace, Coke Oven, and Raw Materials Committee of the A.I.M.E.; and chairman of the Mineral Engineering Division, American Society of Engineering Education.

Miles S. Kersten served as a member of the Committee on Flexible Pavement Design of the Highway Research Board; and as chairman of the Highway Research Board Award Committee for 1947. (The Highway Research Board is organized within the National Research Council.)

I. M. Kolthoff served as chairman of the Committee on Analytical Chemistry, National Research Council. In 1947 he served as the U. S. delegate to a meeting of the International Union of Chemistry and the International Congress in London, England.

Walter M. Lauer served as a member of the Organic Research Panel, Office of Naval Research.

Adolph O. Lee was named chairman and served as a member of the Board of Directors of the Minnesota Section, American Society of Mechanical Engineers. He served as a member of the Advisory Board of Tau Beta Pi; and was honorary chairman of the University of Minnesota Student Branch of the American Society of Mechanical Engineers.

Clarence E. Lund was the recipient in 1946 of the "Wolverine Award," the outstanding publication award in the field of refrigeration, given by the American Society of Refrigerating Engineers. He served as chairman of the Twin City Section, and as chairman of the Home Freezer Standards Committee (national), American Society of Refrigerating Engineers, 1947-48.

Charles A. Mann served as a member of the National Chemical Engineering Award Committee, 1948; and as consultant for the Research Committee, Minnesota Association of Professional Engineers, 1948.

Harlan E. McClure served on the Board of Directors, Minneapolis Chapter, American Institute of Architects; and was named chairman of the Committee on Education of the same organization.

William D. Munro served as a member of the Executive Committee of the Minnesota Section, Mathematical Association of America, 1946-47.

Thomas E. Murphy was elected treasurer in 1947 and served as vice-chairman in 1948 of the Twin City Section of the Society of Automotive Engineers. He was elected to honorary membership in Tau Omega, 1948.

Paul R. O'Connor was a research associate on the U. S. Atomic Energy Commission project at the University of California, Berkeley, 1946-47. He was elected to membership in Sigma Xi in 1947.

Walter H. Parker was appointed consultant for the State Board of Registration for Engineers.

Jan F. Piccard was elected to membership in the Geophysics Society.

Edgar L. Piret was named member of the Program Committee of the American Institute of Chemical Engineers, 1948.

Orrin W. Potter was elected national secretary of the Drawing Division, American Society of Engineering Education, 1947-48.

George C. Priester served as a member of the Committee on Examinations for Engineers in Training, State Board of Registration of Architects, Engineers, and Land Surveyors, 1946-48.

Lloyd H. Reyerson was elected a member of the National Colloid Symposium Committee. He was reappointed by the Governor to the Minnesota-North Dakota Resources Development Commission; and was elected chairman of the Commission. In the summer of 1946 he was invited by the Royal Norwegian Government to Oslo, Norway, to aid in the establishment of a National Research Institute.

Burton J. Robertson was elected to honorary membership in Tau Omega, 1948. He was a member of the Board of Directors, Minneapolis Engineers Club, 1947-48; and held the following appointments in the American Society of Engineering Education: vice-president; chairman of the Committee on Sections, 1947-48; member of the Committee on Review of Publications, 1947-48; chairman of the State Committee on Membership; and member of the Committee on Duties of the Vice-President, 1948.

Rhodes Robertson was named director of the Minneapolis Chapter, American Institute of Architects.

Frank B. Rowley was named chairman of the Engineering Research Section, Association of Land-Grant Colleges and Universities, 1947-48. He was a member of the Advisory Committee on Commercial Standards, U. S. Department of Commerce, 1947-48; a member of the American Society of Testing Materials C-16, Thermal Insulating Materials, 1947-48; and was consultant to the Department of Commerce, Office of Technical Services, 1947.

James J. Ryan served as a member of the State Education Committee for the Minnesota Association of Professional Engineers; and as chairman of the Education Committee of the St. Paul Chapter of the Association, 1948. He was named a consultant for the Naval Medical Research Institute, Bethesda, Md.; and in 1948 developed two Navy instruments, the accelerometer and the altimeter.

George J. Schroepfer was elected president of the Minnesota Branch of the American Society for Engineering Education, 1948; and served as chairman of the Executive Committee of the Sanitary Engineering Division of the American Society of Civil Engineers, 1946-47. He was co-recipient (with W. H. Pleege) of the W. D. Hatfield Award by the Federation of Sewage Works Associations, 1947.

William G. Shepherd was named chairman of the Task Group on Velocity Modulation Tubes for the Institute of Radio Engineers; and served as a member of the Small High Vacuum Tube Subcommittee of the Institute of Radio Engineers. He was the recipient of a Citation by the Bureau of Ships.

Lee Irvin Smith was awarded a post-doctoral fellowship grant in chemistry by General Mills, Inc.

Richard Stephenson was elected to active membership in the American Institute of Chemical Engineers, 1947.

Lorenz G. Straub served as a member of the Geophysics Panel of the National Defense Research and Development Board, 1946-48; member of the Upper Mississippi and St. Croix River Improvement Commission of Minnesota, 1947-48; consultant to the Navy Department on hydraulic test facilities, 1946-48, on hydraulics research mission in Europe, 1948; consultant to Corps of Engineers of the Department of the Army on Missouri River Development Program, 1947-48, Columbia River Development program, 1948, U. S. Waterways Experiment Station research, 1948, Alaska Hydrology and Airport studies, 1947-48; consultant to Government of India involving mission to India on irrigation

project, 1947-48. Dr. Straub was named chairman of the Hydraulics Division of the American Society of Civil Engineers, 1947-48; and was elected president of the Section of Hydrology of the American Geophysical Union, 1947-48. He was the American member of the Permanent Executive Committee of the International Association for Hydraulic Structures Research, 1946-48; and was elected president in June, 1948. He was president of Chi Epsilon, national honorary civil engineering fraternity, 1946-48; and was named chairman of the Graduate Studies Division of the American Society for Engineering Education in June, 1948. In 1947 he received an award from the Navy Department for "Distinguished Service in Ordnance Development"; and in 1948 received the President's certificate of appreciation for wartime services as a member of the Office of Scientific Research and Development.

Milo E. Todd was named chairman of the Minnesota Section, Instrument Society of America, 1946.

Hugh L. Turrittin was named chairman of the Minnesota Section of the Mathematical Association of America, 1947-48.

Department of Agriculture—Torfine L. Aamodt was elected a member of the State Leader Insect Control Advisory Committee. He served as director of the Bureau of Plant Industry, State Department of Agriculture, Dairy and Food.

William H. Alderman was appointed chairman of the Committees on Constitution and By-laws, on Varieties and Nomenclature, and on Nominations, American Society for Horticultural Science. He was elected vice-president of the American Association for the Advancement of Science and was named chairman of Section O (agriculture). He served as a member of the Committee on Education of the American Society for Horticultural Science. In 1946 the Wisconsin State Horticultural Society bestowed upon him an Honorary Recognition Certificate "for eminent services in breeding new fruit varieties of value for this area and advancing the science of horticulture through research and teaching."

Parker O. Anderson was appointed chairman of the Governor's Committee on Rural Fire Prevention. He was elected president of the Minnesota Forestry Association and served as a member of the American Legion State Conservation Committee.

Clara Brown Army served as chairman of the Evaluation Committee of the American Home Economics Association.

Ralph V. Backstrom was elected secretary of the Red River Valley Potato Marketing Clinic. He served as a member of the Youth Committee of the American Institute of Swedish Arts, Literature, and Science.

Clyde H. Bailey served as a member of the Experiment Station Committee on Organization and Policy of the Association of Land-Grant Colleges and Universities; as chairman of the Directors of the Agricultural Experiment Stations of the North Central Region; as administrative adviser for the North Central Regional Technical Committee on Nutritional Status and Dietary Needs of Population Groups. He was elected for a two-year term as a member of the Committee of Nine to allot funds for regional research under the Research and Marketing Act. From May to July, 1948 he served as agricultural research consultant to the American Mission for Aid to Greece in Athens, Greece.

Bruce C. Beresford was elected secretary of the Ninth District Horticultural Society, and was superintendent of the Potato Division, Red River Valley Winter Shows, Crookston.

Alice Biester was chairman of the Minnesota Delegation, House of Delegates, of the American Dietetic Association Annual Meeting. She was named president-elect of the Minnesota Dietetic Association, 1948.

Willard L. Boyd served as chairman of the Council on Education of the American Veterinary Medical Association; as a member of the Sub-committee on Public Health Aspects of Brucellosis, National Research Council; as member of the Special National Committee on Brucellosis, U. S. D. A., Bureau of Animal Industry; and as member of the National Veterinary Medical Examining Board of the American Veterinary Medical Association, 1946-48. He was named an officer of the Council of Research Workers in Animal Diseases in North America.

Paul D. Boyer received an award from the Federation of American Societies for Experimental Biology to present a paper at the Seventeenth International Physiological Congress at Oxford, England, July, 1947.

Jonas J. Christensen served as a member of the Advisory Committee, Biological Branch, Chemical Corps, Camp Detrick, Md.; and as chairman of the Disease Prevention Committee, American Phytopathological Society. He was named an honorary member of the Minnesota Premier Seed Growers.

John O. Christianson was appointed chairman of the Governor's State Committee on Aid for Public Schools. He served as chairman (1946) and secretary (1947) of the

Committee on Short Courses, Association of Land-Grant Colleges and Universities; as chairman of the Sub-committee on Agriculture, Territorial Centennial Planning Committee, 1948; and as chairman of the Governor's Committee and Conference on Fire Prevention, 1947-48. He was a trustee of the American Institute of Swedish Arts, Literature, and Science. In 1948 he received an invitation from the Swedish Government—one of four Americans to be selected—to travel and study in Sweden. He served as a member of the General Committee on the Swedish Pioneer Centennial; as a member of the Executive Committee of the Governor's Advisory Committee on Recreation; and as a member of the Board of Directors, Folk Arts Foundation, Inc.

Willes B. Combs was elected secretary of the Minnesota Dairy Industry Committee.

Samuel T. Coulter served as adviser for the Committee on Food Research, Food and Container Institute for the Armed Forces, Chicago Quartermaster Depot.

Ralph F. Crim served as director of the Crop Improvement Association and was elected secretary of the Minnesota Crop Improvement Association.

Troy M. Currence served as a member of the Committee on Biological Abstracts of the American Society for Horticultural Science.

Joseph M. Daly was elected to Sigma Xi.

William H. Dankers served as a member of the National Committee on Research and Marketing Act Extension, and as a member of the Sub-committee on Development, Revision, and Application of Federal Standards and Grades for Shell Eggs, Production and Marketing Administration, U. S. D. A. He was appointed a member of the Committee on the Development of Minnesota Uniform Purchase and Consumer Grades for Eggs, State of Minnesota Department of Agriculture.

Raymond Starr Dunham was elected president of the North Central Weed Control Conference, 1948.

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

Gertrude Esteros was selected by the American Friends Service Committee to work during the summer of 1948 at a voluntary international work camp helping Finnish families build homes.

Homer D. Fausch was superintendent of livestock judging contests, Red River Valley Livestock Show.

Theodore H. Fenske was chairman of the Stevens County Savings Bond Committee; district secretary of the Minnesota-Dakota District of Kiwanis, and vice-chairman, District I, of the St. Paul Council of Boy Scouts of America.

Reuel Fenstermacher was elected president of the Minnesota State Veterinary Medical Society, 1948. He served as chairman of the Committee on Transmissible Diseases of Swine, United States Live Stock Sanitary Association, 1948.

James B. Fitch served as a member of the Breed Type Committee of the American Jersey Cattle Club.

William F. Geddes served as a member of the Committee on Food Research, Office of the Quartermaster General, U. S. Army; and as chairman of the Committee on Monographs of the American Association of Cereal Chemists. He was elected president of the Minnesota Chapter, Society of the Sigma Xi for 1947-48. In a poll conducted by the Chicago Section of the American Chemical Society he was voted one of the "ten ablest agricultural and food chemists" in the United States.

Catherine Zander Gibler served as a member of the Public Health and Social Welfare Committee, a joint committee of the Minnesota Home Economics Association and the Minnesota Dietetics Association.

Ethel R. Gorham was member and secretary of the Planning Committee for the Central Region of College Textiles and Clothing Teachers.

Alexander A. Granovsky was elected honorary member of the Southern Minnesota Vegetable Growers Association, and of the Minnesota Greenkeepers Association. He served as chairman of the Committee on the Control of Potato Insects, Potato Association of America. He was a member of the Political Board of the Ukrainian Congress Committee of America and of the Pan-American Ukrainian Congress Committee, and was elected national president of the Organization for the Rebirth of the Ukraine.

Herbert Kendall Hayes was awarded the honorary Doctor of Science degree by the University of Massachusetts in June, 1948. He was director of the Minnesota Crop Improvement Association.

Inez M. Hobart served as a member of the State Nutrition Committee.

Venning P. Hollis was recipient of the Second Award in the Black and White Division of the First International Salon, Photography in Science, Smithsonian Institute, 1947.

Andrew Hustrulid served as a member of the Committee on Testing Procedure for Home Freezers, American Society of Refrigerating Engineers; and member of the Committee on Teaching Methods, American Society of Agricultural Engineers.

Arthur E. Hutchins was elected president of the Minnesota State Horticultural Society, 1946-47. He was awarded an honorary Citation and Key in 1947 by the *Minneapolis Star and Tribune* "in recognition of leadership in Minnesota—as President of the Minnesota State Agricultural Society (he) has given service to Minnesota that has added to this state's supremacy as a place in which to live and work, has brought additional respect to his organization, and has enhanced his own prestige as a citizen."

Oscar B. Jesness served as a member of the Advisory Committee on Foreign Trade, Research, and Marketing Administration, United States Department of Agriculture as technical adviser to the Subcommittee on Stabilization, Committee for Economic Development; as chairman of the Agricultural Policy Committee, Association of Land-Grant Colleges and Universities; as member of the Advisory Council, Agricultural Commission, American Bankers Association; as member of the Board of Directors, American Country Life Association; and as member of the Board of Directors, Minnesota Institute of Governmental Research. He was a delegate to the International Conference of Agricultural Economists which met in England in 1947.

Frank H. Kaufert was named chairman of the Council of Forestry School Executives, and chairman of the Division of Forest Products, Society of American Foresters.

Howard C. H. Kernkamp was elected secretary-treasurer of the Minnesota State Veterinary Medical Society, 1946-48; and was elected president of the Conference of Research Workers on Animal Diseases in North America, 1948. He served as chairman of the Committee on Nomenclature of Diseases of Animals, American Veterinary Medical Association.

Milton F. Kernkamp was elected secretary of the North Central Division, American Phytopathological Society.

Thomas H. King was named chairman of the Extension Committee, American Phytopathological Society. He was elected a member of Gamma Sigma Delta and Phi Epsilon Phi.

Orville M. Kiser served as secretary of the Red River Valley Livestock Association and of its Sales Committee.

Thor Kommedahl was elected president, Minnesota Chapter of Gamma Alpha, and was named a fellow of the American Association for the Advancement of Science. He served on the Membership Committee, American Phytopathological Society. He was elected to Sigma Xi.

Alvin H. Larson was elected secretary-treasurer, North Central Weed Control Conference.

Jane M. Leichsenring served as chairman of the Committee on the Borden Award, American Home Economics Association, and was national counselor of the Minnesota Home Economics Association.

Lewis E. Longley was elected president of the Great Plains Section of the American Society for Horticultural Science and was elected secretary-treasurer of the Minnesota Rose Society.

Harold Macy served as member of the Minnesota Dairy Industry Committee; as vice-chairman, North Central Association of Experiment Station Directors; as administrative adviser for the North Central Regional Technical Committee on the Marketing of Potatoes; as member of the committee of the Experiment Station Section of the Association of Land-Grant Colleges and Universities concerned with distribution of publications to foreign institutions; as chairman, Advisory Committee of the Mayo Forestry and Horticultural Institute; as member of the Committee on Awards for the Goodyear Rubber Company Soil Conservation Contest; and as member of the Regional Committee on Agricultural Research Program for the Missouri River Basin project. He was elected a member of the Newcomen Society of England, and was elected a fellow of the American Public Health Association.

Philip W. Manson served as a member of the Committee on Paper Awards, member of the Committee on Depth and Spacing of Tile Drains, and member of the Committee on Drainage Laws, of the American Society of Agricultural Engineers. He was elected secretary-treasurer of the Minnesota Section of the American Society of Agricultural Engineers.

William H. Marshall served as chairman of the Division of Forest-Wildlife Management, Society of the American Foresters; and as member of the Council of Minnesota Wildlife Federation.

Thomas M. McCall was appointed a member of the Interstate (North Dakota-Minnesota) Potato Clinic Committee. He served as president of the Board of Managers, Red River Valley Winter Shows; president of the Red River Valley Livestock Association; and president of the Minnesota Red River Valley Development Association. He was named a member of the Minnesota Centennial Agricultural Committee.

Gerald R. McKay served as a member of the Committee on Visual Aids of the American Association of Agricultural College Editors, 1947-48.

Wylle B. McNeal was awarded a life membership in the American Home Economics Association by the College Home Economics Association.

Clarence E. Mickel was elected permanent president of the International Great Plains Entomological Conference.

Paul E. Miller was appointed a member of the Board of Directors, Federal Reserve Bank; and served as director-at-large of the Farm Credit Administration. He was elected secretary of the Committee on Extension Organization and Policy of the Association of Land-Grant Colleges and Universities.

Josephine Bjornson Nelson served as a member of the American Association of Agricultural College Editors Press Coverage Committee for the convention of the Association of Land-Grant Colleges and Universities, 1948.

Lowry Nelson was appointed rural sociologist for the Department of State to make a study of rural life in the Caribbean region. He was elected to serve as chairman of the Second Session of the permanent Agricultural Committee, International Labor Office at Geneva, Switzerland.

Isabel T. Noble served as a member of the Food Preservation Committee of the State Nutrition Council.

Truman R. Nodland served on the Membership Committee of the American Society of Farm Managers and Rural Appraisers; and on the National Board of Directors, Farm House Fraternity.

Mavis C. Nymon was accepted as a member of the Lisle Fellowship at Watkins Glen, N. Y.

Joseph C. Olson, Jr., served as adviser to the Minnesota Milk and Cream Grades Committee, and was elected secretary-treasurer of the Minnesota Dairy Fieldmen and Inspector Association.

Charles K. Otis served as chairman of the Minnesota Section of the American Society of Agricultural Engineers.

Walter H. Peters was selected as 1948 honor guest and his portrait was hung in the world famous gallery of the Saddle and Sirlain Club in Chicago.

William E. Petersen was president-elect of the American Dairy Science Association, 1947-48. He was invited to lecture in Great Britain by farmers and research institutions, in 1947.

Milo J. Peterson served as superintendent of the Education Department, Minnesota State Fair. He was chairman of the Arrangements Committee, North Central Regional Research Conference on Agricultural Education; and served as Consultant on the Curriculum Revision Committee, State Department of Education. He was the recipient of the Honorary State Farmer Degree from the Minnesota Association of Future Farmers of America, 1948.

Ethel L. Phelps was appointed chairman of the Committee on Textiles and Clothing Research, Division of Home Economics, Association of Land-Grant Colleges and Universities.

Benjamin S. Pomeroy was elected secretary of the Twin City Veterinary Medical Society, 1946-48. He was named chairman of the Section on Poultry of the American Veterinary Medical Association; chairman of the Committee on Antigens of the National Poultry and Turkey Improvement Plans; and chairman of the Executive Committee of the North Central Regional Committee. He served as a member of the National Committee on Newcastle Disease.

George A. Pond was elected vice-president of the American Society of Farm Managers and Rural Appraisers, and secretary-treasurer of the Minnesota Farm Managers Association.

Glenn I. Prickett served as a member of the Governor's Youth Conservation Commission.

A. Glenn Richards was a member of the Executive Committee of the Entomological Society of America. He was elected secretary of the Physiology Section of the Society; and was elected vice-president of the Minnesota Chapter of the American Association of Scientific Workers.

Martin H. Roepke was elected vice-president of Sigma Xi, Minnesota Chapter, 1947-48.

Ella J. Rose was elected vice-president of the Home Economics Department of the National Education Association; served as a member of the Board of Directors of Minneapolis Town Meeting; and was co-chairman of the State Curriculum Committee for the Revision of the Minnesota Home Economics Curriculum.

Clayton O. Rost, Jr. was named chairman of the Regional Soil Research Committee, North Central Region. He was a member of the National Fertilizer Research Committee; was collaborator with the National Soil and Fertilizer Laboratory; and a member of the Missouri Basin Planning Committee.

Henry Schmitz was elected national president of Gamma Sigma Delta. He served as a member of the Committee on Organization and Policy, Resident Instruction, of the Association of Land-Grant Colleges and Universities; and served as chairman of the National Advisory Board, Forest Products History Foundation.

Arthur J. Schwantes was appointed chairman of the College Division, American Society of Agricultural Engineers, and was elected president of the Society in 1948.

Olaf C. Soine was superintendent of the crops division, a member of the sub-collegiate crops judging contests, and a member of the Board of Directors of the Red River Valley Winter Shows, Crookston.

Elvin C. Stakman served as a member of the Advisory Committee, Biology and Agriculture, of the Atomic Energy Commission. He was named chairman of the Committee on International Relations of the American Phytopathological Society, and chairman of the Sub-Committee on Regulatory Work and Foreign Plant Diseases of the Society.

Harold B. Swanson was a member of the Committee on Constitutional Revision of the American Association of Agricultural College Editors. He was awarded the Honorary State Farmer Degree, Minnesota Future Farmers of America, 1948.

Warren C. Waite served as a member of the Board of Directors, National Bureau of Economic Research, and as a member of the Advisory Council of the Research and Marketing Administration.

James D. Winter was director of the National Apple Institute, 1947, and was elected secretary-treasurer of the Minnesota Fruit Growers Association. The Minnesota State Horticultural Society in 1946 awarded him the Bronze Medal for outstanding contributions to the development of the fruit industry in Minnesota.

Laurence M. Winters was the recipient of the Morrison Award for distinguished services in animal husbandry research.

Raymond J. Wood was elected secretary-treasurer of the Upper Mississippi Valley Section of the Society of American Foresters.

Henry G. Zavoral served as a member of the Extension Committee of the American Society of Animal Production.

College of Medical Sciences—George N. Aagaard served as a member of the Heart Committee, Minnesota State Medical Association; and as member of the Medical Advisory Board for the Minneapolis Community Health Service.

John M. Adams was special lecturer at the Fifth International Pediatric Congress, New York, 1947. He was guest speaker at the American Academy of Pediatrics International Meeting, Dallas, 1947. He was elected secretary of the Minnesota Branch of the Society for Experimental Biology and Medicine, 1948.

Gaylord W. Anderson served in the capacity of special consultant to: the Surgeon General, War Department; the U. S. Public Health Service, (a) Public Health Study Section, (b) Communicable Disease Control Center at Atlanta, Georgia, (c) Interim Board on Preventive Medicine. He was elected secretary-treasurer of the Association of Schools of Public Health and was named a trustee of the American Specialty Board in Preventive Medicine and Public Health. For the American Public Health Association he served as follows: member of the Governing Council; member of the Committee on Professional Education; member of the Committee on Communicable Disease Control; and chairman of the Subcommittee on Field Training. He was consultant to the Health and Sanitation Section, Institute of Inter-American Affairs, Department of State; and under the auspices of the Department of State lectured at Sao Paulo and Curitiba, Brazil; Santa Fe, Argentina; Santiago, Chile; and Lima, Peru.

Wallace D. Armstrong served as a member of the Dental Studies Group, U. S. Public Health Service; and as a member of the Council, American Association for the Advancement of Science, 1946-48. He was named chairman of the Josiah Macy, Jr., Foundation Conference on Metabolic Interrelations, 1948.

Abe B. Baker served as national consultant to the Veterans Administration for the rehabilitation of neurological disorders; and was elected president of the American

Academy of Neurology, 1948. He received a bronze medal award from the American Medical Association for a scientific exhibit on the physiological problems of bulbar polio, 1948.

John J. Bittner was named honorary member of the Harvey Society. He served as a member of the Board of Directors, American Association for Cancer Research, and as president in 1947-48. He was a member of the board, and second vice-president of the Minnesota Cancer Society. He was named U. S. delegate to the Fourth International Cancer Research Congress; was a member of the Unitarian Service Committee—World Health Organization Interim Committee, Medical Teaching Mission to Austria, 1947; and was a corresponding member of the *Gesellschaft der Aerzte*, Vienna, 1948.

Lawrence R. Boies was elected to the following: Board of Secretaries, American Academy of Ophthalmology and Otolaryngology, 1946-48; to the Council of American Rhinological, Otolological and Laryngological Society, Inc., 1948; vice-president of the American Rhinological, Otolological, and Laryngological Society, 1946. He was named a member of the American Board of Otolaryngology for 1947-48.

James F. Bosma was special lecturer at the First International Poliomyelitis Conference, 1948.

Edward A. Boyden served as first vice-president of the American Association of Anatomists, 1946-48, and as member of the Nomenclature Committee since 1946. He was named American member of the editorial board of *Acta Anatomica*, international anatomy journal to be published in Switzerland. In April 1948 he completed twenty years as managing editor of *Anatomical Record*.

Josef M. Brozek was named a member of the Subcommittee on the Relation of Nutrition to Physiological Stress, Food and Nutrition Board, National Research Council, 1947-48.

Harold S. Diehl was named as a member of the Executive Committee, American Medical Association Council on National Emergency Medical Service, 1948; and was named a member of the Medical Advisory Committee of the United Mine Workers Welfare Fund, 1948. Upon invitation of Secretary of Defense Forrestal, he participated in a Joint Orientation Conference of the National Military Establishment, November 1948.

Gerald T. Evans served as consultant, Clinical Chemistry, Veterans Hospital, Minneapolis.

George E. Fahr has served as consultant on electrocardiography of the American Medical Association since 1940.

Ruth E. Grout was named a member of the Governing Council and vice-chairman of the School Health Section, 1946-47, both of the American Public Health Association.

H. Orin Halvorson was appointed a member of the Advisory Research Panel, Microbiology Branch, Office of Naval Research; and was named chairman of the local Committee for the Society of American Bacteriologists.

James A. Hamilton was elected second vice-president, 1946-47, and trustee, 1947-48, of the Inter-American Hospital Association. He served as consultant to the Bureau of the Budget, Executive Office of the President of the United States, 1946-48. He also served in the following capacities: member of the Advisory Committee, U. S. Public Health Service, Federal Hospital Council for administration of the Hospital Survey and Construction Act, 1946-48; member of the Advisory Committee, Division of Nursing, U. S. Public Health Service, 1946-48; member, Hospital Advisory Committee, Kellogg Foundation, 1946-48; trustee, National Health and Welfare Retirement Association, 1946-48; member of Joint Council on Education, American Hospital Association and American College of Hospital Administrators, 1946-48; member of the Council on Education, Committee on Code of Ethics, and Committee on Supervisory Training, of the American Hospital Association; member of the Committee on Code of Ethics, American College of Hospital Administrators, 1947; member, Preliminary Planning Committee on Functional Analysis of Nursing, National League of Nursing Education, 1948; chairman, State of Minnesota Advisory Board on Hospital Superintendent's Registration Law, 1947-48; consultant to Minnesota State Board of Health, Hospital Survey and Construction Program, 1948; representative of Minneapolis hospitals before the Labor Arbitration Board, 1948; member of the Council on Administrative Practice, 1947, and Council of Professional Practice, 1948, of the Minnesota Hospital Association.

Erling W. Hansen was elected to the Board of Secretaries as Secretary of Public Relations, American Academy of Ophthalmology and Otolaryngology, 1946-48. He was director of public relations, Pan-American Association of Ophthalmology, 1948; and served as a member of the House of Delegates, American Medical Association from the Minnesota State Medical Society, 1946-48.

Donald W. Hastings served as a member of the Training Committee, National Mental Health Act, U. S. Public Health Service; as member of the Committee on Psychosomatic Medicine, National Foundation for Infantile Paralysis; member of the Governor's Advisory Committee on Mental Health; and was named chairman of the Committee on Governmental Agencies, Group for Advancement of Psychiatry. He was appointed civilian consultant in psychiatry to both the Surgeon General, U. S. Army, and to the Air Surgeon, U. S. Air Force, Washington, D. C.

Starke R. Hathaway was named chairman of the Mayor's Committee for the Study of Alcoholism; chairman of the Advisory Committee on Psychology, Minnesota Mental Hygiene Society; and chairman of the Marriage Committee, Hennepin County Planned Parenthood League. He served as a board member of both the Hennepin County Planned Parenthood League and the Minnesota Planned Parenthood League. He was appointed psychological consultant to the Veterans Administration Psychiatric Hospital.

Allan Hemingway served as a member of the Committee on Resuscitation, Division of Medical Sciences, National Research Council, 1948.

Austin Henschel served as consultant to the Research and Development Board, and was a member of the Panel on Physiology of the Board, 1947-48.

Frederick W. Hoffbauer testified before a hearing of the Subcommittee on Liver Disease of the National Research Council, January 12, 1948. He served as deputy to the chairman of the Commission on Liver Disease, Army Epidemiological Board, Office of the Surgeon General, War Department.

Ancel Keys served as follows: member of Committee on Food Composition, National Research Council, 1946-48; member of Committee on Diagnosis and Pathology of Nutritional Deficiency, National Research Council, 1947-48; Panel on Physiology, Research and Development Board, Department of Defense (member, 1946-47, chairman, 1947-48); program chairman, American Physiological Society, 1948; member, Special Committee on the Food Emergency, Food and Nutrition Board, N.R.C., 1947-48; consultant to the Department of Defense, 1947-48; member, Panel of Consultants, Food and Nutrition Board, N.R.C., 1947-48; chairman, Research Committee, Third National Conference on Health in Colleges, New York, 1947. He was recipient of a Rockefeller Foundation Travel Award to speak at the International Congress on Pure and Applied Chemistry in London, August 1947; and a Certificate of Appreciation from the Army and Navy Departments, June 1, 1947.

Miland E. Knapp served as a member of the Executive Council in 1946 and was named chairman for 1946-47, American Congress of Physical Medicine. He was appointed editorial consultant for *Modern Medicine*. He was section chief of Physical Medicine—Rehabilitation, Branch 8, Veterans Administration, and senior consultant in Physical Medicine—Rehabilitation, Minneapolis Veterans Hospital.

Frederick J. Kottke was named a Baruch fellow in Physical Medicine, 1946-47.

William G. Kubicek was the recipient of a travel award from the American Physiological Society to attend the Seventeenth International Physiological Congress at Oxford, 1947.

Francis W. Lynch was a member of the Board of Directors of the American Academy of Dermatology and Syphilology, 1948; and a member of the Board of Directors, Society of Investigative Dermatology and Syphilology, 1948.

William F. McLimans was elected to membership in Sigma Xi, 1947.

Irvine McQuarrie served as official examiner of the American Board of Pediatrics, 1946-48. He served in the following capacities: special consultant of the Rockefeller Foundation to conduct a survey of medical education and research in Japan, 1947; special lecturer at the First International Congress on Poliomyelitis, 1948; member of Committee on Dental Research of the American College of Dentists, 1947; member of Program Committee of the Fifth International Pediatric Congress, 1947; and honorary member of the Cuban Pediatric Society, 1947.

Henry E. Michelson served as follows: member of Committee on Sarcoidosis of the National Research Council, 1948; consultant in Dermatology, Veterans Hospital, Minneapolis; and chairman of the Section on Dermatology of the American Medical Association, 1948.

J. Arthur Myers was reappointed a member of the Committee on Tuberculosis among Veterans, National Tuberculosis Association; reappointed a member of the State Board of Health Advisory Committee on the State Tuberculosis Program, 1948; appointed a member of the Subcommittee on Hospitalization, Isolation, and Laboratory of the Advisory Committee on the State Tuberculosis Program, State Board of Health, 1948; and appointed a member of the Advisory Tuberculosis Committee, American Student Health Association, 1948. He was elected president of the Mississippi Valley

Conference on Tuberculosis, 1946; was elected to membership on the Advisory Board in Pulmonary Diseases, American Board of Internal Medicine, 1947; and was elected secretary of the Section on Diseases of the Chest, American Medical Association. Dr. Myers served in the following capacities for the U. S. Public Health Service: member of Committee to Study Methods of Immunization against Tuberculosis, Division of Tuberculosis; member of the Tuberculosis Therapy Study Section, 1946; member of the Principal Advisory Group to Tuberculosis Control Division, 1947. In the National Research Council he was appointed a member of the new Subcommittee on Tuberculosis, Committee on Medicine for 1946-48. He was the recipient of a Meritorious Award from the American College of Chest Physicians, 1947, for outstanding work in diseases of the chest.

Theodore A. Olson was named chairman of the joint session of the Section on Engineering, American Association for the Advancement of Science, and the Limnological Society of America at Chicago in 1947. He served as a member of the Committee on Laboratory Methods for Analysis of Water and Sewage, American Public Health Association, 1946-48; and was consultant to the Sanitation Section of the State Health Department in a mosquito survey and control project, 1946.

George O. Pierce served in the following capacities: secretary of the Engineering Section, American Public Health Association; chairman of the Committee on Junior Membership and Student Contact, Hennepin County Professional Engineers Society, 1947-48; chairman of the Committee on Junior Membership, Minnesota Association of Professional Engineers, 1948; and Secretary of the Minnesota Chapter of the Society of Sigma Xi, 1947.

Andrew T. Rasmussen was elected second vice-president of the American Association of Anatomists; and was elected to honorary membership in the American Neurological Society.

Burtrum C. Schiele served as a member of the Mayor's Committee for the Study of Alcoholism, and as a member of the Medical Advisory Committee, Hennepin County League for Planned Parenthood. He was named psychiatric consultant to the Veterans Hospital, St. Cloud, Minnesota; and medical director and chairman of the Medical Advisory Committee, Minnesota Mental Hygiene Society.

Ernst Simonson served as a member of the Committee on Nutrition of Industrial Workers, and of the subcommittee on the Relation of Nutrition to Physiological Stress in Industry, Food and Nutrition Board, National Research Council, 1946-48; and was member of the Committee on School Lighting, Board of Education, City of Minneapolis, 1947-48.

Wesley W. Spink was named chairman of the Committee on Public Health Aspects of Brucellosis, National Research Council. At the invitation of the Mexican Government he set up a program for human brucellosis at Mexico General Hospital, Mexico City, in cooperation with Dr. M. Ruiz Castaneda, director of brucellosis control in Mexico. He served as a member of the Council, Central Society for Clinical Research; and member of the Council, Society for Experimental Biology and Medicine. He was elected to Phi Beta Kappa (Carleton College).

Karl W. Stenström was the recipient of the medal of the Order of the North Star from the King of Sweden, 1948, for distinguished contributions to biophysics and radiation therapy.

James W. Stephan was named a member of the Council on Administrative Practice of the American Hospital Association. He served as a member of the Advisory Board to the State Board of Health in connection with the Hospital Administrators Registration Act; and as consultant to the Minnesota State Board of Health in connection with the Hospital Survey and Construction Program.

G. Keith Stillwell was named a Baruch fellow in Physical Medicine, 1947-48.

Cyril S. Stulberg was elected to membership in Sigma Xi, 1946.

Margaret S. Taylor served as special nursing consultant, Tuberculosis Control Division, Public Health Service of the Federal Security Agency, 1947; as a member of the Citizens' Mental Hygiene Committee, Minnesota, 1948; as board member of the Minnesota Organization for Public Health Nursing, 1948; as chairman of the Minnesota Nursing Council, 1948; and as chairman of the Joint Tuberculosis Nursing Advisory Committee, 1948. For the National Organization for Public Health Nursing she served as follows: member of the Board; member of the Education Committee; chairman of the Qualifications Committee; and vice-chairman of the Public Health Nursing Section.

Stewart C. Thomson was radio spokesman for the Minnesota State Medical Association.

William B. Tucker was named chairman of the Streptomycin Study Unit, Veterans Hospital, Minneapolis.

Maurice B. Visscher was elected president of the American Physiological Society, 1948. He served in the following capacities: member of the Board of Trustees, American Bureau for Medical Aid to China, 1947; Unitarian Service Committee, 1947; and corresponding member of the Argentine Society for Biology, 1946. He was named honorary member of *Gesellschaft der Aerzte* and *Gesellschaft der Chirurgen*, Vienna, 1948.

Jeanette Vroom served as a member of the Committee on Nursing Administration, National Organization for Public Health Nursing, 1947-48.

Owen H. Wangenstein served as a member of the following committees of the U. S. Public Health Service operating under the auspices of the National Research Council: chairman, Committee on Gastric Cancer; member, Surgical Study Section; member, ad hoc Committee of Surgeon General on Gastro-enterology. He was named chairman of the Committee on Surgical Forum of the American College of Surgeons. On October 4, 1946 he was awarded the LL.D. degree by the University of Buffalo.

Cecil J. Watson served in the following capacities: member of the Committee on Medicine, National Research Council; member of Sub-committee on Liver Disease of the Committee on Medicine, National Research Council; director of Commission on Liver Disease, Army Epidemiological Board, United States Army; consultant on liver disease to the Secretary of the Army; member of the American Board of Internal Medicine; chairman of the Section on Internal Medicine, American Medical Association, 1947-48; president, American Society for Clinical Investigation, 1946-47; and recorder, Association of American Physicians since 1946. He served as chairman of the Liver Injury Conference, Josiah Macy, Jr., Foundation, New York City.

Myron M. Weaver was named a regional representative of the Council on Medical Education and Hospitals, American Medical Association; a member of the Executive Committee, Health and Medical Care Division, Minneapolis Council of Social Agencies; and chairman of the Medical Advisory Committee and member (ex-officio) of the Board of Directors, Minneapolis Community Health Service, 1948.

Lemen J. Wells served as a member of the national Inter-Society Committee for the National Science Foundation, 1947-48. He was awarded a Guggenheim Fellowship in 1947.

Harold A. Whittaker served in the following capacities for the National Research Council, Division of Medical Sciences: member of Committee on Sanitary Engineering and chairman of its Subcommittee on Atmospheric Control; chairman of Subcommittee on Reorganization of Committee Activities, 1946-47; member of Committee on Sanitary Engineering and Environment and chairman of its Subcommittee on Waste Disposal; member of the Committee on Insect and Rodent Control. He was a member of the group selected by the National Research Council, at the request of the Office of the Surgeon General, Department of the Army, to visit joint United States and Canadian Army Arctic Research Station at Fort Churchill, Manitoba, Canada, to study military problems in Arctic sanitation, 1948. Dr. Whittaker was a special consultant to and a member of the Sanitation Advisory Board of the U. S. Public Health Service, Federal Security Agency. He was named a consultant to the Institute of Inter-American Affairs, Department of State, 1946-48; and was a member of the Executive Committee, Committee of Consultants of the National Sanitation Foundation. For the American Public Health Association he served in the following capacities: member of the Governing Council, 1946-47; vice-president, 1947; member of the Committee on Administrative Practice and chairman of its Study Group on Sanitation Evaluation Schedule, 1946-48; member of the Committee on Hygiene of Housing, 1946-48; chairman of the Committee on Air Pollution, Engineering Section, 1947-48; and member of the Subcommittee on Air Sanitation, Committee on Research and Standards, 1948. He was named chairman of the Committee on Criteria for Membership in the Association of Schools of Public Health, 1947-48; was a member of the Subcommittee on Nonacceptable Beds in Hospitals and Chronic Disease Institutions of the Minnesota Advisory Council on Hospital Survey and Construction Program, 1947-48; was a member of the Advisory Committee of the Minnesota State Board of Health on Study of Methemoglobinemia in Infants Due to Chemicals in Well Water, 1947-48; and was requested by the Office of Naval Research, Department of the Navy, to review sections on environmental sanitation of the *Encyclopedia Artica* being compiled under the direction of Dr. Vilhjalmur Stefansson, 1948.

W. Lane Williams was elected president of the Clinical Research Club of the University of Minnesota, 1946-47.

College of Education—G. Lester Anderson was appointed expert consultant in teacher education for the Office of Military Government for Germany (U. S.), March 15

to June 15, 1947. He was named chairman of the committee to prepare the Yearbook on *Learning and Instruction* of the National Society for the Study of Education. He served as a member of the committee on curriculum in educational psychology for teacher education of the National Society of College Teachers of Education.

Clifford P. Archer was vice-president (1946-47); a member of the Executive Board (1946-48); a member of the Yearbook Committee (1948); and was elected president (1947-48) of the National Institutional Teacher Placement Association. He served as a member of the National Committee on Rural Life and Education, National Education Association; and as member of the national and state Committees on Teacher Recruiting of Phi Delta Kappa. He was selected as the representative of Minnesota at the National Conference on Rural and Elementary Education of the U. S. Office of Education; and served as chairman of the Research Committee of the Governor's Committee on Crisis in Elementary Education.

Gertrude M. Baker was elected president of the Central Association for Physical Education of College Women. She served on the National Committee on Permanent Historical Exhibits, on the National Committee on Ethics, and as consultant in the Physical Education Workshop (Seattle), for the American Association for Health, Physical Education, and Recreation. She directed the convention for the Central Association for Physical Education of College Women in 1947. She was named chairman of the Future Policies Committee of the Central Association for Physical Education of College Women; and was named consultant to the State Committee on Curriculum Reorganization in Physical Education. She was a member of the State Committee on Teacher Education in Health, Physical Education, and Recreation.

Mary C. Bermingham was named chairman of the Rating Board of Women Officials for Minnesota; and state bowling chairman for the National Section of Women's Athletics.

Enma M. Birkmaier served as a member of the national committee on the articulation of high school German with college German; and as a member of the Chicago Language Conference, 1948, called by the Rockefeller Foundation to review the Investigation of Secondary Language Learning.

Walter T. Bjraker was elected secretary-treasurer of the Minnesota Vocational Agriculture Instructors' Association. He served as a member of the Education Committee of the State Department of Education to write a guide to better instruction in agriculture, and also a guide to better instruction in guidance services. He was assistant superintendent of the Education Department of the Minnesota State Fair. He was elected to Phi Delta Kappa, in 1948.

Charles W. Boardman served as a member of the National Committee on National Teacher Examinations of the American Council on Education; as a member of the Executive Committee and as chairman of the Commission on Secondary Schools of the North Central Association of Colleges and Secondary Schools; as chairman of the Committee on Cooperation in Research of the Commission on Secondary Schools; and as member of the Board of Directors of the Minnesota Association of Secondary School Principals. He was named consultant at Kemper Military Academy, Boonville, Mo.

Clarence H. Boeck was elected to membership in the National Association for Research in Science Teaching, and Kappa Delta Pi.

Guy L. Bond served as consultant to the Committee on the Revision of the State Reading and Language Arts Curriculum of the Minnesota State Department of Education; as consultant on reading in elementary and secondary schools of the Long Beach, California, city schools; and as consultant for the Kansas State Educational Department on improving reading instruction. He was adviser to the Minneapolis Committee on Elementary Reading Curriculum, and the Committee on Secondary Reading Curriculum. He was a member of the Yearbook Committee on High School Reading of the National Society for the Study of Education.

Nelson L. Bossing was awarded the honorary LL.D. degree at Kansas Wesleyan University, Salina, Kansas. He was a member of the Curriculum Planning Committee of the State Department of Education.

Phil Brain was appointed consultant to the State Board for Tennis.

Theodore C. Brameld was the American delegate to the International Conference of the New Education Fellowship in Australia, 1946. He was a member of the Executive Board of the New Education Fellowship, and was elected president of the Philosophy of Education Society.

Leo J. Brueckner was chief of the Division of Elementary and Secondary Education, Office of Military Government of the United States in Germany, 1947-48.

Dwight L. Burton was appointed to the Committee on Adolescent Interests in Literature of the National Council of Teachers of English.

Donovan A. Johnson was elected president of the Mathematics Section, Minnesota Education Association. He served as a member of the Committee on Films and Filmstrips of the National Council of Teachers of Mathematics.

William D. Carlson was elected to Psi Chi, and to Phi Delta Kappa.

Miles E. Cary served as a member of the Commission on Education for International Understanding and World Peace of the Minneapolis City Schools; and as a member of the Educational and Training Committee of the Minneapolis Community Self-Survey of Human Relations.

Walter W. Cook was named chairman of the National Society of College Teachers of Education Committee on determining the curriculum in educational psychology for teacher education. He was a member of the special committee of the American Council on Education for the preparation of a book on educational measurement.

Willis E. Dugan was named chairman of the National Vocational Guidance Association's Committee on Counseling. He was co-chairman of the Minnesota Guidance Survey Committee, and of the National Committee on Supervised Practice in Personnel Work of the Vocational Division, U. S. Office of Education. He was chairman of the Guidance Agencies Committee of the Minneapolis Vocational Guidance Committee; served as a panel member of the American Arbitration Association; and was Minnesota chairman of the National Foundation for Infantile Paralysis (March of Dimes).

Ruth E. Eckert was director of studies for the Minnesota State-wide Committee on Higher Education, 1946-47. She served as a member of the Minnesota Commission on Higher Education and was chairman of its Work Committee; and as a member of the Executive Committee of the Department of Higher Education, National Education Association. She was named vice-chairman of the Higher Education Committee of the National Society of College Teachers of Education. She was elected president of the Westminster Foundation Board for Presbyterian student work in the state of Minnesota.

Gerald B. Fitzgerald was appointed executive secretary, Governor's Advisory Committee on Recreation, 1946-48, and served as chairman of the Panel on Play, Recreation, and Youth Participation, Governor's Conference on Youth, 1948.

Clifton A. Gayne, Jr., served as consultant to the Committee on School Decoration, St. Paul, Minnesota, and as consultant on a committee of the Minnesota State Department of Education to write a course of study for art education for the public schools of Minnesota. He was elected a delegate to represent the Western Arts Association in merging five regional art education associations into the National Art Education Association, and was a member of the Executive Council of the Western Arts Association.

Paul R. Grim was elected a member of the Executive Committee and was named chairman of a special committee of the Association for Student Teaching. He was appointed chairman of the Publications Committee for the magazine *Educational Leadership* of the Association for Supervision and Curriculum Development of the National Education Association.

Edwin L. Haislet, at the Governor's request, set up the Division of Prevention for the Minnesota Youth Conservation Commission.

Eloise M. Jaeger was elected treasurer of the Minnesota Association for Health, Physical Education, and Recreation.

Palmer O. Johnson served as conferee of the U. S. Office of Education, Federal Security Agency on the research and statistical program; as consultant to the Educational Policies Commission of the NEA; and as member of the Section "Q" Committee of the American Association for the Advancement of Science.

Joseph W. Jung was elected to membership in Phi Delta Kappa.

Louis F. Keller was elected president of the Central District Association for Health, Physical Education, and Recreation; vice-president (Physical Education) American Association for Health, Physical Education, and Recreation, 1947-48; vice-president, College Physical Education Association, 1948. He served as chairman of the Ice Hockey Rules Committee, National Collegiate Athletic Association, 1946-48; as a member of the Board of Directors, American Association for Health, Physical Education, and Recreation, 1947-48; as a member of the Executive Council, College Physical Education Association, 1948; as a member of the Convention Policy Committee, American Association for Health, Physical Education, and Recreation, 1947-48; and as a member of the Ice Hockey Committee, American Olympic Association, 1947-48. He was elected a fellow in the American Association for Health, Physical Education, and Recreation, 1948.

Robert J. Keller was appointed research psychologist (civilian), director of field studies, Aviation Psychology Program, Army Air Forces, Randolph Field and Lackland Army Air Base, San Antonio, Texas. He served as research consultant for the Minnesota Commission on Higher Education.

James D. Kelly was named chairman, Western Conference Track Committee, for 1946 and 1947; vice-chairman of the Amateur Athletic Union, Track and Field Committee, 1946-48; and coach, American Track Team, European Tour, 1947. He was elected president of the National Collegiate Track Coaches Association for 1947-48.

Harry W. Kitts served as a member of the Education Committee of the State Department of Education to write a guide to better instruction in agriculture. He was elected to Phi Kappa Phi in 1947.

Frank G. McCormick served in the following capacities: chairman, Governor's Advisory Committee on Recreation, 1946-48; chairman, Baseball Committee, National Collegiate Athletic Association; Fourth District representative for the N.C.A.A. on the Committee on Committees, American Olympic Association; state coordinator, American Legion athletic program; member, Olympic Committee (1946-48); chairman, Housing Committee, American Olympic Association; president, Minneapolis American Youth Hostels, 1948; advisory member, Minneapolis Area of Boy Scouts of America; and member, Executive Committee, National Baseball Coaches Association.

Jonathon C. McLendon was elected to Phi Delta Kappa. He assisted in the preparation of the Minneapolis *Star* program of *Information in World Affairs*. He was elected acting secretary-treasurer of the Minnesota Council for the Social Studies.

Mervin G. Neale completed the school building survey for Red Wing, Minnesota. He served as educational adviser for the following: Arkansas Agricultural, Mechanical, and Normal College; Arkansas Polytechnic College, Russellville, Arkansas; St. Joseph's College, Collegeville, Indiana; Concordia Teachers College, River Forest, Illinois; Southwestern Institute of Technology, Weatherford, Oklahoma; Dana College, Blair, Nebraska. He was college examiner for the North Central Association of Colleges and Secondary Schools.

Carl L. Nordly was named chairman of the State Department of Education Committee on Professional Training in Health Education, Physical Education, and Recreation, 1947-48; and chairman of the Working Conference, Professional Training in Health Education, Physical Education, and Recreation, February, 1948. He was a member of the Governor's Advisory Committee on Recreation, 1946-48. He served on the following committees of the American Association for Health, Physical Education, and Recreation: Constitution Committee, 1946-48; Editorial Committee, 1946-48; Gulick Award Committee, 1946-47; Recreation Advisory Committee, 1946-47; chairman, Decentralization of Duties of Officers and Long-term Planning Committee, 1948; Reorganization of Divisions and Sections Committee, 1947-48. He was also a member of the following committees of the College Physical Education Association: Executive Council, 1947-48; Nominating Committee, 1948; chairman, Visual Education Project, 1948; chairman, The Athletic Institute Advisory Committee, 1946-48. He served as chairman of the Steering Committee of the National Conference on Undergraduate Professional Education in Health Education, Physical Education, and Recreation, 1948; and was chairman of the Interim Committee of Nine Sponsoring Organizations to Implement the Report, 1948. He served as chairman of the Editorial Committee for the *Report on National Conference on Undergraduate Professional Education in Health Education, Physical Education, and Recreation*, 1948. He was elected vice-president (1946) and president (1947) of the College Physical Education Association. He was the representative from the Central District on the Board of Directors (1947-48) and a member of the Board of Directors (1948) of the American Association for Health, Physical Education, and Recreation.

Clarence R. Osell was elected president of the Minnesota Camping Association, 1946-47.

Wesley E. Peik was named chairman of the Commission on Teacher Education and Professional Standards, National Education Association, 1946-48. He was elected president of the National Society of College Teachers of Education (1946-47), and was a member of the executive committee for three years, including 1947-48. He was president of the National Association of Teacher Education Institutions in Metropolitan Districts for 1946-48. He served as a member of the Executive Committee of the American Association of Colleges for Teacher Education; member of the Executive Committee of the National Association of Colleges and Departments of Education; and member of the Advisory Committee on Teacher Education, State Department of Education. He was named chairman of the Bowling Green (Ohio) and of the Oxford (Ohio) National Education Association Workshop Conferences of State Key Leaders in Teacher Education; and chairman of the Educational Policies Commission of the Minnesota Education Association. He served as consultant to the Minnesota Education Association Commission on Teacher Education and Professional Standards. He was a member of the Minnesota State Citizens' Committee on Public Education.

Ralph A. Piper was elected vice-president of the National Safety Education Association, 1946-47, and served as a member of the Higher Education Committee of the National Safety Council, 1946-48. He was a member of the Curriculum Revision Committee and consultant on physical education, Minnesota State Department of Education, 1947-48. He was also consultant on physical education for the North Central Association of YMCA's, 1946-48. He served in the following capacities for the American Association for Health, Physical Education, and Recreation: chairman, Professional Education Section, 1946-47; member of the Legislative Board of the National Dance Section, 1948; member of the Steering Committee on Recreation, 1948; secretary of the Professional and Public Relations Section, 1947; chairman of the Committee on Standardization of Gymnastic Nomenclature, 1948. He was named chairman of the Folk Dance Committee, Folk Arts Foundation of America, 1946-48; was technical director of the Northwestern Gymnastic Society, 1946-48; advisory member of the National Collegiate Athletic Association Gymnastic Committee, 1946-48; member of the National A.A.U. Gymnastic Committee, 1946-48; member of the Olympic Gymnastic Committee, 1947-48; chairman of the Gymnastic Exercise Committee, Minnesota State High School League, 1948; and chairman of the Standards Committee of the Minnesota Association for Health, Physical Education, and Recreation, 1947-48. He was director of publicity of the Folk Dance Federation of Minnesota, 1947-48.

Ray G. Price was elected treasurer of the National Business Teachers Association, and vice-president of the National Association of Business Teacher Training Institutions. He served as adviser on the Consumer Education Study of the National Association of Secondary School Principals.

Dora V. Smith prepared a bulletin on research backgrounds in the Language Arts Curriculum under the Carnegie Foundation and the National Council of Teachers of English. She was a member of the two yearbook committees of the National Society for the Study of Education: Yearbook XLVII, Part II, *Reading in High School and College* and Yearbook XLVIII, Part II, *Reading in the Elementary School*; and served as director of the Curriculum Commission of the National Council of Teachers of English.

Homer J. Smith was named consultant for the following: Commission on Accreditation of Educational Experiences in the Armed Services, American Council on Education; Minnesota State Board for Vocational Education and Private Trade Schools; Industrial Education Planning for the Milwaukee Public Schools; Research Project, Educational Values and Grading of Commercial Kits of the Institute of Air Age Activities; War Department, Division of Education and Cultural Relations (three months)—Germany, Trade and Technical Education. He served as a member of the Board of Directors, Minneapolis Vocational Guidance Association; member of the Committee on Leaders, Industrial Arts Conference of the Mississippi Valley; member of the Committee on Legislation, Minnesota Vocational Association; member of the Committee on Revision of Constitution, American Vocational Association; member of the Committee on Industrial Arts Curriculum, Minnesota State Department of Education; and as chairman of the Committee of the American Vocational Association which published the bulletin, *Improving Instruction in Industrial Arts*. He was on the Editorial Advisory Board of the American Technical Society.

William J. Micheels was named consultant on the development of public contact improvement program of the National Standard Parts Association of Chicago, 1946-47. He directed the curriculum revision project in Industrial Arts Education for the Utah State Department of Education, 1947-48. He served as co-chairman of the Committee on Visual Education of the National Association of Industrial Teacher Trainers; as a member of the State Committee on Industrial Arts Curriculum of the Minnesota State Department of Education; and on the General Planning Committee of the Minnesota Vocational Association.

Jean G. Smith was named chairman of the Committee on Evaluation of Book Selection Aids, Division of Libraries for Children and Young People, American Library Association. She was a member of the Committee for Intellectual Freedoms, Minnesota Library Association.

Minard W. Stout served on the Committee on Guidance of the Commission on Research and Service, North Central Association of Colleges and Secondary Schools; and was elected a member of the Commission.

Walter R. Smith was elected secretary-treasurer of the Sigma Delta Psi (national honorary athletic fraternity), 1946-48; secretary-treasurer, Minnesota Golf Association, 1946-48; and secretary of the Hennepin County Tuberculosis Association, 1946-48.

Helen M. Starr served in the Camp Workshop (1946-47) and in the Fall Conferences (1946-47) in Health, Physical Education, and Recreation, State Department of

Education. She was director of health demonstrations for the Hennepin County T. B. Association; and director of the "Aqua Follies" for the Minneapolis Aquatennial. She was A.A.U. state chairman of Synchronized Swimming. She has been named chairman of the Teacher Education Section, Central District Association; chairman of the Teacher Education Committee, Central Association for College Women; and chairman of the School Health Section, 9-State Public Health Education Conference. She was special health consultant (under the Kellogg grant) for the State Department of Education. She served as a member of the National Aquatics Standards Committee; as member of the State Advisory Commission in Health, State Department of Education; member of the State Cooperating Committee, State Department of Education and Kellogg Foundation; member of the Posture Committee, Minnesota Public Health Association.

Tracy F. Tyler was a member of the National Board of Directors, and also served as secretary-treasurer of the Minnesota Chapter of the Horace Mann League of the United States. He was elected a member of the National Council of Phi Delta Kappa in 1946 and 1947, and was awarded a plaque for outstanding service to Eta Chapter in 1948. He has served as consultant to the Radio Committee of the Minnesota Education Association since 1939. He was elected first vice-president (1946-48), acting president (since December 13, 1947), and president (since May 1948) of the Minnesota Radio Council.

Edgar B. Wesley prepared the guide and weekly tests for the Program of Information in World Affairs for the *Minneapolis Star* and the *Des Moines Register*. He advised the Motion Picture Producers Association of America in the making of a film on the history of the United States; and served as consultant to the committee of the Minnesota State Department of Education to revise the social studies program. He directed the revision of the social studies curriculum at Baltimore, Maryland, Duluth, Minnesota, and Battle Creek, Michigan. He was a member of the National Committee to select the sixty best books in education each year. He served as a member of the Social Studies Committee of the North Central Association of Secondary Schools and Colleges; as a member of the Board of Directors of the National Council for the Social Studies; and as a member of the Committee of the Mississippi Valley Historical Association to improve the teaching of history. He was co-founder and advisory editor of *American Heritage*. He was named adviser to a committee of the National Association of Secondary School Principals appointed to set up evaluative standards in the social studies; and advised social science and education departments regarding curricular revisions at the University of Wyoming, the University of Colorado, and the Colorado State College of Education.

Edith West served as coordinator of the ninth and tenth grade social studies curriculum committee in the state of Iowa, 1947-48.

Harold T. Widdowson was appointed consultant to the Planning Committee on Vocational-Industrial Education, Chief State School Officers; to the Curriculum Committee on Industrial Arts, Minnesota State Department of Education; and to the Kansas State Board for Vocational Education on Trade and Industrial Teacher Training. He served as a member of the Board of Directors and also of the Judging Committee of National Awards in Industrial Arts; as member of the Committee on Visual Aids for Trade and Industrial Education, U. S. Office of Education; and as a member of the Legislative Committee, Minnesota Vocational Association.

Marjorie U. Wilson was elected to membership in Sigma Xi in 1946. She was elected secretary of Theta Chapter of Pi Lambda Theta, State University of Iowa, and served on the following committees: chairman, Research Committee; chairman, Basketball Officials Examining Committee; member, Publications Committee, General Board, National Section on Women's Athletics (a section of the American Association for Health, Physical Education, and Recreation). She was a member of the Research Council of the American Association for Health, Physical Education, and Recreation.

C. Gilbert Wrenn was past president and trustee of the National Vocational Guidance Association and president of the American College Personnel Association. He was fellow and diplomate of the American Board of Examiners, American Psychological Association. He served as a member of the Study Commission, Council of Guidance and Personnel Associations; as consultant in Student Personnel Work for the American Council on Education; as member of the Joint National Committee on Professional Preparation of Counselors; and as consultant for the American Board of Examiners in Professional Psychology. He was a trustee of the Minneapolis Vocational Guidance Association and member of the Rural Youth Committee of the Minnesota Youth Conference. He served on the Camp Warren Committee of the Minneapolis YMCA; as director of the Church of Youth, Hennepin Methodist Church; as personnel consultant for the Branch and Regional Offices of the Veterans Administration; and as a member of the Committee on Psychology of the Minnesota Mental Hygiene Society.

Institute of Child Welfare—John E. Anderson was elected president of the Division of Childhood and Adolescence, American Psychological Association, 1946-47.

Elizabeth M. Fuller served as a member of the Executive Board, National Association of Nursery Education to November, 1946; and as a member of the Nursery School Committee, Association for Childhood Education, 1946-47.

Dale B. Harris was a member of the Executive Council, Minnesota Psychological Association, 1947-48.

Neith E. Headley was elected international vice-president representing the kindergarten, for the Association for Childhood Education, 1947-48.

Mildred C. Templin was elected a fellow of the American Speech and Hearing Association, 1947.

Dentistry—Henry B. Clark, Jr., was awarded a fellowship in the American College of Dentists. He was diplomate of the American Board of Oral Surgery, 1947, and served as a member of the Board of Directors of the Minnesota Cancer Society.

William H. Crawford was named chairman of the National Board of Dental Examiners, 1947-48. He served as a member of the Research Committee of the American Dental Association.

Carl O. Flagstad was named chairman of the Legislative Committee of the American Dental Association.

William J. Simon was named a fellow of the American College of Dentists.

Sidney H. Zbarsky served on the Atomic Energy Project, National Research Council, Chalk River, Ont., Canada, 1946-48.

Law School—Wilbur H. Cherry was named a member of the Advisory Committee on Federal Rules, appointed by the United States Supreme Court.

Stanley V. Kinyon served as consultant on the Legislative Constitutional Revision Commission.

Henry L. McClintock served as a member of the Board of Governors, Minnesota State Bar Association, and as consultant to the Governor on labor legislation.

Maynard E. Pirsig was named chairman of the Advisory Committee of the Division of Unemployment and Security; and chairman of the Committee on the Youth Correction Act, Minnesota State Bar Association. He was elected secretary of the Minnesota Judicial Council and served as commissioner from Minnesota on Uniform Laws.

Horace E. Read served as a member of the five-man commission to advise the Canadian Government on use of \$14,000,000 profits of Canadian Army Canteens, 1946-47. He was general chairman of the Conference of Great Lakes Command, Canadian Legion, 1947; and chairman of the Committee on Administration and Review, Canadian Army Benevolent Fund, U. S. Northwest Area, 1948. He served on the following committees of the Minnesota State Bar Association: member, Committee to Prepare a Non-profit Corporation Code (chairman, subcommittee on drafting and research); consultant to Committee on Aeronautical Law, 1947; consultant to subcommittee on immunity of the state from suit, 1948; and member of Legislation Committee. He was consultant to the Unitarian Committee for Improvement of State Hospitals, and to the Governor's Citizens Mental Health Committee. He served on the Committee on International and Foreign Law, Association of American Law Schools, 1946-48; and on the Committee on Teaching of International and Comparative Law, American Bar Association, 1946-47. He also served as a member of the Round Table Council on Legislation and the Round Table Council on Conflict of Laws, Association of American Law Schools, 1948. Professor Read was Commander, St. Anthony Park Post, American Legion, St. Paul, 1947-48.

Henry Rottschaefer served as consultant on the Legislative Constitutional Revision Commission.

Pharmacy—Ragnar Almin was named chairman of the Committee on Practical Pharmacy of the Minnesota State Pharmaceutical Association.

Earl B. Fischer served as a member of Subcommittee No. 1 on Botany, Committee on National Formulary, 1946-48; and as auxiliary member of Subcommittee No. 5 on Botany and Pharmacognosy, Committee on the Revision of the United States Pharmacopoeia, 1946-48.

Ole Gisvold was named chairman of the Section on Graduate Instruction, American Pharmaceutical Association, 1948.

Willard J. Hadley was elected secretary, Northwest Branch, American Pharmaceutical Association, 1946-48.

Charles V. Netz served as follows: secretary of the Minnesota State Pharmaceutical Association, 1946-47; chairman of the Board of Publications of the *Minnesota Pharmacist*; collaborator, the *American Journal of Pharmaceutical Education*, 1946-48; and chairman of the Subcommittee on Pharmacy, Achievement Test Committee of *The Pharmaceutical*

Survey, 1946-47. He was elected a fellow of the American Association for the Advancement of Science.

Charles H. Rogers served as a member of the Executive Committee of the American Association of Colleges of Pharmacy, 1946-47; and as chairman of the Executive Committee, Minnesota State Pharmaceutical Association, 1947.

Graduate School—Theodore C. Blegen was awarded the Charles and Mary Hitchcock Professorship at the University of California, Berkeley, 1946. He served as a member of the Executive Committee of the Minnesota Historical Society, 1946-48; as chairman of the Graduate Council, Association of Land-Grant Colleges and Universities, 1947-48; and as member of the Advisory Board, National Parks, Department of the Interior, since 1947.

John G. Darley was elected secretary-treasurer of the American Board of Examiners in Professional Psychology, Incorporated. He was president-elect of the Division of Counseling and Guidance, American Psychological Association. He served as a member of the Advisory Panel in Human Relations, Office of Naval Research, Navy Department; as a member of the Panel of Psychological Consultants, Mental Hygiene Division, U. S. Public Health Service; and as a member of the Committee on Selection and Training of Scientific Personnel, Division of Anthropology and Psychology, National Research Council. He was named chairman of the Panel on Selection and Training, Committee on Human Resources, Research and Development Board.

Walter O. Lundberg served as official investigator on the Quartermaster Corps Project concerning the autoxidation of fats; and as a member of the Scientific Advisory Committee of the Quartermaster Food and Container Institute.

Mayo Foundation for Medical Education and Research—Richard C. Adams served as a member of the Board of Directors, American Society of Anesthesiology, 1947-48, and as chairman of the Committee on Anesthesiology of the Minnesota State Medical Association.

Alfred W. Adson was the recipient of the honorary Doctor of Science degree from the University of Nebraska and from St. Olaf College, 1947-48. He served as a member of the Council on Medical Service, American Medical Association, 1946-47; as member of the American Board of Neurologic Surgery; and was elected president of the North Central Medical Conference, 1947-48.

C. Anderson Aldrich was the recipient of the Lasker Award of the National Committee for Mental Hygiene, 1947-48. He was elected president, American Board of Pediatrics, 1946-47; and served as a member of the Editorial Board, American Academy of Pediatrics. He was a member of the Conference on Problems of Early Infancy, Committee on Maternal and Child Feeding, National Research Council, 1946-47.

Edgar V. Allen was governor of the American College of Physicians, 1946-47. He was a member of the Board of Directors of the American Heart Association, 1946-47; and was scientific director, American Foundation for High Blood Pressure, 1946-47. He served as a member of the Subcommittee on Cardiovascular Diseases, National Research Council.

Mark J. Anderson served as a member of the National Physicians Committee, Minnesota State Medical Association, 1947-48.

Archie H. Baggenstoss was elected president of the Minnesota Society of Clinical Pathology, 1947-48.

Hugo L. Bair was named chairman of the Council, Minnesota Academy of Ophthalmology and Otolaryngology, 1947-48.

Edward J. Baldes was awarded the President's Certificate of Merit, OSRD, 1947-48. He served as a member of the Council, American Society of Electroencephalography, 1947-48; and as member of the Committee on Aviation Medicine, National Research Council, 1946-47. He was member of the Advisory Panel on Physiology, Office of Naval Research, 1947-48.

Donald C. Balfour was named honorary associate foreign member of the *Société Belge de Chirurgie*, 1946-47. He served as a member of the Board of Trustees, Carleton College, 1947-48; and as honorary consultant, Army Medical Library, 1946-47.

Jacob A. Bergen was a delegate of the Minnesota State Medical Association to the American Medical Association, 1947-48; and was named chairman of the Executive Committee, Section on Gastroenterology and Proctology, 1947-48. He served as a member of the Board of Governors, American Gastroenterological Association, 1947-48.

Nelson W. Barker served as a member of the House of Delegates, Minnesota State Medical Association, 1947-48.

Arlie R. Barnes was elected president of the American Heart Association, 1946-47. He served as a member of the Board of Directors, Inter-American Society of Cardiology,

1947-48; as member of the Subcommittee on Cardiovascular Diseases, National Research Council, 1946-47; and as a member of the Board of Directors, Minnesota Heart Association, 1947-48.

William L. Benedict served as a member of the American Board of Ophthalmology, 1947-48. He was elected secretary of the American Academy of Ophthalmology and Otolaryngology, 1946-47; secretary-treasurer of the American Academy of Ophthalmology and Otolaryngology, 1947-48; and was named to the Board of Directors, National Society for the Prevention of Blindness.

Joseph Berkson was a member of the U. S. Delegation to the Conference for Revision of the International List of Diseases and Causes of Death, 1947-48; was elected a fellow of the Royal Statistical Society of England, 1947-48; and was named honorary member of *Societe Piemontese di Chirurgia* of Italy, 1947-48. He was elected vice-president of the American Statistical Association, 1947-48 and named chairman of the Section on Biometrics, American Statistical Association, 1947-48.

Walter F. Braesch was appointed a member of the Board of Trustees, American Medical Association, 1946-47.

Francis J. Braceland was elected secretary of the American Board of Psychiatry and Neurology, 1946-47, and secretary-treasurer in 1947-48. He served as a member of the Committee on Neuropsychiatry and as a member of the Committee on Veterans Medical Problems, both of the National Research Council (1946-47). He was chief consultant in Neuropsychiatry for the Veterans Administration in 1946-47.

Albert C. Broders served as corresponding foreign member of *Asociacion Medica Argentina*, 1947-48 and of *Sociedad Argentina de Anatomia Normal y Pathologica*, 1947-48. He was named honorary member of: *Academia Nacional de Medicina de Buenos Aires*, 1947-48; *Sociedad de Anatomia Normal y Pathologica de Chile*, 1947-48; and Faculty of Biology and Medical Sciences, University of Chile, 1947-48.

Alex E. Brown was elected secretary-treasurer of the Minnesota Society of Internal Medicine, 1947-48.

Louis A. Brunsting served as secretary of the American Dermatological Association, 1947-48; and was named a member of the Board of Directors, American Academy of Dermatology and Syphilology, 1947-48. He served as consultant to the U. S. Public Health Service, 1946-47, and was a member of its Committee on Industrial Dermatoses, 1947-48.

Louis A. Buie represented the American Medical Association at the Third National Conference on Health in Colleges, 1946-47. He was a member of the Judicial Council and of the Commission on Revision of the Constitution and By-laws, American Medical Association; member, Executive Secretaries and Representatives of the Veterans Medical Service, 1947-48; and member of the Council, Minnesota State Medical Association, 1947-48. He was elected president of the Minnesota State Medical Association, 1947-48.

Howard B. Burchell received the Certificate of Merit for Exhibit at the American Medical Association, 1946-47.

John D. Camp was a member of the Board of Chancellors, American College of Radiology, 1946-47; and was named chairman of the Committee on Education, American College of Radiology, 1947-48. He was elected president of the Minnesota Radiological Society, 1947-48.

Haddon M. Carryer served as a member of the National Physicians Committee, Minnesota State Medical Association, 1947-48, and was vice-speaker, House of Delegates, of the Association, 1947-48.

Oscar T. Clagett was consultant in Thoracic Surgery, Region 8, Veterans Administration, 1946-47. He was the recipient of the Norlin Medal for Distinguished Achievement, University of Colorado, 1946-47; and received the Certificate of Merit for Exhibit at the American Medical Association, 1946-47.

Mandred W. Comfort served as a member of the Gastric Cancer Committee, National Advisory Cancer Council, 1947-48.

Edward N. Cook was elected secretary of the Section on Urology, 1946-47, in the American Medical Association.

Winchell M. Craig served as a member of the Council on National Emergency Medical Service, American Medical Association, 1947-48; as member of the American Board of Neurologic Surgery, 1946-47; as vice-chairman, American Board of Neurological Surgery, 1947-48; as member of the Board of Consultants, Bureau of Medicine and Surgery, U. S. Navy, 1947-48; and as medical consultant of World War II, 1947-48. He was a member of the following committees of the National Research Council: Committee on Surgery, 1946-47; Committee on Veterans Medical Problems, 1946-47; Division of Medical Sciences, 1947-48; Committee on Surgery, 1947-48; and chairman of the Sub-

committee on Neurosurgery, 1947. He was elected president of the Harvey Cushing Society for 1947-48. He served both as a member of the Consultants Bureau and as consultant in Neurosurgery for the Veterans Administration, 1946-47.

Arthur U. Desjardins served as a member of the Council on Physical Medicine, American Medical Association, 1946-47.

Thomas J. Dry was awarded the Certificate of Merit for Exhibit at the American Medical Association, 1946-47.

Jesse E. Edwards was recipient of the Certificate of Merit for Exhibit at the American Medical Association, 1946-47. He served as a member of the Scientific Council, American Heart Association, 1947-48; and as civilian consultant to the Surgeon General of the Army, 1946-47.

E. C. Elkins was elected vice-president of the American Congress of Physical Medicine, 1946-47; and was elected president of the American Congress of Physical Therapy, 1947-48. He served as a member of the Joint Education Committees of the American Physical Therapy Association, the Occupational Therapy Association, and the American Congress on Physical Medicine, 1947-48.

Hiram E. Essex served as consultant in Cardiovascular Diseases, U. S. Public Health Service; as a member of the Study Section in Cardiovascular Research, 1947; as member of the National Institute of Health, 1946-47; and as a member of the committee making a survey on cardiovascular research, 1946-47.

George B. Eusterman was awarded the Friedenwald Medal of the American Gastroenterological Association, 1946-47, and the July issue of *Gastroenterology* was dedicated to him.

William H. Feldman was the recipient of a Certificate of Merit for Exhibit at the American Medical Association, 1946-47. He was elected secretary-treasurer of the Conference of Research Workers in Animal Diseases in North America, 1947-48. He served as a member of the Committee on Pathology and of the Committee on Animal Health, 1946-47, National Research Council; was civilian consultant to the Surgeon General of the Army, 1946-47; and was member of the Scientific Advisory Board, Surgeon General, U. S. Army, 1947-48.

Fred A. Figi was elected vice-president of the American Association of Plastic Surgeons, 1946-47; second vice-president of the American Laryngological Association, 1946-47; and president of the American Association of Plastic Surgery, 1947-48.

Robert E. Fricke was elected president of the Minnesota Radiological Society, 1946-47.

Ralph K. Ghormley served as a member of the American Board of Orthopedic Surgery, 1946-47. He was president-elect, 1946-47, and president, 1947-48, of the American Orthopedic Association. He served as a member of the Joint Committee on Postgraduate Training in Orthopedic Surgery and Executive Committee on American Orthopedic Association, 1947-48; and was chief consultant in Orthopedic Surgery, Veterans Administration, 1946-47.

Clarence A. Good served as a member of the Scientific Exhibit Committee, American Roentgen Ray Society, 1947-48.

Howard K. Gray was the recipient of the Certificate of Merit for Exhibit at the American Medical Association, 1946-47. He was a member of the Committee on Nursing Care, American Medical Association, 1947-48; a member of the American Board of Surgery, 1946-47; and a member of the Board of Consultants, Bureau of Medicine and Surgery, U. S. Navy, 1947-48.

Samuel F. Haines was elected vice-president, American Association for the Study of Goiter, 1947-48.

Byron E. Hall was a member of the Committee for Clarification of the Nomenclature of Diseases of the Blood and Blood-forming Organs, International Society of Hematology, 1947-48.

Stuart W. Harrington was the recipient of the Certificate of Merit for Exhibit at the American Medical Association, 1946-47.

Frank J. Heck served as a member of the Committee for Clarification of Nomenclature in Hematology, American College of Physicians, 1947-48.

Phillip H. Heersema served as a member of the Executive Committee, Minnesota Mental Hygiene Society, 1946-47; and as a member of the Governor's Advisory Council on Mental Health of Minnesota, 1947-48.

Henry F. Helmholz was named honorary member of the Latin-American Division of the American Academy of Pediatrics, and served as chief medical consultant for Europe, International Children's Emergency Fund, United Nations, 1946-48. He was decorated with the National Order of Merit of Carlos J. Finlay with the degree of "Comendor," 1946-47.

Philip S. Hench was named the Samuel Hyde Memorial Lecturer by the Royal Society of Medicine, London, 1947-48, and the Heberden Orator, London. He served as chairman of the American Committee of the *Ligne Internationale Control le Rheumatisme*, 1946-47; chairman of the American Committee of the International League against Rheumatism; member of the Committee for the Survey of Research on Rheumatic Diseases, National Research Council, 1947-48; and civilian consultant, Army and Navy General Hospital, 1946-47.

Wallace E. Herrell was a member of the Editorial Committee, *Annual Review of Microbiology*, 1947-48.

Richard M. Hewitt was elected to Phi Beta Kappa, 1947-48.

Horton C. Hinshaw was the recipient of the Certificate of Merit for Exhibit at the American Medical Association, 1946-47. He was president-elect, 1946-47, and president, 1947-48 of the American Trudeau Society. He served as a member of the Board of Directors of the National Tuberculosis Association, 1947-48, and as foreign correspondent member of the Argentine Society of Phthisiology, 1947-48.

Arthur B. Hunt was elected secretary of the Section on Obstetrics and Gynecology, American Medical Association, 1946-47.

Raymond J. Jackman served as a member of the Board of Health, City of Rochester, 1947-48, and as a member of the House of Delegates, Minnesota State Medical Association, 1947-48.

Victor Johnson was a member of the Council on Medical Education and Hospitals, American Medical Association; member of the Advisory Board for Medical Specialties; member of the Committee on Medical Education and Research, American Red Cross; member of the Executive Committee, Advisory Board for Medical Specialties; member of the Advisory Committee, Federal Hospital Council, U. S. Public Health Service, 1947-48; member, Citizens Federal Committee on Education, U. S. Office of Education, 1946-47.

Haddow M. Keith served as a member of the American Board of Pediatrics, 1946-47. He was co-chairman of the Community Chest Campaign, Rochester, 1947-48; and was elected president of the American Branch, International League against Epilepsy, 1946-47.

Edward C. Kendall was a member of the Panel on Experimental Endocrine Physiology, National Research Council, 1946-47.

Roger L. J. Kennedy was a member of the Executive Board, American Academy of Pediatrics, 1946-47; and member of the Council, Minnesota State Medical Association, 1947-48.

James W. Kernohan served as a member of the American Board of Pathology, 1946-47; and was civilian consultant to the Surgeon General of the Army, 1946-47.

Robert R. Kierland was consultant in Dermatology, Region 8, Veterans Administration, 1946-47.

Byrl R. Kirklin served as a member of the Joint Committee for Coordination of Medical Activities, 1946-47; and as member of the House of Delegates (from Section on Radiology), 1947-48, American Medical Association. He served in the following capacities: secretary, American Board of Radiology, 1946-47; secretary-treasurer, American Board of Radiology, 1947-48; member of Advisory Board for Medical Specialties, 1947-48; and as secretary, Advisory Board for Medical Specialties, 1946-47.

Frank H. Krusen served as follows: member, Council on Physical Medicine, American Medical Association, 1946-47; chairman, American Board of Physical Medicine, 1947-48; and special consultant in physical medicine, Veterans Administration, 1946-47.

Harold I. Lillie was a member of the American Board of Otolaryngology and Rhinology, 1946-47; and was elected president of the Board for 1947-48.

George B. Logan served as chairman of the Committee on Child Health, Minnesota State Medical Association, 1947-48.

Stanley A. Lovstedt was elected to Omicron Kappa Upsilon, 1947-48.

John Silas Lundy was awarded the honorary Doctor of Science degree by the University of North Dakota, 1947-48. He was secretary of the Section on Anesthesiology, American Medical Association, 1947-48; member of the American Board of Anesthesiology, 1946-47; and chairman of the Committee on First Aid and Red Cross, Minnesota State Medical Association, 1947-48.

Alexander R. MacLean was a member of the Statistical Committee, Association for the Advancement of Research on Multiple Sclerosis, 1947-48.

Thomas B. Magath served in the following capacities: member of the Board of Governors, American College of Pathology, 1946-47; member, Board of Governors, American Foundation of Tropical Medicine; delegate, Liberian Institute of Tropical Medicine, International Congress on Tropical Medicine, 1946-47; consultant in Pathology, Region 8, and chief consultant in tropical medicine, Veterans Administration.

Frank C. Mann was named foreign honorary member of the Royal Flemish Academy of Belgium, 1946-47. He served as member of the Board of Publications and Trustees, American Physiological Society, 1947-48; as chairman, Editorial Board, *Annual Reviews of Physiology*, 1947-48; member, Physiology Study Section, National Institute of Health, 1947-48; and as special consultant, U. S. Public Health Service, 1947-48.

Harold L. Mason served on the Panel on Synthesis and Metabolism of Steroids, National Research Council, 1947-48.

Charles W. Mayo was elected president of the Minnesota Surgical Society, 1946-47. He was named a member of the Board of Trustees of Carleton College, 1947-48; and served on the Special Medical Advisory Group of the Veterans Administration, 1946-47; and on the Medical Advisory Committee of the American Legion, 1946-47.

Charles K. Maytum was consultant in Allergy, Region 8, Veterans Administration, 1947-48.

John R. McDonald was awarded a Gold Medal for Exhibit, American Society of Clinical Pathologists, 1947-48.

Wallace A. Merritt was secretary-treasurer of the Southern Minnesota Medical Association, 1946-47.

Henry W. Meyerding was the recipient of the First Award for Scientific Exhibit, Chicago Medical Society, 1946-47. He was named honorary associate foreign member of *Société Belge de Chirurgie*, 1946-47, and associate foreign member of *Société Nationale de Chirurgie* of France, 1946-47. He was awarded a Medal by the *Société Nationale de Chirurgie* of France, and was named honorary fellow of the International College of Surgeons, 1946-47. He served as president of the Fourth Congress, International Society of Orthopedic Surgery and Traumatology, 1947-48.

John R. Miner was a member of the Medieval Academy of America, 1946-47.

Frederick P. Moersch was elected secretary of the Section on Nervous and Mental Diseases, American Medical Association, 1946-47; and served as councilor of the American Psychiatric Association, 1946-47.

Herman J. Moersch served as president of the American Gastroscopic Society, 1947-48.

Robert D. Mussey was elected president of the American Association of Obstetrics, Gynecology, and Abdominal Surgery, 1946-47.

Gordon B. New served in the following capacities: member, American Board of Plastic Surgery, 1946-47; chairman, American Board of Plastic Surgery, 1947-48; second vice-president, American College of Surgeons, 1946-47; and member of the Council, American Academy of Ophthalmology and Otolaryngology, 1947-48.

Kenneth N. Ogle served as a member of the Army-Navy-NRC Vision Committee, 1947-48.

Paul A. O'Leary served as a member of the American Board of Dermatology and Syphilology, 1946-47. He was president, American Dermatological Association, 1946-47.

Stanley W. Olson served as consultant to the Advisory Committee of the University of Mexico, 1947-48.

Robert L. Parker was the recipient of the Certificate of Merit for Exhibit at the American Medical Association, 1946-47.

John W. Pender was consultant in Anesthesiology, Region 8, Veterans Administration, 1946-47.

Karl H. Pfeutze received the Certificate of Merit for Exhibit at the American Medical Association, 1946-47.

Monte C. Piper served as chairman of the Historical Committee and member of the Council, Minnesota State Medical Association, 1947-48.

Avery D. Prangen was elected president, Minnesota Academy of Ophthalmology and Otolaryngology, 1947-48.

H. M. Rogers was awarded the Certificate of Merit for Exhibit at the American Medical Association, 1946-47.

Howard P. Rome was a member of the Committee of the Group for Advancement of Psychiatry, 1947-48; and a member of the National Mental Health Committee, U. S. Public Health Service, 1947-48.

Arthur H. Sanford was appointed honorary consultant, Army Medical Library, 1946-47; and special consultant, U. S. Public Health Service, 1947-48.

Carl F. Schlotthauer served as a member of the Research Council, American Veterinary Medical Association, 1947-48.

Thomas H. Seldon was elected vice-president of the American Association of Blood Banks, 1947-48.

Charles Sheard received the Ward Burdick Medal and Award, American Society of Clinical Pathology, 1946-47; and was recipient of the Gold Medal of Merit, Beta Sigma Kappa, 1947-48. He was named honorary fellow of the American Academy of Ophthalmology and Otolaryngology, 1947-48; and served as a member of the Ophthalmic Optics, American Board of Opticianry, 1947-48. He was elected president, American Board of Opticianry, 1946-47; and was consultant, Bureau of Medicine and Surgery of the U. S. Navy, 1946-47.

Kinsey M. Simonton served as a member of the Committee on Conservation of Hearing, Minnesota State Medical Association, 1947-48.

Harry L. Smith served as a member, House of Delegates, Minnesota State Medical Association, 1947-48.

Albert Markley Snell served as a member of the Subcommittee on Liver Diseases, National Research Council, 1946-47. He was chief consultant in Gastroenterology, Veterans Administration, 1946-47, and vice-chairman of Professional Services Section Chiefs, Veterans Administration, 1947-48.

Benjamin Spock was a member of the Council, National Committee for Mental Hygiene, 1947-48; and a member of the Committee on Community Services, National Mental Health Committee, U. S. Public Health Service, 1947-48.

Edward C. Stafne served as a member of the Committee on Dental Health Education, Minnesota State Dental Association, 1947-48; and as a member of the Board of Directors of the Minnesota Dental Foundation, 1947.

Jan H. Tillisch was named chairman of the Committee on Military Affairs, Minnesota State Medical Association, 1947-48; and served as a member of the Conference on Oxygen, Airline Medical Directors, 1947-48.

Maurice N. Walsh was neuropsychiatric consultant of World War II, 1947-48.

Waltman Walters served as a member of the National Advisory Council, U. S. Navy, 1947-48.

Charles H. Watkins was president of the Minnesota Society of Internal Medicine, 1946-48. He served as a member of the Council, Minnesota State Medical Association, 1947-48; and was named chairman of the Executive Committee, Minnesota Society of Internal Medicine for 1946-47.

Harry M. Weber served in the following capacities: vice-chairman, Section on Radiology, 1946-47, and chairman, 1947-48, American Medical Association; chairman of the Executive Council, American Roentgen Ray Society, 1946-47; and director, Section on Instruction, American Roentgen Ray Society, 1947-48.

Russell M. Wilder served as a member of the Council on Foods and Nutrition, American Medical Association, 1946-47; and on the following committees and boards of the National Research Council: member, Food and Nutrition Board, 1946-47; member, Committee on Cereals, 1946-47; member, Committee on Diagnosis and Pathology of Nutritional Deficiencies, 1946-47; member, Committee on Dietary Allowances, 1946-47; chairman, Committee on Vitamin Deficiency Studies at Elgin State Hospital, 1946-47; and chairman, Committee on Emergency Food Problems, 1946-47.

Marvin M. D. Williams served as a member of the National Radioisotope Safety Commission, 1947-48.

Frederick A. Willius served as a member of the Board of Directors, Minnesota Heart Association, 1947-48.

Henry W. Woltman was elected president of the Association for Research in Nervous and Mental Diseases, 1947-48. He was a member of the Medical Advisory Committee, National Foundation for Infantile Paralysis, 1947-48; a special consultant in Neurology, Veterans Administration, 1946-47; and consultant in Neurology and Psychiatry, Region 8, Veterans Administration, 1946-47.

Lewis B. Woolner was awarded a Gold Medal for Exhibit, American Society of Clinical Pathologists, 1947-48.

Henry H. Young served on the Survey Orthopedic Services, American Medical Association and American Board of Orthopedic Surgery, 1947-48; and as a member of the Minnesota Safety Council, 1946-47.

School of Business Administration—Roy G. Blakey served as co-chairman of the Mayor's Committee on Tax Survey, City of Minneapolis.

Helen G. Canoyer was elected president of the Twin City Chapter of the American Marketing Association and served as a member of the Board of Directors.

Frederic B. Garver was named chairman of the Nominating Committee, American Economic Association.

Richard K. Gaumnitz served as deputy director, UNRRA China Office, 1947, and was awarded the Order of the Brilliant Star by the Chinese Government in 1948. He was named chairman of the Local Arrangements Committee, Midwest Economic Association.

Walter W. Heller was chief tax consultant, Finance Division, Office of Military Government for the United States (Germany) from July 1947 to September 1948.

Herbert G. Heneman, Jr., was named a fellow of the Social Science Research Council.

Richard L. Kozelka was named director of the National Bureau of Economic Research. He served as a member of the Board of Directors, Minnesota Institute for Governmental Research; as member, 1947-48, and as chairman, 1948, of the Committee on Standards, American Association of Collegiate Schools of Business; as member of the Executive Committee, American Association of Collegiate Schools of Business; and as member of the Interprofessions Conference on Education for Professional Responsibility (sponsored by Carnegie Corporation).

Philip Neville was secretary and member of the State Board of Law Examiners, 1946-48.

Edmund A. Nightingale served as consulting transportation economist, Minnesota Iron Range Resources and Rehabilitation Commission; and as director, Transportation and Public Utilities Section, American Economic Association.

C. Harold Stone was named a fellow by the Social Science Research Council.

Arthur R. Uppgren served as a member of the Board of Directors, Minnesota Valley Canning Company; member of the Executive Committee, American Economic Association; member of Committee on Public Issues, American Economic Association; member of the Governor's Minnesota Economic Development Council; member of the Committee on Business Statistics, U. S. Chamber of Commerce; and member of the Conference of Business Economists (national). He was named vice-chairman, Ninth District, Committee for Economic Development; and was economic consultant for the Canada-United States Joint Chambers of Commerce.

Roland S. Vaile gave expert testimony before the Joint Congressional Committee on the Economic Report, and also before the Foreign Affairs Committee of the Senate.

General College—J. Merle Harris was elected vice-president of the Minnesota Geological Society.

Horace T. Morse was named chairman of the Junior College Study of the Commission on Colleges and Universities, North Central Association of Colleges and Secondary Schools.

Esther J. Olson was awarded a fellowship by the University of Oslo, Norway, for the summer of 1948.

Cornelia D. Williams was awarded a Diploma in Counseling and Guidance by the American Board of Examiners in Professional Psychology, Inc.

Duluth Branch—Addison M. Alspach served as college and university consultant for the Minnesota Music Educators' Conference.

Arthur M. Clure was elected president of the State Teachers College Board. He was appointed to the Committee of the Supreme Court of Minnesota for drafting rules of practice in civil cases; was a member of the Supreme Court Review Panel on Bar Admissions; and a member of the Real Property Section of the Minnesota Bar.

John C. Cothran was elected chairman of the Lake Superior Section, American Chemistry Society.

Prevost Coulter served on the following Governor's Committees: Law Enforcement Advisory, Mental Hospital, Law Enforcement Committee of the Youth Conservation Commission. He was the recipient of the Minnesota Safety Council Award of merit. He served as a member of the U. S. Army Advisory Committee. He was awarded second place in the Metropolitan Division for typographical excellence on the *News-Tribune*, and honorable mention on *Duluth Herald*. He was recipient of a Certificate of Merit from the U. S. Marine Corps.

Emmett Davidson was elected a member of Alpha Pi Zeta.

Elizabeth Graybeal served as president of the Central District Association for Health, Physical Education, and Recreation; and as chairman of the Research Section, Central District Association of Physical Education for College Women. She served as a member of the Committee on Standards and as consultant to the working conference on Standards for Health and Physical Education, State Department of Education.

Thomas H. Ige served as consultant to Local No. 1032 (East Chicago, Indiana), United Steelworkers of America, C.I.O.

Ray Isenbarger, Jr., was elected to membership in Phi Epsilon Kappa and Phi Delta Kappa.

Frank J. Kovach served as a member of the Board of Control, 1946-48, and was elected vice-president, 1946-47, and president, 1947-48 of the Minnesota State Teachers College Conference.

Olga Lakela was named a member of the Council of the Minnesota Academy of Science.

Maude L. Lindquist served on the State Board of the Minnesota Welfare Association. Elmer P. Magnell served as chairman of the Northeastern Division of the Minnesota Music Education Association.

R. Dale Miller was a member of the National Ensemble Committee of the Music Educators' National Conference.

Ivan Nylander was elected to membership in Lambda Alpha Psi, honorary language fraternity. He served as a member of the Board of Directors of the Swedish Cultural Society of America.

Edith M. Peterson served as national judge, Officiating Basketball. She was elected president of the Duluth Section, Minnesota Association for Health, Physical Education, and Recreation; and was chairman of the Northeast Division, National Section of Women's Athletics. She served as a member of the State Physical Education Visual Aids Committee.

Ezra H. Pieper served as president of the Minnesota State Teachers College Faculty Association. He was elected to membership in Kappa Delta Pi.

William A. Porter served as a member of the Committee of the National Association for Research in Science Teaching.

Margaret W. St. George was appointed co-chairman, Art Section, Head of the Lakes Region, Minnesota-Wisconsin Education Association.

Lily Salz served as intelligence research analyst for the State Department Reference Division, 1946-47.

John E. Verrill was elected to membership in the National Association for Research in Science Teaching.

Gordon O. Voss served on the Board of Directors, Minnesota Vocational Association; on the Minnesota State Industrial Arts Curriculum Committee; and on the Executive Council of Minnesota Industrial Arts Clubs.

Ward M. Wells was a member of the Curriculum Revision Committee on Skiing and of the Working Conference on Standards for Health and Physical Education for the Minnesota State Department of Education.

General Extension Division—F. Lloyd Hansen was named a member of the Correspondence Committee of the National University Extension Association, 1946-48.

Julius M. Nolte served on the following committees of the National University Extension Association: member of the Executive Committee, 1946-48; chairman of the Committee on the Preparation of Extension Leaders, 1946-48; representative on the Educational Joint Committee for Study of Principles and Practices in Adult Education, 1948; and member of the Committee on Governmental Information, 1946-48. He was a member of the Committee on Legal Institutes of the Minnesota State Bar Association, 1947-48; member of the Executive Council and Executive Committee of the Minnesota Historical Society, 1948; member of the Executive Council, American Association for Adult Education, 1946-48; and served as director of the Minnesota Territorial Centennial, 1948.

Alumni Relations—William S. Gibson was president-elect of the American Alumni Council, 1947-48.

Ernest B. Pierce was awarded the "Builder of the Name" Medal on June 11, 1948.

THE WORK OF THE UNIVERSITY

COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS

During the past biennium, the faculty and administration of this college have striven to obtain the objectives of a liberal arts college in a state university with the maximum enrollment of its history. Adjustments to the rapid return of veterans to the campus and to their special needs have been made. At the same time the basic purposes of the college—a liberal education with special interests in a given field, preprofessional training, vocational exploration, and general education—have been continually kept as guides in revisions of courses, developments of new curricula, and changes in the requirements for graduation.

Brief comments will be made on enrollment and on some of the activities that characterize the past two years.

Enrollment—The past biennium marks a peak in the number of students enrolled in this college.

ENROLLMENT IN THE COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS

Quarter	Total	Veterans	Senior College
Spring, 1946	6,760	2,885	1,432
Fall, 1946	9,751	5,228	1,621
Winter, 1947	8,945	5,021	1,436
Spring, 1947	8,473	4,602	1,402
Fall, 1947	8,645	4,401	2,377
Winter, 1948	7,749	3,998	2,104
Spring, 1948	7,557	3,843	2,061

The total registration increased by 3,000 for the fall term of 1946 over the total in the spring term of that year. In the spring of 1948, the total was still 1,200 above that of 1946. The number of veterans for the spring term of 1948 was approximately 1,000 above that of the spring term of 1946.

The distribution of students in the various classes has changed. In the fall of 1946, the enrollment in the Senior College was about 16 per cent of the total. In the spring of 1948, it was 27 per cent. The ratio is expected to be higher in the fall of 1948, and there are indications that this fraction will continue to grow.

Staff—The growth of the Senior College has created staff problems. It has not been possible to obtain sufficient personnel to maintain upper division classes at the size desired. Many courses in the "100" group open to senior college and graduate students have had registrations between 100 and 200. Instructors cannot give as much personal attention to these students, read term papers, or in general conduct classes as is usually done with upper division groups.

The selection of new staff members and any enlargement of faculty will be determined in a greater measure by the needs of the Senior College.

Student Counseling—The increased enrollment in the Senior College has made it necessary for the assistant dean for the Senior College to have a counselor in his office. Many questions concerning admission to the Senior College, program planning, graduation requirements, and related matters must be answered. Preprofessional students who do not major in any department are counseled in the office of the Senior College. The number of interdepartmental or liberal arts majors has increased at least as rapidly as the enrollment in the senior division, and a high percentage of these students is advised by the assistant dean for the Senior College.

The placement activities of the college, more or less suspended during the war years, began to assume much greater importance. Such activities were stimulated partly by the University Placement Committee. The placement service was moved from the dean's office, where it had been previously, to the more logical location in the Senior College. This phase of counseling is in the charge of Mabel K. Powers whose experience during the war period and whose training make her highly qualified for the task. Although the objectives of this college are not primarily training for a job, our graduates must take their place in society. The college has some responsibility in aiding them to do this in a manner satisfactory to themselves and such that they can, as college graduates, make their contribution to the community.

The plan inaugurated in 1946, under which the entering senior college student, with the help of his adviser, works out a complete program for a degree, has proven to be fairly successful. Relatively minor modifications in it have been made.

The Junior College Counseling Office, set up in the spring of 1946 to supplement the basic faculty counseling program of the Junior College, included fifteen half-time teaching assistants for counseling during the 1946-47 year but was decreased to ten during 1947-48. Since this office was established to supplement rather than supplant regular faculty counselors, as the faculty-student ratio became better adjusted during 1947-48, the number of supplementary counselors needed to assist with the burden of college faculty counseling could be decreased. Sophomores in the college, who are not assigned to specific faculty counselors, sought faculty counseling from this office, and some freshmen were assigned here after approximately two hundred counselors had been given a maximum load of advisees. Freshmen of outstanding ability and achievement, so often neglected in a college personnel program, were invited in for special attention and service by the counselors in the Junior College Counseling Office.

With the advent in the summer of 1946 of a two-month advanced registration period for the fall quarter, the need for a radical revision in the freshman orientation program, formerly presented in the single New Student Week in the fall, was apparent. In the summer of 1947 this college, along with the General College and in cooperation with the Student Activities Bureau and the Student Counseling Bureau, inaugurated a new attack on the problem of orienting and registering new students. Students came to the campus by appointment in small numbers for a two-day orientation-registration program. Every effort was made to take advantage of the small group approach, and through luncheons, recreational opportunities, discussions with student leaders, extensive testing, and a final hour interview with a faculty counselor, the students were introduced to the University in a manner quite different from any ever before used on this campus. Since faculty members were for the most part not available during the registration period, beginning in early August, a special group of twenty half-time teaching assistants was appointed to carry out the college part of this cooperative effort. The program was so well received that by the spring of 1948 all colleges on the Minneapolis Campus had agreed to a similar plan for the registration to be held in the fall of 1948.

The most pressing needs foreseen for the future in college student counseling grow out of the still expanding enrollment of the Senior College. Additional counseling assistance will be necessary. The increasing number of students who enter the college as juniors also necessitates the development of an orientation-registration program for them similar to that developed for junior college students during the past two years.

It is our goal to have available in this college the counseling and, to a greater degree than in the past, that individual attention which a student may receive in a small liberal arts college. Thus a student will have the advantages of a larger institution without sacrificing any of the qualities which are ascribed to smaller units.

Curriculum—General Education—While the past two years have brought a substantial increase in senior college enrollment with a consequent emphasis upon specialized courses, there has also been a substantial growth in general education at all levels. By action of the faculty in May, 1947, an alternate plan for meeting group requirements was adopted, establishing a new requirement in humanities and increasing the requirements in social science and natural science. Likewise the Institute of Technology five-year program is now in full operation, requiring for non-veterans more than 50 credits of general education courses to supplement the technical work. The College of Education and the Medical School likewise have established new rules placing greater stress upon an adequate general education for their entering students. Because of a special concern for student enlightenment on public affairs during the present critical period, an elementary three-quarter course in "International Relations" was added to the social science program in 1948, and a special course entitled "Public Affairs Forum" was inaugurated to familiarize upper class students, especially those who are not taking major work in the social sciences, with current issues.

Department of Art—An essentially new Department of Art has been organized under the direction of Professor H. H. Arnason as chairman. A number of courses formerly offered in the Departments of Architecture, Art Education, Drawing and Descriptive Geometry, and Fine Arts are now coordinated in the new department. Some staff members in the departments named above were transferred to the new department, and some additional appointments have been made.

The University Gallery under the directorship of Mrs. Ruth E. Lawrence is now transferred to this college as a part of the Department of Art. A portion of an extensive report by the director to the chairman of the Department of Art is incorporated in this report.

Committee on Instruction—In addition to these curricular developments, the faculty has expressed a concern for improved teaching procedures, and a new Committee on Instruction, under the chairmanship of Professor R. W. Brink, chairman of the Department of Mathematics, is seeking ways of encouraging better teaching and evaluating the quality of instruction in the college.

Testing procedures, class size, equipment and arrangement of classes, opinions of the student body on character of instruction are all matters that may come under the purview of this committee.

Needs for the Future—Some of the departments need strengthening by additional staff. In general, the expanding enrollment at the upper levels, graduate and undergraduate, requires the growth of the staff to be in the higher academic ranks. Only in this way can the college maintain its position in conducting basic instruction and research. The quality of its activities will in no small measure determine the standards and character of work of a major portion of the University.

The University Gallery—The University Gallery has now completed fifteen years of service to the University. Such a milestone suggests a review and an appraisal of our position and a recording of what has been accomplished.

The intangible effects, the things which touch the mind and the heart of the student, are the real measure. There should be some means devised to measure efficacy. That would tell us how well the Gallery has served, but this answer will appear only partially.

The answer then to the tangible aspect could possibly be "yes" if based upon the interest, encouragement, and moral support given our program, as well as by the willingness with which the funds have been allotted. We could base our answer also upon the volume of our activities, the collections which have been built up through the years, and the seeming benefit which our students, staff, and visitors have received. A conservative yearly estimate would place the number served at approximately 130,000 people.

The Permanent Collections are available only to faculty to use with students in the development of art appreciation. Included are 204 oils, 138 water colors, 1,094 original prints, 134 woodcuts, 136 etchings, 624 lithographs, 48 rubbings, 62 engravings, 16 aquatints, 7 stencils, 35 blockprints, 2 mezzotints, 30 silk screens, 7 sculpture.

Study materials are available to classes, students, and a few limited outside organizations. Numbered here are 295 original textile designs and textiles, 85 ceramics, 12 glass, 233 posters, 810 matted and 1,000 unmatted large study prints (reproductions), 37,164 prints in pictorial file collection, 76,834 articles in pamphlet file collection, and 1,150 books and portfolios.

Another service given and available only to students as an aid in art appreciation is the Student Framed Print Collection. They may borrow these for 25 cents a quarter to hang in their rooms. These are framed color reproductions of art masterpieces. There are available 1,026 framed and 425 unframed prints.

A high standard has been maintained in our exhibition program. The selection has been extremely catholic and broad in scope. We have presented things not only of timely interest, but shown trends and influences in creative thinking and productivity in all branches of the arts. The number of major exhibitions presented over a period of 15 years is 415.

Many gifts of major and minor value have been presented to the University. Our sincere gratitude is expressed to the donors. Here these works find a permanent home. They contribute to the esthetic understanding of the student body. And to the thousands of students who pass in and out through our door, they will remain an ever fresh source of inspiration. An anonymous gift in 1939-40 of \$2,500 has increased from various sources with interest to \$5,136.27. This gift has been designated as a nucleus for our building fund. Ways to make this grow must be devised.

Fifteen years of life for the University Gallery bring it to the period of looking ahead to real years of new service and activity as a full-fledged activity of the University. The Arts at the University are visioned as having unity of purpose. The change from a multiple organization to a unified one is not easy. Each individual must dedicate himself to lofty aims and selfless goals.

Some improvements have been made in the physical plant for the Arts program. Funds were given for developing the art reference library and exhibition space for study prints. However, this is not a permanent answer to the Gallery's problems. The fact still remains that the Gallery is located in an inaccessible place. Many interested visitors cannot or will not climb the three flights of stairs. There is no elevator, nor any way of getting our exhibitions up to the Gallery except by carrying everything by hand. This entails making many trips daily, a waste of time and valuable energy. There is no adequate storage space, and our materials are spread into twenty-two rooms on the various levels of

this huge building. With the allotment of funds this year, however, there will be some improvements through consolidating most of our activity on the third and fourth floors.

We are passing through a period of greater interest in the arts as evidenced in the increased enrollment in art classes and gallery attendance and its services. This is not limited to students of art alone, but includes those who are preparing themselves in other professions. Enlightened planning established a Gallery in the years before this inquisitiveness took firm hold. Thus the Gallery could grow with the increase of faculty requirements and student interest.

Up to this point, we have dealt with the needs on our campus. But in formulating educational plans for the future, we must look beyond the local situation to the duty and responsibility we have abroad in our state. Here are future objectives: (1) the development of audio-visual aids in art, social studies, and science; (2) the development of a program of radio education with television, films, and slides; (3) the development of lively exhibition materials which may be offered in the schools of our state; and (4) the provision for teacher training and instruction in the use of the above materials.

These objectives are not the result merely of conjecture, for study and experiment have been done, and conclusions are based on the experience of the past. In any re-establishment it should be an activity of the Gallery under the direction of a committee working with the coordinated Art Department. Our duty is to serve the state as well as the campus. We should be using and expanding all our facilities not only to give our students a rich, vigorous art education, but to push this training out into the state in the lower levels of our schools where knowledge of art must begin—R. E. LAWRENCE, *director*.

School of Journalism—The basic educational program of the School of Journalism calls for emphasis upon a broad liberal education as well as a professional knowledge of the techniques and procedures of the mass communication agencies. The results of this policy received additional recognition during the last biennium when the school's general educational program and seven of its professional course sequences were accredited by the American Council on Education for Journalism. The council is responsible jointly to the schools and to five leading professional organizations, and is supported in part by a grant from the Carnegie Corporation. Only one other university school of journalism was accredited to an equal extent.

Improvements were made during the biennium in the school's offerings of general education courses which are available to students in other departments of the College of Science, Literature, and the Arts as well as to students in journalism. These developments were in the areas of freedom of the press, the press in world affairs, and the newspaper as a social institution. Needed elaboration of instructional procedures was achieved, also, in advertising, a professional training area.

The research division of the School of Journalism, the first of its kind in an American university, has continued and broadened its intensive study of readership of daily newspapers and other media of mass communications. This project was made possible through a grant of \$17,600 by the Minneapolis *Star* and *Tribune* for a two-year study of newspaper reading habits. In addition, with a \$20,000 grant provided by the United States Navy, it has undertaken basic research into the fundamental interest patterns of the American people as revealed through their utilization of the communications media. This may help to answer vital questions as to why individuals think and behave as they do with reference to problems common to most groups in our society. A long-range inquiry into the factors which make for efficiency and stability in newspaper publishing enterprises was begun during the biennium with the aid of Graduate School funds, and a statewide study of the status of the editorial page, an important influence upon American social and political institutions, was completed and reported to the press.

The School of Journalism gave continuous service during the biennium to newspapers, press associations, radio news editors, and other agencies of communication in the state and nation. The task of guiding graduates of the school to suitable employment has been assumed as a duty by the school's faculty. Graduates of the last two years, most of whom were veterans studying with the aid of the federal government, were quickly employed. The annual Editors' Short Course and the annual radio news editors' conference were held with considerable success. The school, through the Board of Regents, presented the Minnesota award for distinguished service in journalism to three widely known mid-western journalists: Emanuel P. Adler of the Davenport (Iowa) *Democrat* and *Times*, Stuart H. Perry of the Adrian (Mich.) *Telegram*, and Tom H. Keene of the Elkhart (Ind.) *Truth*. The school was host to Marquis Childs and Thomas L. Stokes, Washington reporters, on the occasions of the first and second Twin Cities Newspaper Guild memorial lectures, an event repeated annually in honor of Twin Cities newspapermen who died in service during World War II. Many staff members, because of their special-

ized knowledge and their research work, were called upon to speak to meetings of newspaper, radio, advertising, and educational associations. And a growing backlog of requests for consultation and special services beyond the present facilities of the research division was a constant problem.—RALPH D. CASEY, *director*.

The School of Social Work—The School of Social Work, a graduate professional school, is a charter member of the American Association of Schools of Social Work organized in 1919, an association which now numbers 49 graduate professional schools of social work. The school is also accredited to offer social work training in the several accredited specialties in the social work profession, including psychiatric social work, medical social work, and group work.

Graduates and other professional social workers who have received their training at this school now occupy positions in professional social work practice and in leadership positions throughout the country in private and public social agencies. The school has developed a close working relationship with private and public welfare agencies in the Twin City area. Also, the faculty of this school renders a consultation service to the community over and above the responsibility of teaching and supervising graduate students. These services include technical consultative services in social agencies, on social work problems, consultation service to civil service and merit system agencies, and the like.

Since June, 1946, there have been a number of major faculty changes due to the creation of new faculty positions, the retirement or resignation of former faculty members, etc. New faculty have come into their teaching responsibilities directly from positions in various social work agencies or from the faculty of other schools of social work in the country. Also, since June, 1946, the School of Social Work has developed an accredited sequence for the training of social group workers and, during the past two academic years, has been the recipient of grants made available by the United States Public Health Service under provisions of the National Health Act for the enrichment and expansion of the school's training program for psychiatric social workers.—J. C. KIDNEIGH, *associate director*.

J. W. BUCHTA, *acting dean*.

INSTITUTE OF TECHNOLOGY

On June 30, 1947 Dean Samuel C. Lind retired as dean of the Institute of Technology and in the absence of a new dean, Thomas A. H. Teeter was appointed executive officer pending the appointment of a dean.

The enrollment of the Institute of Technology reached its all-time peak in the fall quarter of 1946 with a total of 5,610 students. Since that time there has been a steady decline in enrollment, mostly in the freshman and sophomore classes, until the enrollment in the spring quarter of 1948 fell to 4,555. The downward trend in enrollment is due largely to the fact that the crest of the wave of veteran enrollment has now reached the upper classes. The distribution of enrollment for the biennium is indicated in the accompanying enrollment chart for the fall quarter of each year of the biennium and for spring quarter, 1948.

ENROLLMENT FOR THE INSTITUTE OF TECHNOLOGY

Department	Fall Quarter 1946-47	Fall Quarter 1947-48	Spring Quarter 1947-48
Aeronautical Engineering	623	519	377
Agricultural Engineering	148	81	84
Architecture	327	240	190
Chemical Engineering	624	536	453
Chemistry	165	148	128
Civil Engineering	514	624	591
Electrical Engineering	1,489	1,386	1,189
Mechanical Engineering	1,100	1,182	1,106
Mines and Metallurgy	205	219	203
Physics (industrial)	70	93	82
Prebusiness	77	130	103
Technical Aide	9	1	0
Miscellaneous	259	104	49
Totals	5,610	5,263	4,555

The decline in enrollment through the biennium has kept the organization of the teaching staff and classroom space in a state of transition. Because of the heavy teaching load placed upon the staff and the lack of interest of the students, the faculty decided to

abandon entirely the two-year course for technical aides which was established in the preceding biennium.

Five-Year Plan for Engineering Education—Beginning with the fall of 1946 all freshmen who were not veterans were required to follow a five-year course. At Minnesota the five-year plan was made optional with veterans in the beginning of the biennium but was modified at a general faculty meeting of the Institute of Technology on June 16, 1947 as follows: "That no veteran student be allowed to enter the freshman class of the four-year curriculum after the fall quarter of 1947, or the sophomore class after the fall quarter of 1948, or the junior class after the fall quarter of 1949, or the senior class after the fall quarter of 1950." The general objective of the five-year program is to weave some of the threads of liberal education into the fabric of engineering education. It is a major departure from the typical engineering course and it may be advisable some time in the future to resurvey the plan.

Aeronautical Engineering—Negotiations by Professor John Akerman of the Department of Aeronautical Engineering led to the acquisition of the former Gopher Ordnance Plant, which was officially deeded to the University on August 1, 1947. This acquisition is now known as the Rosemount Research Center. Since its activation, the Department of Aeronautical Engineering has been one of the leading departments in activity in that area. Research work is being conducted by that department in the field of supersonic aerodynamics, electronics, ballistics, and physics of the atmosphere. Contracts exceeding three-quarters of a million dollars have been completed or are in progress. The University now owns and operates a transonic wind tunnel in which air velocities of one and one-half times the velocity of sound can be produced. During the biennium the research organization in that department has grown to a staff of approximately fifty scientists and technicians, the majority of whom are full-time employees.

Plastic stratosphere balloons developed by Professor Jean F. Piccard of the Department of Aeronautical Engineering have been readily accepted and utilized in cosmic ray studies by other institutions.

A \$60,000 grant from the Bureau of Ordnance and Office of Naval Research of the Navy Department has been secured for the construction of a supersonic tunnel for educational purposes. It is anticipated that in this tunnel air velocities eight times that of the velocity of sound will be reached.

Arrangements have been completed whereby seventeen students from the Naval Post-Graduate School at Annapolis will, under contract, continue their graduate work at the University of Minnesota in the coming year.

School of Architecture—The School of Architecture has a responsibility to those communities in this economic region not having accredited schools in architecture. It has adopted the policy that the profession can best be served by a limited number of excellent students. It has therefore placed emphasis on quality rather than size. Since the School of Architecture at Minnesota is considered to be in the first rank of regional schools, it appeared that the profession could better be served if this quality were strengthened. Therefore, the policy of limiting admissions to qualified applicants was established during this biennium. Despite restrictions, the student population expanded thirty per cent and some increase of staff and facilities was necessary. Careful screening of students from the larger-than-normal field of applicants may have been a contributing factor in producing a 50 per cent reduction in the students' mortality over previous years. New additions have been made to the staff and the quarters have been thoroughly remodeled.

Civil Engineering—The Institute of Technology has experienced an especially large demand from foreign students for graduate study in the Civil Engineering Department—so large, in fact, that many foreign students had to be denied entrance. Two new laboratories for instruction and research were established, namely, the sanitary engineering laboratory and the soils mechanics laboratory.

Civil Engineering has re-established its former camp for surveying and geodesy at the Rosemount Research Center, where adequate housing facilities have been provided at a much lower cost than at Cass Lake, the former place of operation. The great increase in demand for services from the Department of Civil Engineering, together with the increase in enrollment, has made the present space and facilities inadequate.

St. Anthony Falls Hydraulic Laboratory—This laboratory has greatly outgrown its available space and facilities, both for graduate study and fundamental applied research. The staff has grown from about ten to over sixty people working primarily on cooperative research projects sponsored by many agencies, in amounts varying from a few hundred dollars to over one hundred thousand dollars per project. Research projects in this laboratory are, for the most part, completely self-supporting. During the biennium, projects have been sponsored by the Bureau of Ships, Navy Department, Office of Naval

Research; the Corps of Engineers, Department of the Army; the Soil Conservation Service, Department of Agriculture; the United States Geological Survey and the Public Roads Administration, Department of the Interior; the City of Houston, Texas; the Minnesota State Highway Department; the Northern States Power Company; the American Society of Civil Engineers; the Engineering Foundation; the Government of Madras, India; and others.

The laboratory has begun a series of publications of its work for the specific information of its sponsors, for permanent record, and for distribution. It has also developed during the biennium a graduate research center. Cooperative services have been furnished for various projects for the United States, Alaska, and India. During the biennium the laboratory has expanded into an annex consisting of a quonset hut 40 x 100 feet in size. Two mezzanine floors have been added to the main laboratory building. Additional space is greatly needed.

Electrical Engineering—During the past biennium the Electrical Engineering Department was expanded and reorganized to take care of a greatly increased student load caused by the return of the veterans. The faculty was increased from 11 in 1945 to 35 full-time teachers in 1948. Approximately 1,200 undergraduate students exclusive of freshmen enrolled in the Electrical Engineering curriculum in the year 1947-48. The graduate enrollment for the same year was 55 students.

There has been a complete overhaul of the curriculum with the addition of the industrial electronics option. Additions to the laboratory have been made so that the laboratory work of sophomore, junior, and senior years can be carried on simultaneously.

Research work has become one of the important activities of the Electrical Engineering Department. One project, for example, was an investigation, in cooperation with United States Army Signal Corps, on the precision measurement of radio frequencies. Others include an investigation of the magnetization and demagnetization of iron ore powders conducted jointly with the Mines Experiment Station, an investigation of transverse acoustic waves, and development work for the improvement of a bone conduction transducer for use in measuring hearing loss. For the biennium, grants totaling \$20,000 were received for the support of research fellows in the Mechanical and Electrical Engineering Departments.

Engineering Experiment Station—The research program in the Engineering Experiment Station has returned to a substantially normal basis for the first time since 1941. Many of the projects which had to be discontinued because of the war have now been re-established. There are now twenty active research projects in the station, and plans for several others are being formulated. The larger projects are being financed either in part, or wholly, by some governmental agency, technical society, association, or industry. The demands for cooperative research are increasing, and many of the problems are acceptable as having real scientific merit and with prospects that the results should be mutually beneficial to the sponsor, the University, and the public. The Experiment Station has equipment and personnel for a wide variety of technical investigations, but in most cases the researches cannot be financed entirely by the Experiment Station.

Some of the more extensive cooperative research projects carried through the station during the past two years, with their sponsors, are:

1. Thermal properties of soils, sponsored by United States Army Engineers, under the direction of Professor Miles S. Kersten, for the purpose of determining, under varying conditions of moisture, temperature, bulk density and composition, the thermal conductivities of representative soils and organic materials from Alaska.

2. Water permeability of structural clay tile facing walls, sponsored by the United States Department of Commerce, under the direction of Professor Joseph A. Wise, wherein an investigation was made to determine the effect of workmanship and other factors on the permeability of clay tile facing walls.

3. Combustion characteristics of ram jet power plants, sponsored by the Naval Ordnance Laboratory, under the direction of Professor Newman A. Hall, whereby a theoretical analysis is being made to develop methods of obtaining the performance of ram jet combustion power plants.

4. Condensation of moisture in various types of room construction, sponsored by the Insulation Board Institute and under the direction of Professors Frank B. Rowley and Clarence E. Lund, is a study of various types of roof construction to determine safe types from the standpoint of condensation.

5. Relative merits and the methods of rating physical properties of building boards, sponsored by the Minnesota and Ontario Paper Company and under the direction of Professors Frank B. Rowley and Clarence E. Lund, is a research project to evaluate existing methods and develop new methods which will be practical for rating the essential physical properties of building boards.

6. Floor panel heating, sponsored jointly by Minneapolis-Honeywell Regulator Company and the Graduate School of the University of Minnesota and under the direction of Professor Axel B. Algren, is concerned with the problem of determining some of the heat load characteristics in floor panel heating systems.

7. Minneapolis-Honeywell Regulator Company has contributed \$10,000 for each of the last two years for special research and research fellowships to be used jointly by the departments of Electrical and Mechanical Engineering.

8. The Graduate School has given substantial financial support for several problems, including a study of methods of heat flow through insulating materials, flame dampening above piston rings in internal combustion engines, effect of coolants on tool tip temperatures, and properties of gas and gas mixtures.

The general research program is being organized to determine the essential factors in housing construction. Several organizations have indicated an interest in this program and a willingness to contribute to its financial support. The station is well equipped with test rooms, special test equipment, and personnel for an extended project in this field.

The total amount of money contributed by various organizations to support cooperative research during the past two years has been approximately \$175,000.

Two recent bulletins have been issued by the station, and two others are being prepared. Five technical papers and one circular have been published, and the staff has contributed several papers to technical societies and engineering journals.

The station staff is called upon to assist in public enterprises such as building codes, engineering surveys, and to answer many inquiries concerning engineering problems.

There has been an exceptionally heavy service load on the Experiment Station staff due to the larger number of undergraduate engineering students who are taking work in the laboratories. This load has increased from two to three times the prewar service loads and, in most cases, there has been no increase in service staff to take care of it.

Mathematics and Mechanics—A new degree course has been established in the Department of Mathematics and Mechanics during the biennium, and a curriculum leading to the degree, bachelor of engineering mathematics, was approved and established by the Board of Regents on July 9, 1948.

Mechanical Engineering—The Mechanical Engineering Department has had a rapid increase in numbers of students enrolled since the war. Prior to this, the normal enrollment was from 400 to 500 per year. Last year there were more than 1,100 registered in this department. The departmental faculty also carries a large service load for other departments in the Institute of Technology, in which the enrollment has had a corresponding increase. There has likewise been a marked increase in the demand for graduate courses, and at present there are about thirty graduate students registered for work in the department. It has been necessary to increase the faculty during the past two years from a previous normal of approximately twenty-five to sixty-four.

The rapid growth in numbers of students and the limited funds available for new faculty have made it necessary to employ many young graduates, and the faculty lacks the normal ratio of upper to lower rank instruction. The younger group is energetic and enthusiastic.

The new Mechanical-Aeronautical building is now well under way, and it is expected that the department may move in by the summer of 1949. This building will provide excellent teaching and research facilities. The various laboratories and classrooms will be specially equipped for several fields of work in the department. Unless there is a recession in the number of students, even the new facilities will be taxed to the limit.

Milling Engineering—In the fall of 1947 a new course in flour milling engineering was established by the Mechanical Engineering Department. This was made possible by a \$10,000 annual grant from Millers' National Federation. The purpose is to train engineers who will be specifically qualified to enter the milling industry and pursue its numerous engineering problems on a scientific basis. The active cooperation of the milling industry with the University in this enterprise is very encouraging, and it is anticipated that this will soon become a major field in the department.

Chemistry and Chemical Engineering—The School of Chemistry has been able to handle successfully the flood of postwar students in science and technology, but this has required the re-desking of laboratories to increase capacity, together with some increase in staff. The largest increase in number of staff occurred in the group of teaching assistants. This was necessitated by the large number of students taking laboratory work.

The strong position of chemistry in research is attested to by the fact that members of the staff have been asked to continue research programs for various government agencies in the postwar period. Four contracts are being carried out for the Office of Naval Research and one large contract under the Office of Rubber Reserve is being directed by

Professor I. M. Kolthoff. This group made one of the finest contributions to American security in its research program on synthetic rubber.

Recently the American Chemical Society accredited professional training of chemists at Minnesota. The letter of accreditation praised the department most highly. The School of Chemistry here ranks among the best of such departments in the United States in graduate work.

The Chemistry building in its various phases of work remains crowded and will remain so until Chemical Engineering moves into its new quarters. The problem of overcrowding is particularly serious in chemical engineering because the greatly increased enrollment must be taken care of in laboratories which were built to handle about one third of the number of students now in the upper classes. This overcrowding has seriously hampered the research activities of the staff and graduate students. Funds for a Chemical Engineering building were appropriated by the 1947 Legislature, and the plans for the new building are being drawn.

Mines and Metallurgy—In March, 1948 the University entered into a research contract with the Nepa Division of the Fairchild Engine and Airplane Corporation for the period March 1 to June 30, 1948, with provision for renewal of the contract for the fiscal year 1948-49. Under the provisions of the contract the sum of \$78,320 was made available for "physical metallurgy studies of materials at elevated temperatures." Necessary alterations in Appleby Hall which were made to house this restricted project will be a permanent improvement in the metallurgical research facilities of the School of Mines and Metallurgy.

On June 12, 1948 the Regents approved a grant of \$4,500 from the Corn Products Refining Company of Argo, Illinois to cover research for a period of one year beginning May 1, 1948 on the use of the products from the refining of corn in the treatment of low grade iron ore. This research is being conducted under the supervision of Professor Strathmore R. B. Cooke with the assistance of a research fellow. Early work on this problem has opened up a promising field of surface reaction research based upon the application of physical chemistry to flotation, to flocculation, and to the dispersion of fine particles.

The need for fundamental studies of this type was discussed in detail under "Fundamental Studies in Mineral Dressing" in outlining the needs of the School of Mines and Metallurgy for the next biennium.

The International Nickel Company established a fellowship with a stipend of \$1,500 plus tuition annually for a period of two years beginning with the academic year 1948-49. This fellowship, placed in the Department of Metallurgy, is to stimulate research in the fields of nickel, copper, and the platinum metals.

Mines Experiment Station—During the past two years most of the work at the Mines Experiment Station has been connected with the beneficiation of taconite. The commercial development of taconite beneficiation is well under way on the Mesabi Range, and the first shipment of taconite concentrate pellets will be made this fall. The Experiment Station staff has been working closely with the companies that are interested in taconite development, and the plants that are built and projected will use the process developed at the Mines Experiment Station laboratory. The importance to the state of the successful development of the taconite industry can hardly be overemphasized.

Early in 1948 the blast furnace at the Mines Experiment Station was operated in cooperation with the Reserve Mining Company, smelting taconite pellets for the first time for the production of pig iron. This operation was very successful and, in all, about 150 tons of pig iron were produced from this new taconite product. Small souvenir castings were made of the first iron produced and these were distributed to about one hundred persons who have made significant contributions to the Minnesota taconite program.—THOMAS A. H. TEETER, *executive officer*.

DEPARTMENT OF AGRICULTURE

Agricultural Experiment Station—The demand for agricultural research did not lessen with the termination of the war. Instead, there was a stimulation of interest on the part of producers, distributors and consumers of agricultural products. New problems have arisen with the changes in practices on our farms, under peacetime conditions and with the constantly changing international picture. If there is a lessening of the demand for agricultural products from the United States due to higher production abroad or inability to buy, agriculture must face new adjustments and seek answers from the research worker. Private and public agencies, legislators and members of Congress have become aware of the possibilities of applying the methods of scientific investigation to the solution

of manifold agricultural problems. The staff of the Agricultural Experiment Station has been encouraged to see this keen public interest because it has indicated their contention that the answers to the perplexing problems of agriculture could be obtained primarily by diligent and painstaking investigation where all the tools of research, fundamental and applied, were put to full use.

The passage of Public Law 733 by the 79th Congress in 1946 under the title of the Research and Marketing Act of 1946 (popularly called at that time the Hope-Flannagan Act) clearly indicated that Congress realized the need for additional funds to support agricultural research. Under this act there was authorization for the allotment of considerable sums of money to the states and to federal agencies in support of new lines of investigation. The first appropriation of funds was made by Congress in 1947 and with a nominal additional increment in 1948. Portions of the appropriations became available as follows, (a) directly to the individual states, (b) to the states for regional cooperative research upon the basis of recommendations of a committee authorized by the act, (c) to the United States Department of Agriculture for expenditure in cooperation with the state experiment stations, (d) to the United States Department of Agriculture for research on the utilization of agricultural products, and finally, (e) to the state agricultural experiment stations, the extension services, the state departments of agriculture and private agencies for research, education, and improved services pertaining to the marketing and distribution of all agricultural products.

The Minnesota Agricultural Experiment Station under the provisions of this act has activated a number of important projects which would not have been possible otherwise. There has been active participation in regional cooperative research. The Minnesota Station has joined hands with one or more stations in the region, in some cases outside the North Central States, and in many cases in cooperation with the U. S. Department of Agriculture and other agencies for the purpose of attacking problems involving the agriculture of the region or comparable area. This is an expansion of a cooperative program which had begun several years ago but which has now been encouraged by Congress through the appropriation of additional funds to provide for such cooperation. The Research and Marketing Act, undoubtedly, is a milestone along the road of cooperative research and will result in the earlier solution of many of the most pressing problems facing agriculture.

Another notable development during the past biennium has been the acquisition of additional lands at the Rosemount Research Center. About 1,440 acres of satisfactory agricultural land was utilized in 1948, and on this tract the Experiment Station has set in motion a broad research program in animal husbandry, poultry husbandry, dairy husbandry, agronomy, agricultural engineering, forestry, plant pathology, and soils. Such facilities have been needed for many years and can be used to excellent advantage, if provision is made for structures, equipment, and labor. Special funds appropriated by the Legislature have provided for some additional personnel and for a limited number of new structures, the remodeling of existing structures on the Rosemount area, and for a few other improvements necessary to the development of the research program. The new facilities have made possible certain types of research which have been held in abeyance until adequate lands and structures became available. If subsequent appropriations are forthcoming from the Legislature to support the projects adequately, the Experiment Station will be able to solve problems presented by Minnesota agriculture much sooner than it would have been able to do otherwise.

During the past two years there has been an expansion of research programs in cooperation with a number of departments of the State of Minnesota as well as the United States Department of Agriculture, the United States Public Health Service, the War Department, the Hormel Institute, the Mayo Horticultural and Forestry Institute, as well as with a number of industrial organizations and a variety of foundations and associations. Such cooperation means an earlier and more adequate solution to many of our problems.

The branch stations at Duluth, Grand Rapids, Crookston, Morris, Waseca, the Fruit Breeding Farm at Excelsior, and the forestry station at Cloquet have participated actively in the research program of the Experiment Station, in some cases on the basis of projects initiated by the branch stations themselves, but, in most instances, in cooperation with subject-matter divisions at the central station. All stations have cooperated actively in variety trials of small grains, grasses, legumes, and in most cases also of corn, fruits, and vegetables, as well as in studies on pasture management. The Duluth and Grand Rapids stations have been interested in rutabagas, the Morris station in sorghum, the Crookston station in dry peas and sunflowers, and the Waseca station in sugar beets—reflecting local trends and practices. Weed control experiments and demonstrations were prominent at Waseca, Morris, and Crookston. The No. 1 breed of hogs is being tested and increased

at Grand Rapids, the No. 2 strain at Crookston and Duluth, an inbred line of Poland China at Morris and Crookston, while at Waseca several crossbred combinations including No. 1 and No. 2 have been made. In addition, sheep breeding studies have been pushed forward at Crookston, Grand Rapids, Morris, and Waseca. They have contributed materially to the advancement of the program through such cooperation and have been able to serve agriculture in their individual local communities and areas by demonstrations of the results of these specific investigations and by educational programs designed to serve their constituents. Variety trials of farm crops have also been conducted in the southwestern part of the state in cooperation with many individuals and organizations in thirteen of the counties.

Cooperative regional studies relating to carcass grading and weighing of livestock have developed a better understanding of factors determining the values of carcasses and in the development of more formal carcass grades.

Economic analyses of the dry milk industry have thrown light on the fundamental changes which are taking place in the dairy industry of the state and the results will be helpful to the industry in making necessary adjustments in the future. Research on farm work simplification has brought forth information which will be useful to farmers in making changes in their farm operations to save labor in the production and handling of agricultural products. Preliminary studies on the marketing of eggs have revealed the major difficulties which have faced the poultry industry and, undoubtedly, will provide data for a more economical and orderly system of marketing this important farm product.

New farm equipment such as potato washers and driers, frost-proof stock waterers, and home-made walk-in freezers have been developed by the agricultural engineers.

New varieties of farm crops have been introduced, such as the Andrew and Zephyr oats, the Minter variety of winter wheat and new, unnamed spring wheats, barley, flax, and soybeans. Extensive studies of corn germination have been made for the purpose of furnishing information fundamental to the development of corn hybrids that excel in cold resistance, a contribution which is of great importance to Minnesota.

Emphasis has been laid on the development of superior strains of legumes and grasses and improved grassland and pasture management in line with the trends in Minnesota agriculture and in the interest of soil conservation.

Remarkable progress has been made in the control of noxious weeds. These studies have been expanded at the Rosemount Research Center, at a number of the branch stations, and on individual farms in the state. In some cases several counties have cooperated in the studies.

The swine breeding project continues to yield encouraging results. The Minnesota No. 1 strain of hogs was formally introduced during the biennium with over 300 farmer herds of Minnesota No. 1 swine now established in Minnesota and other states. The Minnesota No. 2 strain of hogs has been developed to such a point that it has been introduced already in thirty herds. Similar studies in sheep breeding are progressing satisfactorily and it is expected that a distinctive breed of sheep will be developed particularly well qualified to meet the demands of the market and to serve the sheep raisers of the state. These studies also are being expanded at the Rosemount Research Center.

Considerable progress has been made in studying the factors affecting the storage of grain. The cause and prevention of spoilage during storage have been more clearly demonstrated. Research in cooperation with the Quartermaster Corps of the Army on the staling of bread has been productive, so that results can be applied toward the preservation of the desired qualities in bread for longer periods.

The mode of action and the importance of vitamin E in the nutrition of cattle have been investigated further. It is evident that the feeding of vitamin E-poor rations does not affect the reproducing ability of cattle but does cause progressive deteriorating changes to take place in the heart of the animal which eventually result in sudden death.

A milk-drying unit has been designed and operated in the Dairy Division laboratories with the results that a patent application has been made and rights for its manufacture granted by the Board of Regents. Such a drier is now being constructed and will soon be in operation. The new drier will be sold under the name of "Minnesota Drier." It is expected that this piece of equipment will be capable of producing a superior quality of product for the dry milk industry which has expanded so dramatically in this state.

Studies on the insect cuticle, in order to determine how insecticides may act, have been continued and extended in cooperation with the Chemical Corps of the Army. This is a strictly fundamental research and promises to yield results which will be far reaching. A borer has been found working near the root crown of aspen, and further studies are being pursued to determine the importance of the borer infestation and possible methods of control. The leaf hopper, transmitting a virus disease known as aster yellows, has been

come a major factor in the production of carrots in this area. Further studies on its control have been made.

Excellent progress has been made on research projects dealing with the utilization of aspen for pulp and paper, furniture core stock, and for construction lumber. Aspen has now reached the top of the list of all pulp wood species with respect to volume in Minnesota. This research is extremely valuable to the state of Minnesota. For the first time since the establishment of the studies on the effect of seed source on the growth of Jack pine, large differences are showing up on the various lots. Since Jack pine rates close to spruce in value of the pulp wood species in Minnesota, the importance of research of this type becomes apparent.

In the field of home economics, there has been further extension of the work in the properties and serviceability of cotton materials used for professional garments; also studies on the effect of wear on wool and part-wool fabrics in which it has been shown that wear alone is largely responsible for the deterioration of these fabrics but that other factors may determine the serviceability. Substantial contributions have been made to the knowledge of the nutritive value of cooked meats and vegetables and the effect of varietal differences on the mineral and vitamin values as well as the effect of storage on the vitamin values of foods. Studies on the effect of certain factors on calcium utilization in human subjects have shown that on the average the levels of calcium intake commonly recommended for adults are not adequate for optimum calcium utilization by college women. The blood picture of infants and youths has been studied. The results will be helpful in establishing standards of nutrition.

Three new varieties of potatoes have been named and will be available for general distribution in the near future. These varieties are Waseca, Chisago, and Satapa. One hybrid cucumber and one hybrid tomato have been developed and made available to the public. Other hybrid vegetables are being developed and will be introduced soon.

Continual progress is being made in the development of good, disease-resisting varieties of field crops. The fundamental studies begun at Minnesota many years ago on the physiologic races of various plant pathogens are being continued and expanded. The results are being used in the breeding programs and in developing methods of control of potential epidemics. A wide variety of investigations has been pursued to determine the effect of various fungicides in the control of plant diseases. These results are being applied by Minnesota growers generally. A number of new herbicides has been studied to determine their effectiveness in the control of weeds and damage done to crop plants.

Inbred lines of poultry have been developed with the expectation that crossed inbred lines will result in superior stock. It is expected that these results will have success similar to that obtained with hybrid corn. Further studies are being made on poultry nutrition and the improvement of the hatchability of goose eggs.

The effect of nitrogen fertilizers has been studied more intensively. There is a definite indication for the need of nitrogen, especially on small grains. An interesting project has been initiated to determine the possibility of establishing vegetation on the tailings resulting from the operation of plants recovering iron ore from taconite. This will be extremely important in this new enterprise on the Iron Range so that the dusty waste from the taconite plants may not become a menace to public health.

A ring test for brucellosis has been studied and has proved to be of considerable economic importance in connection with the routine testing of herds in the counties that are engaged in the area plan in the control of the disease. The test is considered very sensitive and accurate but must be carefully performed. Blackhead in turkeys has been investigated, and a therapeutic agent has been established to have certain static effects on the protozoan responsible for the disease. It has been shown that Newcastle disease exists in all the counties of the state, and there is some reason to suspect that susceptible birds may be given some protection through the use of a vaccine consisting of killed organisms. There is evidence that careful flock management will be of real value in keeping a flock free of the infection.

A listing of all the accomplishments of the Experiment Station during the biennium would be very extensive. Only a few of the observations made by the Experiment Station staff have been cited. Many of the projects are of such nature that results, particularly striking results, do not appear regularly or suddenly. The studies may extend over a period of years before any definite results are obtained. Agricultural research requires long and patient application of the most precise scientific methods. In many cases, wholly separate investigations may be pieced together to produce an explanation for a difficulty that could not be clarified otherwise. Cooperation within the Experiment Station and between state experiment stations and other agencies will continue to be productive. It is fortunate that the trend is in that direction. Agriculture will be served most adequately by

such a cooperative approach in the study of the problems and in the development of their final solution.

The results of the research of the Experiment Station have appeared in the regular bulletins, both general and technical, published for many years by the University, as well as in other special publications of the Experiment Station and in many scientific periodicals. The members of the Experiment Station staff are frequent contributors to the farm press, trade journals, newspapers, magazines, etc. Whenever there are tangible results of research properly corroborated by experience and tests in the field, the information is made available to the public through the many channels of communication such as the printed page, the radio, and personal presentation of the facts before meetings in many communities of the state and nation, as well as before scientific societies.

The work of the Agricultural Experiment Station continues with the full appreciation by all members of the staff that the problems are often perplexing and complicated but the need of agriculture for solutions is most pressing.

Rosemount Research Center—During the year 1947-48 the Agricultural Experiment Station has expanded its operations to the Rosemount Research Center. During the last half of 1947 and the early part of 1948, planning and preliminary preparation took place. Experiment Station work actually began on March 24, 1948, when the first of a flock of turkeys to be utilized in a breeding project was moved to the farm. Since that date swine, sheep, and dairy cattle have been moved there also, and a series of experimental projects in those fields has been initiated.

The Agronomy and Plant Genetics, Soils, Plant Pathology, and Forestry divisions have utilized land for experimental work during the crop season of 1948. More extensive work is planned for the crop season of 1949.

The Agricultural Engineering Division has established a field shop, and plans testing of machinery, and possible development of new types of farm machinery, at this location.

Improvements for the year 1947-48 include the moving of one barn from the industrial to the farm area; renovation of another old barn; rebuilding of a farm house; remodeling of three powder storage buildings into machine and crop storage facilities, and one into a field office and storeroom; construction of a machine shed on the Agronomy and Soils farm; building of electrical lines into essential locations on the farm area; and putting down three wells and renovating a fourth. Fences sufficient to meet the needs this year have been built.

For the crop year, 1948, a total of 1,440 acres was utilized by the Experiment Station. In 1949, it is planned to use 1,800 acres. Several buildings are needed in order to carry out proposed projects to be located at Rosemount, and until funds become available, development of the Rosemount addition to the Experiment Station will be considerably retarded.

Agricultural Extension Division—The favorable situation that Minnesota farmers have enjoyed the past several years continued throughout 1946 and 1947. Notwithstanding somewhat unfavorable weather during a considerable part of the 1947 growing season, crops were moderately good. Combined with high prices for practically everything the farmer had to sell, the total cash farm income of more than \$1,270,000,000 was at an all-time high and nearly four times the average of the prewar years 1935 to 1939.

During the biennium the major program that received special attention from Agricultural Extension was the full support to the national effort to increase food production through increased acreage and yields, and through effecting feed saving in livestock operations. The urgent demand for American grains for export received the full cooperation of Minnesota farmers and through the use of improved varieties, soil fertilization, good tillage, and other practices, they made substantial contributions to these requirements during both years. Because of the high prices for grain and feed crops there has been considerable reduction in livestock numbers on Minnesota farms, notwithstanding the efforts of all concerned to maintain adequate livestock herds and flocks. This situation may create a problem when grain stocks again come into a surplus position.

During the winter of 1946-47 a traveling caravan, demonstrating labor saving and safety methods, practices, and equipment was exhibited in 44 communities throughout the state. One-day stands were made in each of these places and the total attendance reached 153,000 people, indicating the widespread interest in both of these activities.

During the second year of the biennium emphasis was placed on the improvement of Minnesota pastures and meadows, both of which are basic in soil building and conservation programs. To demonstrate improved practices a series of nine regional field days was held during the summer of 1948. These proved to be outstanding events, each of them being attended by from 3,500 to 5,000 farmers.

Programs on the home side included farm-home improvement, foods and nutrition, community recreation, community health, and the usual projects and activities in the domestic arts and sciences. More attention was given to the cultural arts and this trend is expected to continue.

During the year Congress passed the Research and Marketing Act, Title II of which provides for extension work in agricultural marketing. Under this new act one project was initiated in egg marketing in the Twin Cities area. The work done thus far indicates a real need for extension work with food retailers, to the end that both producers and consumers may be better served. It is expected that marketing of farm products will become increasingly important as supply and demand come into balance and that extension activities in this field will increase. Now that federal funds are available to supplement state and local funds for this purpose such expansion should be possible.

The youth programs continue to increase both in interest and enrollment. During the second year of the biennium 4-H club total enrollment reached an all-time high of 50,207. There were also enrolled 3,000 older youth in the 54 county rural youth groups for young people above 4-H Club age. At the present time the 4-H program is reaching one out of four eligible boys and girls living on Minnesota farms, in addition to several thousand boys and girls living in the smaller communities in the rural areas of the state. During each year of the biennium these young people were enrolled in approximately 90,000 individual work projects, and the records indicate a completion of approximately 80 per cent.

During each year of the biennium extension workers made approximately 80,000 farm and home visits in connection with their work programs. They had a total of over 400,000 office and telephone calls, and filled requests for approximately 300,000 extension bulletins. In carrying on their work they had the assistance of more than 20,000 farm men and women who served in the capacity of local leaders for the numerous extension projects.

At the close of the biennium there were employed 91 agricultural agents in the 87 counties. Sixty-one counties have made provision for the employment of home demonstration agents and 82 counties were receiving the services of full-time or part-time 4-H Club agents. The increase in the number of counties employing home demonstration agents and 4-H Club agents has resulted from the increased federal appropriation through the Bankhead-Flannagan Act for this specific purpose. At the present time counties are qualifying for these workers more rapidly than trained personnel can be obtained. Recruitment and training of new personnel has been the major administrative problem during the past two years. This situation, while true of all classes of Agricultural Extension workers, is especially acute in home economics where women with the required professional training are not available in sufficient number to fill the requests.

College of Agriculture, Forestry, and Home Economics—Immediately after the close of World War II the registration in the College of Agriculture, Forestry, and Home Economics began to increase, reaching an all-time high in the fall quarter of the academic year 1946-47. Percentage-wise, the increase in registration in the College of Agriculture, Forestry, and Home Economics was somewhat below that of the University as a whole. A somewhat similar situation prevailed after World War I. The most gratifying aspect of the increase in registration following World War II was that it occurred in agriculture; the increases in forestry and in home economics were somewhat less than the college average.

On January 1, 1945, the College of Agriculture, Forestry, and Home Economics lost the services of Leigh Harden who had served as assistant to the dean of the college for seven years. Because of his special talents and experience Mr. Harden was asked to serve as director of the Bureau of Veterans' Affairs. Later he resigned that post to accept the position of director of admissions, College of Agriculture, Cornell University, Ithaca, New York.

On February 16, 1946, Keith McFarland, a former graduate of the college and a former captain in the Army of the United States, was appointed to fill the vacancy created by Mr. Harden's resignation. Because of his army experience and his interest in the problems confronting the returning veteran, Mr. McFarland is rendering great service to the College of Agriculture, Forestry, and Home Economics and to the University.

The establishment of a School of Veterinary Medicine in the College of Agriculture, Forestry, and Home Economics by the 1947 Legislature is the outstanding development in the college during the biennium. Although the appropriation for the School of Veterinary Medicine did not become available until July 1, 1947, the Legislature specifically instructed the University to begin the program in the fall quarter of 1947. An instructional staff was

organized and facilities provided to begin the program, and a beginning class of 24 students was admitted in the fall quarter of 1947. It is planned in the future to admit 48 students each year.

The Pre-Veterinary curriculum also has been restudied and reorganized. Only students who have completed two years of pre-veterinary work are considered for admission to the professional curriculum. Consequently it was necessary to organize a two-year program in the pre-professional school instead of a one-year program which has been in effect for a number of years.

The 1947 session of the Legislature also provided funds for the construction of three buildings on the St. Paul Campus, namely for veterinary medicine, animal and poultry husbandry, and home economics. The plans for the construction of these buildings are well under way. When completed they will provide much-needed space for the teaching program of the college. A library building and a student union building continue to be outstanding building needs on the St. Paul Campus insofar as the educational activities of the Department of Agriculture are concerned.

Throughout the biennium a conscious effort was made to rebuild those many fine traditions which have contributed so much to student life on the St. Paul Campus. By and large these efforts have been successful. Efforts have also been made to strengthen student government and broaden student participation in activities. On the whole, students and members of staff on the St. Paul Campus appear to be reasonably well satisfied with existing student-faculty relations.

The increasing effectiveness of the Student-Faculty Intermediary Board on the St. Paul Campus deserves more than passing notice. Growing out of the original "Razz Banquets," the Ag Student-Faculty Intermediary Board has laid the foundation for useful work in determining and examining college objectives, in promoting efficient mechanical operation, and in providing an opportunity for students and faculty to discuss together such problems as curriculum construction, teaching methods, student behavior, and others, where increased understanding and cooperation benefit both parties in this educational enterprise. This board has given students insight into many problems of which they are not normally aware, and has at the same time given the faculty the benefit of thoughtful, well-formulated student opinion. As a focal point for investigation and observation, the Student-Faculty Intermediary Board is evidence of the ability of students and faculty to work together in promoting sound and efficient instruction and learning.

For two academic years the College of Agriculture, Forestry, and Home Economics, after a careful study of the problem, restricted the admission of students to the upper three fourths of the high school graduating class. There appears to be little question that this action upgraded the level of academic ability of the student body. The action, however, did not solve all the scholastic problems. The number of students on probation is still large, and the number of students who withdraw or are dropped for scholastic reasons is disheartening. It appears quite clear that this problem will not be solved by constantly increasing the level of high school achievement necessary for admission. To do so would violate the democratic concept of education envisioned by the Morrill Act of 1862. The solution appears to lie in a somewhat different direction. The time has about arrived for the consideration of the need for development of curricula designed to meet the special needs of a considerable number of rural youth not primarily interested in a four-year program of study consisting of the more or less conventional pattern of courses.

Schools of Agriculture—At the School of Agriculture on the St. Paul Campus, the practice of admitting students who were either seventeen years of age, or had completed at least two years of high school, was continued. A curriculum for high school graduates, enabling them to complete requirements for graduation from the School of Agriculture in two years, was approved by the faculty. This curriculum is recorded in the 1948-50 catalog. In consequence of the relative maturity of the students now enrolled, it follows in consequence that much of the instruction is essentially at the junior college level. The enrollment in 1946-47 was 430, and in 1947-48, 433.

At the West Central School at Morris the demand for admission continued to be heavy, but in order to avoid overtaxing facilities only 426 students were admitted in 1946-47, and 455 in 1947-48. The latter enrollment is in excess of available housing, and it is contemplated that about 40 less should be admitted during each year of the next biennium. The equipment for instruction in welding was modernized, and the entire program in agricultural engineering was strengthened and amplified in harmony with the rapidly expanding interest in farm mechanization.

The Northwest School at Crookston admitted 439 students in 1946-47, of whom 79 were enrolled in the fourth or intermediate year. In 1947-48, a total of 424 was enrolled, with about the same proportion of fourth-year students. The average age of all

students was sixteen years. A new students' dormitory for girls was erected during the biennium which provides living quarters for about 104 girls. Home project work continues to be a prominent and useful feature of the instructional program in this, as in the other schools of agriculture. Since no other veterans' on-the-farm training courses were offered in the vicinity, such a course was instituted at the Northwest School, and a total of 69 were enrolled during the biennium. Members of the school staff continue to participate in judging at county fairs in the area, in farm meetings, radio programs, crops and field days, and livestock programs on the campus, and numerous other public service activities.

The North Central School at Grand Rapids has continued to serve a capacity enrollment. An appropriation was made by the last legislature for a classroom building which is in process of construction. The staff of the school and station has been active in various short courses, institutes, and in many other forms of area and community services.

Agricultural Short Courses—During the biennium, 1946-48, 75 short courses, conferences, and special days were held on the St. Paul Campus, bringing in a total attendance of 16,344 people, as compared to 8,200 for 1944-46.

Farm and Home Week, which was not held in 1945 or 1946, was held in the fall of 1947. This time, however, seemed to be unsatisfactory to the farmers, and consideration is being given to returning to the former practice of scheduling it approximately the latter half of January.

New short courses and conferences held during the biennium, 1946-48, were: Artificial Insemination, Dairy Herd Improvement, Fair Management, Farm Machinery Service, Federal-State Egg Grading and Marketing, Flying Farmers, Canners and Fieldmen, Elevator Sidelines, Milling Sanitation, Milking, Red Cross Safety Seminar, Resort Workers, Rural Church Institute, State Rural Youth, 2,4-D Short Course, Small Fruits Conference, Soybean Institute, On-the-Farm Instructors' Training School.

In addition to the regular short courses and conferences, certain correspondence and general extension classes in agriculture, forestry, and home economics have been continued. During 1947-48, fifteen extension classes were offered by the University Department of Agriculture, with a total enrollment of 692, and eleven correspondence courses with a total enrollment of 118. This, then, makes a total of 59 short courses, conferences, days, and general extension and correspondence courses given by the University Department of Agriculture, with a total enrollment of 9,340 for the one year, 1947-48. We plan to develop further correspondence courses during the next biennium, involving a combination of correspondence courses and resident short courses, whereby a part of the course will be taken by correspondence, with the final four or five lessons to be made a part of a short course at the St. Paul Campus.

An agricultural short course building with a dormitory, class rooms, and lounge would facilitate the service rendered rural people through this medium of adult instruction.—CLYDE H. BAILEY, *dean and director*.

COLLEGE OF MEDICAL SCIENCES

Change in Title—The title of this administrative unit of the University, previously known as the Medical School, was changed by action of the Board of Regents on July 1, 1947, to the College of Medical Sciences. This change was made in recognition of the fact that this unit provides professional training programs not only in medicine, but also in nursing, public health, medical technology, physical therapy, and occupational therapy. In addition, instruction in the basic medical sciences is provided for students in dentistry, pharmacy, home economics, agriculture, physical education, etc. The University Hospitals and the Department of Postgraduate Medical Education are also included in this administrative unit.

Accelerated Curriculum—From October 1, 1941 to September 30, 1947 the Medical School conducted an accelerated curriculum under which all students were required to attend school for four quarters of the year instead of the usual three academic quarters. Under this program students completed the medical course in three calendar years instead of the usual four. During the six years that this program was in effect two more classes of medical students were graduated than would have been possible under the normal program. Beginning in October, 1947 one class will be admitted to the Medical School each year at the beginning of the fall quarter, and one class graduated each year at the June commencement.

Curriculum Revision—In 1941 a major revision was made in the curriculum. This provided for a drastic reduction in formal lectures and an extension of clerkship teaching throughout both junior and senior years. Experience has convinced all concerned that this revised program is a distinct improvement. However, certain additional revisions, par-

ticularly of the freshman and sophomore years, seemed indicated. A special committee under the chairmanship of Dr. Myron M. Weaver, assistant dean, was appointed to study and recommend such changes as seemed indicated. After two years' study the committee made its final report to the Executive Faculty of the Medical School in April, 1948.

On the basis of this report a further major revision of the Medical School curriculum was voted. This will become effective in part with the fall quarter of 1948. The major changes are the lengthening of the school year of the freshman, sophomore, and junior years to include the first term of the Summer Session; some readjustments in instructional hours assigned to various departments; and an over-all reduction in required hours in order that medical students may have time for more study and for elective work in fields of special interest.

Students—The staff and facilities of the Medical School are adequate for the instruction of approximately 100 students per class. During the past biennium the junior and senior classes have fallen below this number. This was due to the limitations on premedical training which were imposed by Selective Service during the latter years of World War II. Since the end of the war, however, the number of well-qualified applicants for admission has been exceptionally large. Most of these applicants are war veterans whose premedical training was interrupted by military service. In order to provide educational opportunities for as many of these applicants as possible, the number of students accepted for the freshman class has been increased temporarily to 120. Excessive numbers of students influence adversely the quality of medical education, but in view of the unusual circumstances it is felt that this larger number should be accepted for a few postwar years. To do this without seriously prejudicing the quality of medical training will require special efforts and arrangements on the part of the faculty.

Major Faculty Changes—During the past biennium the last of the faculty members on leave for military service returned. This has been helpful but the increased teaching loads, particularly of graduate students, have resulted in continued staff shortages—particularly in the basic science departments and in certain clinical departments such as psychiatry and physical medicine.

During the past biennium the faculty of the Medical School suffered serious losses in the sudden deaths of Dr. Winford P. Larson, professor and head, Department of Bacteriology; Dr. Robert G. Green, professor of bacteriology and head of the department after Dr. Larson's death; and Dr. William A. O'Brien, professor of public health and director, Department of Postgraduate Medical Education. Each one of these individuals was an outstanding leader in his field. The loss of three such persons would be a serious blow to any institution and will be long felt by our Medical School. We have been fortunate, however, in securing exceptionally able successors for both of these positions. Dr. George N. Aagaard, associate professor of medicine, has been appointed as director of postgraduate medical education; and Dr. Jerome T. Syverton, formerly of the University of Rochester and Louisiana State University, has been appointed as professor and head, Department of Bacteriology.

Graduate Training—The end of the war resulted in a flood of applications from physicians who had served as medical officers in the armed forces for graduate training in the various medical specialties. Prior to the war the graduate program in the clinical specialties of medicine was conducted at the University Hospitals and the Minneapolis General Hospital. In order to expand opportunities in these fields, affiliations for training in certain specialties were negotiated with several private hospitals in the Twin Cities. The greatest expansion of the graduate training program, however, was made possible by an affiliation with the Minneapolis Veterans Hospital. Under the terms of this affiliation, which was started in January, 1946, the Medical School was given full responsibility for the professional staff and medical services. During the past biennium this program has been expanded satisfactorily. The professional staff now consists of 20 physicians who are devoting full time to the Veterans Hospital or dividing their full time between the Veterans Hospital and the Medical School; 58 consultants and attending physicians who are devoting part of their time to the Veterans Hospital and the remainder to private practice; and 123 residents. All of the physicians on the staff hold appointments on the Medical School faculty and have been appointed to the Veterans Administration upon recommendation of the "Dean's Committee" of the Medical School. The residents are all enrolled as graduate students in the University and are recommended for appointment by the Medical School. The graduate training program of these residents is provided in part at the Veterans Hospital and in part at the University Hospitals or other hospitals affiliated with the Medical School. This program at the Minneapolis Veterans Hospital has been developed most satisfactorily and is recognized as providing an exceedingly valuable supplement to the graduate training and research facilities of the Medical School.

Continuation Education—The program in the Basic Medical Sciences and Their Clinical Application which was started in January, 1945 for medical officers discharged from the military services was expanded to a full nine-month course in the academic year, 1946-47. This was made possible by the interest and support of the W. K. Kellogg Foundation, Battle Creek, Michigan. The Kellogg Foundation grant of \$50,000 per year for five years has made it possible to increase our teaching staff to enable us to present this course and to bring distinguished physicians from other medical centers to participate in the teaching activities.

A total of 214 physicians registered in this course during 1946-47. In 1947-48, because the number of physicians who were being discharged from the services had diminished, this course was opened to qualified physicians who were not veterans. In 1947-48, there were 139 registrants.

During 1946-47, twenty-four other continuation courses in medicine and the allied fields were presented. Most were of short duration, varying from one to three days. Groups reached included physicians, both general practitioners and specialists, nurses, medical technologists, hospital administrators, social service workers, public health workers, and laymen. Registrants totaled 1,563. The year 1946-47 represented a return toward normal activities in continuation education in the medical sphere.

In 1947-48, seventeen continuation courses were offered in medicine and the allied fields. Registrants totaled 1,290. During this year the University suffered the loss of Dr. William A. O'Brien, the director of this program since its commencement. The University's debt to Dr. O'Brien cannot be adequately expressed here. Dr. Thomas E. Eyres, who had been assistant director, served as acting director until March 1 when Dr. George N. Aagaard's appointment became effective.

Medical Technology—The Course in Medical Technology is four years in length and leads to the degree, bachelor of science. The first two years are spent in the College of Science, Literature, and the Arts. The teaching program in technical training for both graduate and undergraduate students has been strengthened by the addition of several academic appointments to the staff.

Physical Medicine—The application of physical procedures to medical diagnosis and treatment has led in recent years to the development of a specialty known as physical medicine. Great impetus to this specialty has been given by the rehabilitation work developed during World War II. A special grant of \$40,000 was received from the Baruch Foundation to aid in research and in the advanced training of physicians in this field. Several physicians are now pursuing graduate work in this specialty.

Physical Therapy—The one-year program established during the war for the emergency training of physical therapists has now been replaced by a four-year curriculum leading to a bachelor of science degree in physical therapy. This program is being supported by the National Foundation for Infantile Paralysis in the amount of \$10,000 per year for a five-year period.

Occupational Therapy—Upon the petition of a considerable number of students, and the recommendation of the medical faculty, a special four-year program leading to a bachelor of science degree in occupational therapy was inaugurated on July 1, 1946. A number of students transferred into this program with advanced credit from the College of Science, Literature, and the Arts, and 14 students were graduated in 1948. Facilities necessitate a limitation of students to 20 per class. During the infantile paralysis epidemic the students and the staff in both physical therapy and occupational therapy rendered invaluable service in the treatment and rehabilitation of patients with this disease.

Infantile Paralysis Epidemic—During the summer of 1946, Minnesota experienced the most serious epidemic of infantile paralysis ever reported. In the state as a whole there were 2,881 cases. Approximately one third were cared for by the staff of the Medical School. In the University Hospitals practically all beds on the pediatric and neurological services were devoted to these patients. In addition, the Students' Health Service buildings on the Minneapolis and St. Paul campuses, as well as the Station Hospital at Fort Snelling, were taken over during the epidemic. Later, a special hospital of 100 beds for poliomyelitis was set up at the Rosemount Research Center. This hospital took over the patients that needed continued hospitalization after the epidemic had passed and other facilities were returned to normal uses. The staff of the University Hospitals—physicians, nurses, physical therapists, occupational therapists, and administrative personnel—all rendered magnificent service during this emergency. Not only was the best of modern medical care provided, but important scientific advances were made in both the understanding and treatment of this disease.

Cancer Detection—A special clinic to examine and re-examine 1,000 healthy persons over a five-year period for suggestive signs of early cancer was inaugurated in 1948. This

clinic is supported jointly by the Minnesota Branch of the American Cancer Society and by the National Cancer Institute of the United States Public Health Service.

Research—Since the end of the war the research activities of the Medical School have far exceeded those of any previous period. Funds for this research, other than state moneys, totaled approximately half of a million dollars for the first year and three fourths of a million dollars the second year of the biennium. Major research programs have been developed in the fields of cancer and infantile paralysis. Other investigations have touched practically every aspect of medicine. Support has come from many sources, with the largest grants from the United States Public Health Service, the National Foundation for Infantile Paralysis, and the American Cancer Society.

Research Professorship—The Minnesota Department of the American Legion has accepted the responsibility of raising an endowment fund in the amount of \$500,000 for the support in perpetuity of a research professorship in rheumatic fever and heart disease in children. This professorship, which will be located in the Department of Pediatrics, was officially established by the Regents on January 16, 1948 when they accepted a check of \$50,000 from the American Legion Foundation. In order that the work could be inaugurated without delay, authorization was given to expend this original gift at the rate of \$12,000 a year beginning July 1, 1948.

Mayo Memorial—The Committee of Founders of the Mayo Memorial has continued in its efforts to provide funds. The work on the detailed plans and specifications has advanced to the point that it should be possible within the next few months to call for bids. The funds available include \$1,500,000 appropriated by the Minnesota Legislature and \$1,400,000 contributed by individuals and corporations.

Heart Hospital—Plans for the construction of the Variety Club Heart Hospital are practically completed and it is hoped that construction can begin in the near future. The Variety Club of the Northwest has turned over to the Regents of the University \$304,000 for the construction of this building and has pledged \$160,000 more for construction and equipment and at least \$25,000 a year toward its operation. This building fund will be supplemented by a grant of \$243,731 from Federal hospital construction funds. In connection with this hospital the Junior League of Minneapolis has undertaken to support a medical social worker in the field of heart disease in children and the Alpha Phi alumnae of Minnesota are providing a special fellowship.

Problems and Needs—The major problems of the College of Medical Sciences are for additional space and facilities, for improved salaries, and for some expansion of teaching and research staffs. The need for additional space will be met by the construction of the Variety Club Heart Hospital and the Mayo Memorial. In the meantime, the three temporary buildings that have been constructed on the medical campus are being used to capacity, as are the new research laboratories that have been constructed on the fifth floor of the Medical Sciences Building. The new space thus provided is exceedingly helpful but even with this the work in various fields is seriously handicapped for lack of space.

The needs for additional staff are particularly acute in the field of psychiatry. Increasing public interest in providing better professional care for the mentally ill patients is creating an increased demand for psychiatrists, psychiatric social workers, and clinical psychologists. To provide graduate training for these groups as well as better instruction in psychiatry for all medical students and nurses, additions to the staff and to the number of available beds for psychiatry in connection with the University Hospitals are needed.—*HAROLD S. DIEHL, M.D., dean of the College of Medical Sciences.*

SCHOOL OF NURSING

Nursing Needs—Nursing needs of today and tomorrow must be viewed against the backdrop of phenomenally expanding nursing needs. National, regional, and state needs for nursing service and for educational leadership loom large for the immediate future. Not to be neglected, however, is the demand for nursing and nursing educational personnel by other countries. Preparation for effective participation in professional deliberations and activities of institutions and organizations, both national and international, is part of our obligation toward solution of the health problems and needs of our time.

Programs—In order to meet these needs the following educational programs are offered by the University of Minnesota School of Nursing:

I. Basic professional curricula

- A. Degree curriculum in professional nursing combining general education and basic professional program (18 university quarters—4½ years) and leading to degrees of bachelor of science and graduate in nursing with majors in nursing, and nursing education, and minors in ward administration, science teaching in schools of nursing, child care, and public health nursing; and

- B. Curriculum in professional nursing for college graduates (10 university quarters—2½ years) leads to graduate in nursing degree. Graduates of these programs are eligible for the state board examination.
- II. Advanced professional curriculum for graduate professional nurses leading to bachelor of science degree with major in nursing education and minor in ward administration, science teaching in schools of nursing, and child care. A clinical year may be elected.
 - III. Certificate curricula in clinical nursing for professional nurses (3-4 university quarters) leading to certificate in medical, obstetric, operating room, pediatric, pediatric and communicable disease, psychiatric, rural hospital, surgical, or tuberculosis nursing.
 - IV. Certificate curriculum in practical nursing (4 university quarters) leading to certificate in practical nursing. Graduates of this program are eligible for state board examination.
 - V. Curriculum for affiliating students from four accredited schools of nursing in medical, outpatient, pediatric, and surgical nursing leading to certificate.
 - VI. Graduate study in nursing education and related fields carried by students who meet requirements of the Graduate School.

These programs received support from the following sources: University (\$78,239); W. K. Kellogg Foundation (\$71,577.77); Federal Government (\$95,595.72).

Faculty—Faculty members have served as elected officers, board members, committee chairmen, and committee members of local, state, national, and international professional organizations. Their service included the vice-presidency of the international and the presidency of the national and state nursing organizations. Several members of the faculty have had leave for study, writing, and other professional work; a few have received special awards and citations.

Scholarship Rank of Students—The annual scholastic comparison for 1946-47, prepared by the Student Counseling Bureau, ranked the School of Nursing in second place, with an honor point ratio of 1.669. First place, with 1.674, was earned by the Medical School.

State Board Examination Results—The 1947-48 reports of results of state board examinations of graduate nurses showed that the University School of Nursing each time had the largest number of graduates writing examinations and that 100 per cent of those writing passed.

Studies—Studies in the School were made of the application of physics to nursing; relative effectiveness of two environments in teaching surgical technic; survey of clinical instruction; survey of facilities in Out-Patient Department; prenursing students; cancellations; patients' opinions; analysis of nursing care; feratin in relation to human metabolism; graduates of the School of Nursing.

Rural Nursing—Concurrent with pioneering in a program in rural nursing for graduate nurses has been the development and extension of an earlier experiment in rural hospital nursing for basic students in all Minnesota schools of nursing.

Accreditation—During the biennium the School of Nursing achieved active membership in the Association of Collegiate Schools of Nursing. (Active members have "degree" programs only.)

Service of the School—Some 200 graduates are now serving Minnesota in important positions in all schools of nursing, agencies providing field practice for students, tuberculosis sanatoria, state nursing offices, rural and mental hospitals, and Veterans Administration service. In addition to the day educational offerings, the School of Nursing offers regularly selected courses and, upon request, special courses through the Extension Division both on campus and in other parts of the state. The school assumes responsibility for guidance of the two-quarter preclinical program taught through the Extension Division to all entering students in four Minneapolis schools of nursing. Limited consultation service is provided to schools and individuals seeking counsel on educational problems.

Educational Plans and Needs—The fundamental question the faculty asks in reviewing its educational plans and needs for the future is: What are the obligations of the University of Minnesota School of Nursing to students, to other schools of nursing, to nursing education, and to the people at large in the coming biennium? The faculty believes the School of Nursing has a special responsibility to accomplish the goals described in the various programs and presents the following brief statement of plans and needs in the programs.

Basic Professional Curriculum—The faculty has voted approval of a shortened degree curriculum designed to prepare practitioners of professional nursing. Good operation of a basic curriculum requires as prerequisites instruction and supervision of top quality and in adequate amounts in all major clinical areas of the curriculum.

Advanced Professional (including Certificate) Curricula—The University School is the only center in this region which offers advanced professional curricula designed to prepare nurses for administrative, supervisory, and teaching posts. Factors contributing to the increased cost of preparing personnel in these categories are: (1) need for a

certain amount of individualization of instruction; (2) higher cost of administration, instruction, and supervision in increasingly specialized clinical situations than in classroom situations; (3) impossibility of delegating instruction and supervision to service personnel as is done in some other fields. A special need exists for instruction in advanced clinical nursing. During the past biennium the W. K. Kellogg Foundation has assisted in developing this instruction. Continuing development of advanced clinical instruction is essential, in some measure, when the foundation grant expires in August, 1949.

Curriculum in Practical Nursing—The vast unanswered needs in nursing may be met in part by practical nurses. The program in practical nursing has convincingly demonstrated its worth on three scores: (1) qualified practitioners of practical nursing are being prepared to supplement the services of graduate nurses; (2) operation of this curriculum has afforded a practice field for student teachers preparing to teach in schools of practical nursing; and (3) this four-quarter program affords a practical training (approved by the General College for credit) to students who wish to complete requirements in one additional academic year for the associate in arts degree.

Graduate Study—There is pressing need for the development of a well-organized graduate program on the Master's level in nursing administration and in clinical nursing.

Other needs—Need exists for interpretation to the public of opportunities open to graduates of the School of Nursing. Studies made during the past biennium reveal two major secretarial problems: (1) volume of work; and (2) placing of offices in three different locations. Increase in the cost of supplies makes imperative an increase in the supplies budget. Some provision for travel is essential. Consultation service throughout the state should be expanded.

The fundamental problem in meeting the obligations of the School of Nursing remains to secure more nearly adequate university support for the essential functions of the School of Nursing in the face of currently increasing public need and demand for nursing services. If such support be granted, the school is in position to make its fair contribution to meeting the health needs of our time.—KATHARINE J. DENSFORD, *director*.

SCHOOL OF PUBLIC HEALTH

Expansion—The biennium has been marked by rapid expansion in the scope of the teaching and research program and in the number of students enrolled. There has also been a notable increase in the demands upon the staff. During the war years, there was marked curtailment of the program of professional training, due in part to the absence of much of the staff and to a reduced demand for training. Effective with the academic year 1946-47 the programs of professional training were re-established and expanded. These programs included those for the training of medical health officers and public health engineers, and the programs in public health nursing and health education which had been maintained at a reduced level during the war. During the academic year 1946-47 students were received from 37 states and 6 foreign countries, plus Alaska, Hawaii, and Puerto Rico. In the second year of the biennium, students came from 36 states and 12 foreign countries, plus Puerto Rico and Hawaii. The percentage from Minnesota was 48 and 46, respectively.

The course in public health nursing has continued to grow. It is at present one of the largest in the United States. The demand for trained personnel to fill the many vacancies has been such that the school has hesitated to refuse acceptance to suitably qualified students. This large increase in student body necessitated the use of field training areas distant from the University—introducing special problems and entailing extra expense. It is hoped that in the next biennium the number of nurses may be materially reduced to a figure more nearly approximating the normal facilities of this area.

Physiological Hygiene—Effective July 1, 1946, the Laboratory of Physiological Hygiene, which had formerly been under the Department of Physical Education and Athletics and affiliated with the Department of Physiology, was at its own request transferred to the School of Public Health. This laboratory, under the direction of Dr. Ancel Keys, has made distinguished contributions to the knowledge of nutrition, fatigue, and other aspects of physiological hygiene. During the war years it carried on some of the most productive studies under various research grants. It is at present the outstanding laboratory of its character in the United States. The transfer makes possible a far broader program of study and teaching for both the laboratory and the School.

Hospital Administration—With the beginning of the academic year, 1946-47, the University, through the School of Public Health, began a program of graduate study

leading to professional training for hospital administration—a program made possible by a generous three-year grant from the Kellogg Foundation. The University of Chicago and Northwestern University have, through their business schools, conducted such programs for several years. In 1945 the Kellogg Foundation made a grant to the School of Public Health at Columbia and, in 1946, to St. Louis University and to the University of Minnesota for the establishment of courses of this character. A year later a grant was made to the School of Public Health at Yale, and similar courses have been begun in the schools of public health at Toronto and Johns Hopkins. It is of considerable significance that the recently established courses have been made a part of various schools of public health, except at St. Louis University which has no such school.

The University was fortunate in obtaining the services of two outstanding figures in the field of hospital administration—James A. Hamilton, formerly of the New Haven Hospital, New Haven, Connecticut, and James Stephan, formerly of the Aultman Hospital, Canton, Ohio. The program of study has been set up on a two-year basis. The Board of Regents authorized the granting of the degree of master of hospital administration upon completion of the second year of work.

All of the graduates of the first class have been placed in positions of responsibility, either as superintendents of small hospitals or as assistant superintendents of large ones. Five of the group are located in Minnesota.

Mental Hygiene—Beginning with the academic year 1947-48 a grant was received from the United States Public Health Service for the special training of public health nurses for mental hygiene work. The purpose of this program, which is being carried on in a small number of universities having approved programs of study in public health nursing, is to give special training to a small group of experienced public health nurses who may work in a supervisory or consultant capacity to other nurses in dealing with the mental hygiene problems encountered in the public health nursing program.

Biostatistics—Ever since the transfer of biostatistics from the Botany Department to the School of Public Health in 1937, the program of instruction has expanded rapidly, but without appreciable increase in staff. This expansion has been chiefly in that part of the program that serves other parts of the University, notably the Graduate School. This work has been developed essentially at the expense of the work for students in the School of Public Health. By 1947, curtailment of service to the Graduate School appeared inevitable unless a material staff increase was obtained. Although provision for such an increase was included in the 1947-48 budget, the expansion has not been fully achieved owing to the scarcity of personnel and the inadequate salary scale.

Physical Plant—The School of Public Health has been for many years inadequately housed and has been completely lacking in laboratory facilities, aside from a small statistical laboratory. Obviously eleven rooms have not been adequate for so large a program. In September, 1946, the State Board of Health made available a laboratory suite which had formerly been used for the Rockefeller Virus Research Laboratory. This suite, located adjoining the Division of Sanitation, has been developed as a laboratory of Public Health Engineering, filling a need that has existed ever since the establishment of the Public Health Engineering program. This laboratory makes possible better student instruction and research. The addition of temporary buildings to the campus has further relieved the congestion. Although there are still further space needs, and there are distinct handicaps from the spreading of the school among five different widely separated buildings, these additional quarters have done much to relieve serious congestion.

Research—During the biennium, research grants have been received from the United States Public Health Service, the National Foundation for Infantile Paralysis, National Dairy Council, National Association of Ice Cream Manufacturers, and the Verd-A-Ray Corporation. Of particular significance and import is the grant to the Laboratory of Physiological Hygiene for a long-time study of cardiovascular disease.

Staff—In some parts of the School of Public Health there have been serious staff losses. In 1946, Ruth Freeman, director of the course in public health nursing, left to take the position as chief nurse of the American Red Cross. The death of Dr. O'Brien left a serious gap in the personal health program. Many other staff losses have occurred. The school was fortunate in obtaining the services of Margaret Taylor, formerly of the United States Public Health Service, as a replacement for Miss Freeman. The work of Dr. O'Brien has been carried on most efficiently by Dr. Stewart C. Thomson, formerly dean of the Loyola Medical School, who had recently been brought to the University to take part of the heavy load that Dr. O'Brien had been carrying. The school is unable to fill the vacancy for a professor of epidemiology. Competent persons are rare and are not attracted by the present salary level and the lack of suitable laboratory facilities.

UNIVERSITY OF MINNESOTA HOSPITALS

The University of Minnesota Hospitals were established to furnish a means for the University of Minnesota to train medical students in clinical 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 physicians. 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 medical students, but also as an economical means for the state to care for many of its indigent sick.

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 those with unusual teaching and research interest to members of the hospital staff in medical, surgical, and other areas, who are unable to avail themselves of county papers.

The *Sixty Fund* is a special grant from the State 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 Hospitals' patients, even though a Hospitals' intern is assigned to that service. The Students' Health Service has its quarters in the University Hospitals, but it is not a part either of 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.

In-Patient Department—The number of patients admitted for the year 1946-47 was 9,532 and for the year 1947-48, 9,721—an increase of 189. The total number of days of hospital treatment aggregated 144,877 for 1946-47 and 136,774 for 1947-48. The average number of days per patient stay in the hospital was 15.2 in 1946-47 and in 1947-48, 14.1. Deaths for the past year numbered 396 as compared with 417 for the year 1946-47. This is a mortality percentage of 4.0 for the year 1947-48 as against 4.3 for the year 1946-47, or a decrease of .3 per cent in patient mortality. Post mortems for 1946-47 numbered 325, an average of 82 per cent of deaths, and for 1947-48 the number was 284, an average of 76 per cent of deaths. The daily average number of patients was 397 in 1946-47 and 380 in 1947-48. Surgical operations performed during the year 1946-47 aggregated 6,738 and during 1947-48, 7,603—an increase of 865.

Out-Patient Department—During the year the Out-Patient Department showed an increase in the number of services rendered. New patient visits in 1946-47 were 21,082 and in 1947-48, 22,755. Total patient visits for 1946-47 were 80,611 and for 1947-48, 90,566.

General Comments—The In-Patient service showed a decrease of 8,103 patient days, and the Out-Patient Department had an increase of 9,945 visits over the previous year.

The Psychopathic Department of the Hospitals admitted 309 patients during the year 1947-48 as against 299 patients admitted the previous year. The patients in the Psychopathic Hospital used 10,093 days of care during the past year and 10,375 during the previous year.

The waiting list of the Hospitals shows 346 patients at this date.

IN-PATIENT DEPARTMENT SUMMARY

	1946-47	1947-48
Total patients admitted		
Private	2,023	2,189
Per diem	2,086	1,595
Eustis	176	194
Teaching and research	108	100
Charity	0	5
Staff	216	148
County	3,289	3,814
Health Service	1,335	1,367
Psychopathic	157	140
Private	70	91
Per diem	72	78
	<hr/>	<hr/>
Total patients treated (discharged)	9,532	9,721
Private	1,976	2,142
Per diem	2,031	1,504
Eustis	216	221
Teaching and research	112	97
Charity	0	5
Staff	218	150
County	3,347	3,882
Health Service	1,337	1,365
Psychopathic	181	161
Private	59	89
Per diem	62	65
	<hr/>	<hr/>
Total days hospital care	9,539	9,681
Private	21,833	21,304
Per diem	31,454	21,584
Eustis	4,351	4,104
Teaching and research	2,488	1,568
Charity	0	36
Staff	1,727	932
County	66,935	71,133
Health Service	5,714	6,020
Psychopathic	5,573	5,059
Private	2,633	2,560
Per diem	2,169	2,474
	<hr/>	<hr/>
Average days per patient	144,877	136,774
Private	11.1	9.9
Per diem	15.4	14.3
Eustis	20.1	18.5
Teaching and research	22.2	16.1
Charity	0.0	7.2
Staff	7.9	6.2
County	19.9	18.3
Health Service	4.2	4.4
Psychopathic	30.7	31.4
Private	44.6	28.7
Per diem	34.9	38.1
Average length of stay per patient	15.2	14.1
Daily average number of patients		
Private	59.8	55.6
Per diem	86.2	59.1
Eustis	11.9	11.2
Teaching and research	6.8	4.2
Charity	0.0	.1
Staff	4.7	2.5
County	183.4	194.8
Health Service	15.7	16.4
Psychopathic	15.3	13.8
Private	7.2	7.0
Per diem	5.9	6.7
Daily average census for hospital	397	380

In the Out-Patient Department the cost per patient visit was \$3.14 in 1946-47 and \$3.72 in 1947-48, an increase of 58 cents per patient visit. The cost of operating the In-Patient Department was \$12.02 in 1946-47 and \$16.31 in 1947-48 or an increase of \$4.29 per patient day. Adjustments in salaries and wages of all personnel and the increased cost of supplies and expense account for this great increase in the cost per hospital day.

The shortage of personnel continued to handicap the Hospitals. All departments have had a severe struggle to keep the Hospitals operating at efficiency. At this time the chief lack of personnel is apparent in the nursing and housekeeping departments. Department heads have made every effort to keep their units operating at peak efficiency despite this lack of help and should be given the proper recognition for their services.

The Rosemount Hospital for care of non-acute polio cases was opened on January 3, 1947 and closed on June 30, 1948. During the period that it was in operation 269 patients were treated with a total of 33,014 patient days. The Rosemount project was financed by the National Foundation for Infantile Paralysis and was staffed by the several departments of the Medical School and Hospitals.

The administration of the Hospitals wishes to thank the National Foundation for their assistance in handling the problems in connection with poliomyelitis. The administration also wishes to thank 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 for their assistance; the Sunshine Club for their contributions; the Traffic Club who again repeated their performance of giving Christmas entertainment, gifts, and cheer to all the patients; the many groups of school children throughout the state; the Camp Fire Girls; the Girl Scouts and many other organizations too numerous to mention. To all of these the Hospitals expresses its sincere gratitude for their interest.—RAY AMBERG, *director*.

SCHOOL OF DENTISTRY

In the period extending from July 1, 1946 to June 30, 1948 a number of noteworthy developments occurred in the School of Dentistry.

Students—One of the most significant things that has ever occurred to the School during its entire history has occurred during this biennium. For the first time in its history, the number of students applying for entrance far exceeded the limited capacity. This unprecedented interest in dentistry is one of the important aspects in improving the character and quality of the student body. Also such a situation helps bring about other improvements. The present building was constructed to house three classes of 80 students each—the dental curriculum consisting then of two years preidental and three years dental. This was changed later to two years preidental and four years dental—which necessitated the crowding in of 80 additional students.

Each of the fall classes (1946 and 1947) was limited to 100. Approximately 300 Minnesota residents qualified for entrance each of the two years. Those chosen had exceptionally high academic records and also did exceptionally well in aptitude tests. The Admissions Office received an average of fifty inquiries per day from October, 1947 to March, 1948 for entrance to the 1948 class.

Another very important development which has taken place in the School of Dentistry is the improvement in the teaching of basic health sciences. If dentists are to serve society for the health problems that relate to the oral cavity, it is just as important for them to have as thorough an understanding of the body in health and disease as it is for the preparation of a person to care for any other part of the body. All the courses in anatomy, bacteriology, physiological chemistry, microscopic anatomy, physiology, pathology, and pharmacology are being presented now on the graduate level. This change gives our students much greater understanding in the basic physiological and pathological problems which will face them as practitioners or form a foundation for continuing graduate study.

Graduate Education and Research—The biennium saw an increasing interest in and demand for graduate study. Six students were registered in 1946-47 and nine in 1947-48. No students completed the requirements for the M.S.D. during this period. The interest in this program is heartening because from it we hope to recruit teachers and research workers so urgently needed in the dental faculty. The small size of the dental faculty in proportion to the teaching load has made it difficult, if not impossible, even for those well qualified, to engage in research projects. It is hopefully anticipated that this situation may change as qualified research workers and teachers are developed.

Postgraduate Study—In this most important field there has been great activity and interest in the past two years. Due to the small enrollment of undergraduate students in the upper classes, it has been possible for our faculty to offer many courses. These for the most part have been of one and two weeks' duration. Instruction has been offered in all areas of clinical dentistry. The number of dentists registered for courses in 1946-47 was 278, which is more than the total registered in dentistry in the entire history of the

Center for Continuation Study. Of that number 66 postgraduate students were registered in the Annual Seminar on Oral Medicine. The registration for 1947-48 was 469 of which 84 were registered in the Seminar on Oral Medicine.

Dentistry for Children—New emphasis has been placed on this important phase of undergraduate teaching. Dr. Harold Wittich, who had served the University in a part-time capacity, joined the faculty on a full-time basis. This made it possible to expand instruction in this area and create new interest through better understanding in the special problems relating to the management of children and their dental problems.

Oral Surgery—The appointment of Dr. Henry B. Clark, Jr., on a full-time basis has made it possible to join the several parts of this division together under one chairman. This has resulted in better correlation of teaching material and fulfillment of objectives.

Dental Hygienists Course—The two-year course for dental hygienists has maintained its average enrollment of 65 to 70 students. Approximately 30 young women are graduated each year. Better selection of applicants, and more extensive student counseling are being employed to eliminate the high mortality rates among our students, and thus supply the increasing demand for the services of the licensed dental hygienist.

Oral Diagnosis—The development of the oral diagnosis division under Dr. William Simon is one of outstanding accomplishment. The record and charting system is unique and excellent. Students gain a new concept of oral examination in that relationships of the oral cavity to the rest of the body are given adequate recognition.

Slide Library—Visual aids have been emphasized and correlated with a newly developed slide library where all illustrative material is cataloged and filed.

Needs for the Future—The most urgent needs of the dental school are: (1) Additional full-time teachers with basic science backgrounds to correlate these subjects in the clinical teaching. The present staff of teachers in the dental school has little, if any, time for research or preparation of teaching material; (2) Research laboratories and quarters for staff and graduate students.—WILLIAM H. CRAWFORD, dean.

LAW SCHOOL

Registration—The accompanying table shows registrations by quarters and the total number of different individuals registered during each year in the last prewar year, through the war, and after the war.

Year	Summer	Fall	Winter	Spring	Number of Different Individuals
1940-41		297	284	275	299
1941-42		224	208	181	231
1942-43	60	135	119	82	167
1943-44	41	54	57	53	88
1944-45	43	69	72	71	97
1945-46	58	107	217	333	397
1946-47	353	600	613	641	818
1947-48	532	758	772	714	910

The chief problem during the biennium has been how to take care of the large numbers of students which the table reveals. The Law School building, classrooms, offices, and teaching staff were inadequate, yet no qualified student resident of the state was denied admission. The summer quarter program, not offered by the Law School before the war but begun in 1942 to enable students going into war service to accelerate their courses, was continued for the returning veterans. This summer program enabled students whose education had been delayed by the war to accelerate their courses, and their earlier graduations lightened somewhat the pressure on the facilities of the school. Likewise the change, made in 1942, from the annual to the quarter plan of admissions and graduations, was continued to enable veterans to begin their law studies without loss of time after their release from service. This practice, too, helped to accelerate graduations and to reduce congestion in the school. The scarcity of office space and of teachers was relieved by employing on a part-time basis several lawyers practicing in Minneapolis and St. Paul who did not need offices at the school.

Faculty—There were several vacant full-time faculty positions at the beginning of the biennium, but no additional losses occurred during the biennium. New appointments and promotions made were William B. Lockhart, professor; Robert C. McClure, associate professor; William E. Mussman, appointed instructor and later promoted to assistant professor.

Richard H. Bachelder, lecturer, resigned from the part-time faculty. New short-term or part-time appointments included Harvey Hoshour, professor; William L. Prosser, professor; Charles E. Nieman, professorial lecturer; Benedict S. Deinard, professorial lecturer; Harry A. Blackmun, professorial lecturer; Rufford G. Patton, professorial lecturer; Robert C. Holtze, lecturer in practice. The Law School is greatly indebted to these members of the bar for the assistance they gave at considerable sacrifice to themselves in the emergency.

Law Library—During the biennium, 13,985 volumes were added to the Law Library and 332 volumes were withdrawn as worthless or lost, making a net total at the close of the biennium of 161,350 volumes. The increase is considerably greater than in the preceding biennium because foreign materials, which could not be shipped during the war, have been coming in increasing quantities. A large number of orders is still outstanding, the money obligated being now \$5,000 more than at the beginning of the biennium. Of the volumes added, 10,142 were acquired by purchase, 3,619 by gift, and 224 by exchange. A total of 3,401 volumes was bound, and 1,678 pamphlets bound and lettered.

Among the outstanding acquisitions is a collection of Acts of the French Royal Administration concerning French-American possessions, mostly Canadian. Our Scandinavian collection was augmented to a marked extent in an effort to make the collection of Scandinavian legal material equal in quality to the outstanding general Scandinavian collection of the General Library.

The library staff is doing excellent work in cataloging, but is too small even to keep up with current acquisitions. Meanwhile a large part of the books in the Law Library remains uncataloged and University faculty members go off campus to seek books which are here, but which cannot be found. Additional catalogers are badly needed but there is no place for them to work, and there will be none until the Law Building extension is erected.

For the last five years Professor Edward S. Bade has acted as law librarian in addition to teaching. He has devoted himself to the task, and the Law Library has prospered under his guidance. He now asks to be relieved of this duty and his request must of course be granted with gratitude for what he has done.

Bar Examinations—In the years 1947 and 1948, 299 persons passed the Minnesota bar examinations. Of this number 200 were from this Law School, 42 from other Minnesota law schools, and 57 from law schools in other states. Of all candidates who wrote the examinations for the first time, 95 per cent passed on the first attempt. This is in striking contrast to the record ten years earlier when only 60 per cent passed on the first attempt. It is also in contrast to the national record for 1947 which shows that only 58 per cent of all candidates were successful.—EVERETT FRASER, *dean*

COLLEGE OF PHARMACY

Enrollment—Undergraduate students registered in the College of Pharmacy during the biennium were as follows:

Year	Summer	Fall	Winter	Spring
1946-47	97	354	348	307
1947-48	93	378	367	329

The marked increase over enrollments in the sophomore, junior, and senior years necessitated the sectioning of practically all laboratory courses.

Graduate—Twenty students with majors in pharmaceutical chemistry or pharmacognosy were enrolled in the Graduate School in 1946-47, and 19 in 1947-48. In addition, 12 students each year 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.
1946-47	20	1	1
1947-48	25	1	2

Curriculum—The only major change in the curriculum during the biennium was to increase the credit hours in pharmacology from three to ten.

On February 4, 1948, the graduation requirements were changed by action of the faculty to read as follows:

Beginning with the entering class of 1945-46, an over-all "C" average in the required and elective courses in the curriculum will be a requirement for graduation. In addition, all candidates for the degree of bachelor of science in pharmacy on or after June, 1949, will be required to pass a compre-

hensive examination covering the four years of work as set forth in the curriculum. The comprehensive examination will be given during the spring quarter final examination period. Furthermore, in order to become a candidate for a degree, a student must be of good moral character and must have completed the work of the senior year in residence.

Faculty—During the 1944-46 biennium, two AH50 and two BH38 graduate teaching assistantships were authorized. This number was increased to one AH50 and seven BH38 in 1946-47 and to two AH50 and seven BH50 in 1947-48.

In February, 1948, Professor C. O. Wilson tendered his resignation, effective June 15, 1948, to accept a position with the University of Texas. Dr. Frank DiGangi was appointed assistant professor of pharmaceutical chemistry effective September 16, 1948.

Henry Sperling resigned June 1, 1948, as student pharmacist supervisor to accept a position with the Burroughs-Wellcome Co. Stewart Brokaw, student pharmacist supervisor, assumed his duties. An increase from two to three student pharmacist supervisors was authorized, effective July 1, 1948. These positions have been filled by Robert Novotny and William Trumm.

Professor C. V. Netz resigned as secretary of the Minnesota State Pharmaceutical Association in 1947 and Associate Professor W. J. Hadley was elected to succeed him. In the fall of 1947 Governor Luther W. Youngdahl appointed Dr. C. V. Netz to succeed the late Professor Emeritus Gustav Bachman as a member of the Minnesota State Board of Health.

An associate professorship in pharmacognosy was authorized at the beginning of the school year, 1947-48. This position remained unfilled during the year because no qualified person was available.

Dean Emeritus Frederick J. Wulling died October 21, 1947, and Professor Emeritus Gustav Bachman passed away on November 11, 1947.

Scholarships and Fellowships—Each year of the biennium, nine undergraduates were awarded Samuel W. Melendy Memorial Scholarships of \$200 each; American Foundation for Pharmaceutical Education Scholarships of \$200 each were given to three students in 1946-47, and to one in 1947-48; and a Minnesota State Pharmaceutical Association Scholarship of \$225 was granted to one student each year.

Financial support from Lederle Laboratories, Inc., Parke, Davis and Company, Eli Lilly Company, American Foundation for Pharmaceutical Education, Minnesota State Pharmaceutical Association, and Samuel W. Melendy Memorial provided fellowships ranging from \$500 to \$1,500 annually each to ten graduate students in 1946-47 and thirteen in 1947-48.

Pharmacy ROTC—A Pharmacy ROTC unit was established at the University of Minnesota effective July 1, 1948, pursuant to General Orders No. 34, Department of the Army, May 20, 1948. Leonard P. Zagelow, Major, MSC, was appointed assistant professor of military science and tactics.

Continuation Study—Continuation courses for licensed pharmacists were held in the Center for Continuation Study on February 24-26, 1947, and February 23-25, 1948. Forty-four registered pharmacists were in attendance in 1947 and 45 in 1948.

Library—During the biennium many improvements were made in the Library. Charles E. Smythe, instructor in pharmacognosy, had been in charge of the Library for many years. With the increase in enrollment in the fall of 1946, he was relieved of this responsibility and Mrs. Michael Lehrer was employed as full-time clerk. She acted as librarian until July, 1947, when Mrs. Frank Cutler was appointed librarian. At the July 12, 1947, meeting of the Board of Regents, the library was officially made a departmental library under the supervision of the University Library. Mrs. Cutler resigned on June 1, 1948, and Mary Agnes Wolfe was appointed to fill the vacancy.

About 175 books have been added by purchase or gift during the biennium. As of June 30, 1948, the departmental library totaled 3,600 volumes.

State Board Examinations and Placements—The Minnesota State Board of Pharmacy conducted four examinations in the College of Pharmacy during the biennium. Eighty-two persons made application for licensure examination, of whom 67 were graduates of the University of Minnesota. Fifty-nine (88 per cent) of the graduates of the University of Minnesota passed the examination and were licensed to practice in Minnesota. Of the 15 graduates of other institutions applying for licensure examination, ten (66⅔ per cent) were successful.

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, represent pharmaceutical concerns, or are continuing their studies at the graduate level. Of the three persons receiving Ph.D. degrees, two entered the teaching profession. The other is a research chemist with a pharmaceutical manufacturer.—CHARLES H. ROGERS, *dean*.

COLLEGE OF EDUCATION

This biennium has been characterized by a recovery of total prewar enrollments, although the distribution by departments is not always similar. This recovery has come later in education than in other professional colleges of the University because teachers' salaries did not rise relatively fast enough with inflation to attract young people of ability, particularly veterans. At present a steady and rather marked increase is continuing; enrollments, both at the undergraduate and graduate levels, have exceeded prewar figures. They are continuing to grow in spite of enrollment recessions in the University as a whole.

A serious state-wide and nation-wide shortage in teacher supply continues in elementary education; it exists also seriously to a lesser extent in higher education. The supply of four-year graduates—other than one-, two-, or three-year curriculum graduates—for elementary teaching in the state should be ten times what it is now to fill existing vacancies. The University now supplies the major portion of the degree graduates. Most elementary teachers, therefore, still come from two-year teachers college curricula and one-year teachers college or high school curricula and normal departments. We are making every effort, and with some success, to recruit more persons in elementary education.

Our placement record for all types of teachers continues good. The biennium has been marked by an increased demand from us for college teachers. The services of the Bureau of Recommendations has had marked growth in recent years, necessitating more personnel and clerical staff.

Believing that the profession requires still better teachers for our times, the admission standards for freshmen have been raised to the fortieth percentile based upon high school graduation scholarship average. Native ability is basic to all effective teacher preparation. After that no doubt comes personality. With native ability and good teaching personality, the education and training of prospective teachers can really make itself felt in classroom practice. Many other elements, of course, do enter significantly into teaching success. Since individuals differ so much in their scholastic abilities, interests, personalities, and concerns, the guidance service to students under a newly established directorship of student personnel and an enlarged staff has been expanded. New or more complete examinations, records, conferences, and success studies have been established. A field study of the status of guidance in Minnesota has been completed; and conferences and institutes based on the findings and conclusions have been held. We aim also in the future to gear supply to demand (by types of teaching), especially in secondary teaching where supply in numbers is becoming adequate but supply of selected teachers is still far from sufficient. More guidance into elementary teaching and into five-year programs of preparation for secondary schools is being stressed now. The program of five-year curricula is now practically completed.

All general student teaching, administration, and supervision have been placed under a new director and separated from the functions of the principalship of the University High School. An output of over 500 seniors and over 200 graduate students who needed intensified, individual, and general coordination of their observation, case studies, clinical training, community study, practice teaching, and practice supervision had called for this development. New improved contacts with Twin Cities and other off-campus schools, better supervision, and strengthened organization have been attained.

The average teacher, supervisor, and administrator in this country (Minnesota included) has not been trained thus far to diagnose many sorts of the serious difficulties of problem children that occur everywhere. To supply this training to teachers and specialists, to offer a clinical service to the State, and to do research, a Child Study Center, under a director and covering the entire elementary school, has been established in Pattee Hall. This director is a specialist on atypical children and offers appropriate courses. The facilities include a demonstration room behind a one-way classroom screen, individual testing booths, modern psychological apparatus for child study, and a reception room for parents and children.

Further research in learning, in individual differences, in general child growth and development, in individual methods and materials, their demonstrations to prospective students and research workers are being made possible by the gradual establishment, at the rate of one grade per year, of an elementary experimental school to be known as the University Elementary Experimental School. It, also, is located in Pattee Hall in close proximity to the Child Study Center and the Institute of Child Welfare, which is a participant in this program. This will not reduce the need for the good service of classroom demonstration rendered to prospective teachers by the Elementary Demonstration

School at the Tuttle Building in cooperation with the Minneapolis Board of Education. By all these provisions our program in elementary education is greatly strengthened for the preparation of teachers, supervisors, administrators, specialists, and research workers.

The future general research program of the college has been facilitated with enlarged support, a better organized staff and by the transfer of the Office of Educational Research to Burton Hall. A new laboratory for field studies and surveys is being added to assist school districts of the state in the evaluation and improvement of their educational programs and to provide the staff with an organization to study the problems and issues of Minnesota education.

The general effectiveness of the entire College of Education to the University and to the state has been further advanced by a concentration of more education staff offices in Burton Hall and by a remodeling and coordination of most of the administrative headquarters in close proximity to the dean's offices. The administrative quarters remain very crowded, but their accessibility and coordinated functional relationships have been greatly facilitated. Further staff concentration is needed in general education and educational psychology.

During the biennium the federally aided program of vocational and industrial education has been developed further in staff, in equipment, and in the program of studies to meet better the needs of our state in modern times. Important progress was made by the establishment in a temporary building next to University High School of new drawing, crafts, machine, electrical, and graphic arts shops and by transfer of the offices of the departments of industrial education for the college and high school to this building. The crowded condition of Dunwoody Institute, of the shops in the College of Engineering, and of the shops on the St. Paul Campus, which were formerly used, made these steps necessary. This has greatly strengthened our program. The shops are equipped largely with war surplus machines.

Housed also in this temporary building are the expanded business education departments of both the College of Education and of the University High School. To a federally aided program in distributive business education has been added a new position in business office education. The growth of these two much-needed departments in undergraduate and graduate work, in state service, in national leadership, and in research is gratifying and has long been overdue.

In accordance with past policy of the College, the Department of Art Education has been cleared of its general subject matter courses in the arts and crafts. These have been transferred to an enlarged, central, coordinated, and reorganized Art Department in the College of Science, Literature, and the Arts. The professional Department of Art Education is housed in new quarters with improved class and studio facilities.

The College of Education is steadily enlarging its service to education in this region, and to our students in particular, as indicated above and along other general lines that should be mentioned. Schoolmen's Week has been sponsored annually for over a third of a century. Last year it was a study conference that resulted in a printed report for use in the schools on next steps in Minnesota education. Institutes and conferences on new developments in American education are being held annually as need arises. We should hold more such conferences than we can get time and space for in the Center for Continuation Study. For example, during the summer of 1948 an Institute on the Professional and Community Relations of Teachers was held in cooperation with the State Congress of Parents and Teachers. Important to the professional growth of in-service teachers in preschool, elementary, secondary, and higher education has been the steady development of service through the courses and the workshops of our Summer Sessions in kindergarten-primary education, rural education, music education, higher education, and teacher education in teacher-preparing colleges. A special workshop has been held each year for over 100 Minneapolis teachers in cooperation with the City Board of Education on their instructional problems; and another for the teachers in the eight-year experimental study of secondary education in other Minnesota schools. The services of the Summer Session are being used by an increasing number of teachers.

Notable progress has been made in the expansion and strengthening of the program of studies in higher education, teacher education, and educational philosophy. A fundamental reorganization of the junior sequence in the introduction to education is in process, and more observation, case work, and community study is being provided. In the future the theoretic course work of the junior sequence will be paralleled with case study, community study, and more observation.

Our greatest problem (and a real handicap) is excessive crowding because of a lack of space, particularly in University High School, for our clinical, laboratory, demonstration, practice, and research projects for advanced students and staff. Another problem

is the meeting of all the demands of routine teacher education, extension field service, research, and participation in state and national leadership on the part of the staff on whom the pressure of requests and obligations falls heavily. Our staff is strong; but facilities for the use of its members are lacking. Most calls from the state for field service have not been met; most staff members are anxious also to push much harder the programs of research of which they are capable and for which the needs of our times are great.

Three important retirements have occurred during the biennium: Ruth Raymond, chairman, Art Education; A. M. Field, chairman, Agricultural Education, and W. S. Miller, professor, Educational Psychology. Each had served with distinction in his educational field in this University.

The following new positions have been added during the biennium: a director of student teaching, a director of student personnel and additional counselors, an additional position in educational philosophy, an associate director of the Bureau of Educational Research, an associate director of field studies and surveys, a new position in business office education, an instructor in the experimental elementary school, an additional staff member each in industrial and vocational education, in music education, and in recreational leadership, and part-time instructors in secondary and elementary education.—W. E. PEIK, *dcan.*

SCHOOL OF BUSINESS ADMINISTRATION

The closing year of this biennium also marked the close of the first decade of the School of Business Administration in its new building, Vincent Hall. The new building housed an enrollment of 620 in its first quarter and was expected to serve our needs adequately for many years. Our expectation was short-lived, because last fall [1947] our enrollment was 1,631, and our classes were held in thirteen other buildings on the campus, just as they were before we moved into the new building ten years ago. Temporary buildings have given us partial relief for crowded classrooms and offices, but faculty efficiency is still gravely impaired.

The enrollment in the School of Business Administration is still heavily weighted by veterans, who constitute almost 90 per cent of the total. These students have pursued their studies with almost ferocious determination, impatient to graduate and find their places in business. During the last twelve months, 694 students have graduated and if past patterns prevail, about two thirds of these are now serving the people of Minnesota through various business activities in the state.

The faculty has met the challenge of overloaded classes in heroic fashion, sacrificing normal habits and research opportunities, and regretfully declining many invitations for service to organizations and communities in the state. We are slowly building up the faculty in the face of intense competition from business and other universities, so that the quality of instruction and service may be maintained and raised, without overloading the staff.

The faculty lost Professor Roy G. Blakey, the first member of the senior staff to retire since the establishment of the School of Business Administration in 1919. Professor Blakey is a nationally known expert in the field of public finance, and frequently gave generously of his professional skill to the legislatures and tax authorities of Minnesota.

The School of Business Administration received a generous bequest of \$25,000 from the heirs of Maurice L. Rothschild, the income to be used for scholarships for students in the School.

The curriculum was thoroughly overhauled by the faculty and requirements for the several specializations were revised in the light of postwar developments in business. Further progress has been made in establishing working relationships with business firms which enable students to obtain actual but supervised experience in their chosen fields before graduation. Our relations with other colleges on the campus have been clarified so that the professional integrity of the business degree is preserved without restricting the opportunity for legitimate and desirable cross-combinations of training in business and other areas of special interest. Representatives of business in the Twin Cities have given generously of their time and experience in appearing before our classes and special student groups. Business firms have donated source material for use in our classes. There is need for a special business library in the building to make available these source materials as well as the standard texts and records which are the laboratory tools of the business student.

The School of Business Administration has maintained its practice of service to the citizens, within the severe restrictions imposed by the abnormal student load. Professor

Blakey gave part of his time in 1946-47 to the direction of a thorough study of the fiscal position of the Minneapolis city government. Professor Walter W. Heller was loaned to the government in 1947-48 as tax and finance consultant to the United States Military Government in Berlin. Conferences were organized in cooperation with the Center for Continuation Study and other sponsoring associations for general accountants, commercial bankers, tax accountants, cooperative managers, and junior railroad executives. Several conferences were presented in the field of industrial relations by the Industrial Relations Center and are included in a separate record.—RICHARD L. KOZELKA, *dean*.

GRADUATE SCHOOL

Some Postwar Trends—The biennium has been a period of self-study in graduate education. Along many lines the faculty has been examining traditions and assumptions and moving forward in adjustment to changing needs. New programs have emerged, the trend toward interdepartmental thinking both in graduate study and in research has become more pronounced, the language requirements and the training of college teachers have been scrutinized with care, and a healthy ferment has activated graduate planning. Meanwhile, the progression of veterans to higher academic levels accounts in large part for enrollments that surpass all prewar peaks. The opportunities of graduate education have been sought in a wide variety of fields, although certain areas, such as clinical psychology and counseling, social work, the medical sciences, chemistry, and agriculture, have had unusual power of attraction for students and have drawn in so many qualified students that they are nearing the saturation point in numbers. It has been a period of expansion and stress, with increasing numbers of students, multiplication of courses and programs, and intensified advisory work. Meeting its problems under heavy strain, the faculty has found time and energy to press forward in its research, which has been marked by expansion and increased strength no less than by an unmistakable emphasis upon fundamental work.

Enrollment—The average enrollment for the two years of the 1944-46 biennium was 2,686 students; for the biennium just completed, the average has been 4,677—a 78 per cent increase. Since 1944-45, the Graduate School enrollment has moved steadily upward. It is probable that this increase will continue (both during the school year and during the Summer Session) as veteran registration sweeps on through upper classes and the graduate program. The details of enrollment may be seen in Table I.

TABLE I. NUMBER OF GRADUATE STUDENTS REGISTERED, INCLUDING MAYO FOUNDATION FELLOWS

Registrants	1946-47		1947-48	
	Men	Women	Men	Women
Academic year (exclusive of Mayo)	2,242	685	2,386	667
Total (men and women combined)	2,927	517	3,053	584
Summer Sessions 1946 and 1947 (exclusive of Mayo)	1,499	36	1,666	23
Total (men and women combined)	2,016	677	2,250	700
Mayo Fellows for academic year and Summer Session (combined)	619	655	677	700
Total (men and women combined)	619	655	677	700
Total for academic year and Summer Session (including Mayo Foundation)	4,360	1,238	4,729	1,274
Total for academic year and Summer Session, including Mayo Foundation (men and women combined)	5,598	164	6,003	193
Less duplicates	954	1,118	935	1,128
Total (men and women combined)	954	1,118	935	1,128
Net totals	3,406	1,074	3,794	1,081
Net totals (men and women combined)	4,480	4,875	4,875	4,875

While it is difficult to maintain accurate records on the faculty rank of graduate students, the figures in Table II give some idea of the degree to which subsidies in the form of academic appointments are available to further the graduate program of many individuals. Here again, the 1946-48 biennium shows substantial increases over the preceding biennium.

TABLE II. FACULTY RANK OF GRADUATE STUDENTS

Rank	1946-47	1947-48
Professor	0	0
Associate professor	0	1
Assistant professor	10	8
Lecturer	6	6
Instructor	282	250
Teaching Assistant	484	467
Medical fellow	901	857
Mayo Foundation fellow		
Fellow	15	42
Research associate	2	1
Research fellow	31	27
Research assistant	44	105
Administrative fellow	11	14
Civil service	0	36
Totals	1,786	1,814

A considerable increase in the number of foreign graduate students is shown in Table III. Although 51 foreign countries are represented in this table, Canadian and Chinese students are particularly numerous. In thus increasing the number of foreign students over the previous biennium, the Graduate School has contributed not only to the professional training of individuals but also to international understanding and friendship in a period of turbulence and continuing threats to peace. The University Committee on Foreign Students and the foreign student adviser, under the dean of students, have aided immeasurably in meeting the many problems of adjustment that foreign students, particularly those from non-English-speaking countries, have faced. That committee, among other tasks, has administered the Foreign Student Tuition Scholarships, thirty in number, established by Regents' action in 1945. Needs and pressures in home countries have sent a large proportion of the foreign students into scientific areas, but, particularly in the second half of the biennium, some tendency has been observed to utilize the advantages of the University for studies in social sciences. There is need for a genuine orientation program that could contribute to understanding of American life, thought, and institutions by the foreign students.

TABLE III. FOREIGN STUDENTS REGISTERED IN THE GRADUATE SCHOOL

Country	1946-47	1947-48	Country	1946-47	1947-48
Algeria	0	1	Iceland	5	3
Argentina	4	3	Ireland	1	0
Australia	2	2	India	42	46
Austria	1	2	Iran	0	1
Belgium	1	1	Iraq	2	2
Bolivia	1	2	Italy	1	1
Brazil	11	6	Japan	0	1
Burma	1	2	Korea	0	1
Canada	87	143	Mexico	11	7
Chile	3	2	Nicaragua	1	1
China	77	121	Norway	9	15
Colombia	7	5	Peru	3	0
Cuba	2	1	Philippines	2	1
Czechoslovakia	0	1	Portugal	1	0
Costa Rica	1	1	Salvador	1	0
Denmark	0	1	Sweden	1	4
Ecuador	4	1	Scotland	3	1
England	5	6	South Africa	2	1
Egypt	10	12	Switzerland	2	3
Finland	0	2	Syria	1	1
France	3	7	Tunisia	1	1
Germany	1	2	Turkey	3	4
Greece	2	2	Venezuela	2	0
Guatemala	2	1	Yugoslavia	1	1
Haiti	1	0			
Holland	1	2	Totals	324	424
Honduras	2	0			

Degrees—The number of graduate degrees granted by the University in the biennium was 1,475—200 Doctor's degrees and 1,275 Master's degrees. These figures appear in Table IV. In 1946-47 there were 89 Ph.D. and 531 Master's degrees; in 1947-48 there

were 111 Ph.D. and 744 Master's degrees. The number of degrees exceeded the total for 1940-42, when there were 1,144, though it should be noted that the number of Ph.D.'s in 1940-42—221—was slightly larger than in the past biennium. Thus, though the increase over 1944-46 is of the magnitude of 170 per cent, the figures in general represent a peak only 29 per cent beyond that in the biennium when the war came (1940-42), which in turn was the highest previous peak in the history of the Graduate School. Such figures may seem impressive, and they do in fact reflect a high level of graduate production, but we need to remember that there were serious deficits during the war years and that in many fields we are still far from meeting the stored-up demands. Britain and Russia, despite the pressure of the war, did not empty their laboratories of scientists in training, whereas the United States followed a manpower policy that now commits us to the slow process of "catching up."

TABLE IV. DEGREES APPLIED FOR BY GRADUATE STUDENTS
AND DEGREES GRANTED

Degrees	1946-47		1947-48	
	Sought	Granted	Sought	Granted
Master of arts	1,659	301	1,750	381
Master of science	1,692	227	1,802	355
Master of business administration	25	3	37	8
Master of laws	2	0	0	0
Professional engineering degree	0	0	0	0
Doctor of philosophy	920	89	1,030	111
None and others	182	0	256	0
Totals	4,480	620	4,875	855

One new professional degree, that of M.H.A. (master of hospital administration) was established during the biennium for administration by the College of Medical Sciences. In the Graduate School a new degree has been created in social work for the two-year program of study in that field, and the Regents have also authorized a one-year certificate. A major in physical education for men leading to the M.A. has been set up by the Graduate School. It is also possible, through a major in education, to obtain the Ph.D. degree with special emphasis upon physical education for men. An interdepartmental field to which the Graduate School has extended the Master's degree is that of food technology. The biennium has witnessed notable progress in yet another interdepartmental field, that of American studies, for which both Master's and doctoral programs were initiated during the previous biennium. Experimental doctoral programs are under way in such areas as the social sciences, the biological sciences, and medical education.

Fellowships and Scholarships—One of the fundamental needs of the Graduate School is an increased number of fellowships which open doors for students of high promise. A recent canvass of the University faculty reveals the need of such fellowships in fields running all the way from history, American studies, music, and public administration to engineering, home economics, and dentistry. It is greatly to be hoped that gifts from friends of the University will aid the Graduate School in meeting some of these fellowship urgencies. Meanwhile it is encouraging to note that during the past biennium 42 new fellowships were established. All but 11 of these were made available by commercial organizations for work in the fields of bacteriology, pharmaceutical chemistry, chemistry, chemical engineering, civil engineering, mechanical engineering, metallurgy, and geology. The Woman's Club of Minneapolis, in establishing a graduate fellowship for a woman student without restriction as to field, has made a much-appreciated contribution to education. Several fellowships were set up as a part of the Scandinavian Area program, recently inaugurated. The Foreign Student Tuition Scholarships, open to both undergraduate and graduate students, have proved of great advantage and aid to the foreign graduate contingent, which normally outnumbers the foreign undergraduate group in the proportion of two to one. Fellowships are selective by their very nature, add strength to the University, and bear rich fruit for the society that the University serves.

Social Science Research Center—An important forward step has been taken through the establishment of the Social Science Research Center in 1947, with five main objectives: the improvement of interdisciplinary training of the social sciences at the graduate level, the coordination of the research programs already under way, the identification of research areas in social science not yet under investigation in this University, steps toward better public understanding of the contributions of social scientists, and increased impetus to financial support of social science research.

In the brief period of its existence the Social Science Research Center has made a promising start. It has participated in the drafting of a report for the National Research Council and the Rockefeller Foundation on the problem of the supply of high-level talent. It has arranged a series of public lectures on people and resources in the world today. In the spring of 1948 it conducted a panel conference of faculty members from five areas in the social sciences on theories of human personality and "personality dynamics," with some seventy-five faculty members present at sessions on two succeeding days. The Center also participated in the successful search for funds in support of a laboratory for research in social relations.

Beginning with the fiscal year 1948-49 the Center, operating with an administrative budget under the Graduate School and with Assistant Dean John G. Darley as secretary, looks confidently to continued and increasing contributions to the area of teaching and research that it serves.

Scandinavian Area Program—An educational advance that promises much for the future was made possible through a grant in 1947 of \$130,000 from the Carnegie Corporation of New York for a program of Scandinavian Area Studies on a five-year basis. This program was set in motion beginning with the academic year 1947-48, under the supervision of a subcommittee of the general University Committee on International Relations and Area Studies, with Professor Lawrence D. Steefel serving as executive secretary and director of the program. Four graduate fellowships and two undergraduate scholarships were established; Professor Clarence A. Clausen was brought to the University to give instruction in the history of the Scandinavian countries and in the Norwegian language; a visiting lecturer, Karl A. H. Andersson, a Swedish authority on social legislation and institutions, served during the first year, giving courses in the field of his special interest; the Department of Scandinavian cooperated fully in the development of the program; lectures and conferences were arranged; the library holdings in the Scandinavian field, already impressive, were enriched; careful study was made of the courses throughout the University that could serve collaterally to build strength into the program; rich offerings were available in the Summer Session of 1948; a special bulletin on the entire program was prepared; and the subcommittee worked out, in conference with the University of Wisconsin, plans for cooperating with the Scandinavian Area Program at that institution. University policy has aimed at solid, if modest, beginnings in a program that is logically centered at Minnesota and that will forward the training of men and women for national and international service.

Preparation of College Teachers—Do university doctors of philosophy lack breadth of training? Are they specialized at the expense of wide understanding? Are graduate schools, as has been alleged, turning "dead creatures" into college teachers? Such questions, discussed in an address by the dean before the Association of Land-Grant Colleges and Universities in 1947, led to the appointment of a faculty committee looking toward the improvement of the preparation of college teachers in the Graduate School. Under Dean T. R. McConnell's chairmanship, this committee has reviewed departmental practices and outlined certain broad studies basic to the problems involved. It is inquiring into such matters as modifications of the traditional programs with a view to more effective training of college teachers, the value of a seminar in problems of college teaching, the apprenticeship experiences available for students who intend to teach in college, and in general the nature of changes that might strengthen the preparation of future college teachers.

Language Requirements for the Ph.D.—A faculty committee headed by Professor Dwight E. Minnich completed during the biennium a study of the foreign language requirements for the Ph.D. at Minnesota and in American graduate education. Its recommendations, adopted by the graduate faculty in 1948, look toward increasing flexibility in the choice of languages and the possibility, through department and area approval and action, of substituting for the traditional language requirements the demonstration of competence in one foreign language and in a second field which may be an additional foreign language, some additional and appropriate research technique, or some appropriate field of knowledge outside the major and minor.

Faculty Summer Research Appointments—The summer plan for encouraging faculty research and writing, begun in 1946, has been continued successfully during the biennium 1947-48. Appointments of twenty-one members of the faculty during the two summers have stimulated productive work on projects of wide range and interest in fields including poetry, drama, music, literary criticism, political science, chemistry, sociology, classics, botany, fiction, speech, history, social work, bacteriology, art, and philosophy. One faculty member has described the plan as one of "the most helpful and encouraging actions in the service of scholarship" taken in recent years by the University.

Regional Writing—The success of the Graduate School's earlier project for the encouragement of regional writing, supported by a grant of \$50,000 from the Rockefeller Foundation, has resulted in an additional grant of \$25,000 available at the beginning of the new biennium. Meanwhile eight books resulting from the project begun in 1943 have appeared in print, and four more are soon to be published, all pertaining to the interpretation of the history and life of the Upper Midwest. These publications in turn have given impetus to new creative work reaching beyond the boundaries of the writing fellowships themselves.

Research—Notwithstanding the demands upon the time of the faculty in meeting teaching needs, the biennium has been marked by an unmistakable expansion of research, with increasing emphasis upon the basic studies urgently needed in the wake of the war, with its immediate demands for applied research.

The generous action of the legislature in increasing, for the second half of the biennium, the appropriation for general research from \$50,000 to \$75,000 proved important to the University as many faculty members returned from the war and as the faculty was enlarged to meet the problems of heavy enrollment. This fund has made possible grants to some 60 research projects each year of the biennium in areas spread across the University in such fields as botany, horticulture, chemistry, soils, forestry, physics, plant pathology, electron microscope studies, industrial relations, and sociology. The reports at the end of each year reveal advances on the frontiers of understanding in the natural and social sciences, and many publications have emerged. In sum total the fund has stimulated University research in notable fashion.

Legislative grants for medical and cancer research were merged in the second half of the biennium, and the total amount of support was increased from \$45,000 to \$50,000 per year. It is difficult to exaggerate the importance of this fund, which is used to aid scholars in basic studies not only of specific diseases, such as cancer, heart disease, ulcers, pneumonia, tuberculosis, and encephalitis, but also of the normal human body. The line between basic and applied research is difficult to determine, for the one may quickly reach into the other but, wherever the line, this fund has spurred on medical research that reaches out, in its beneficent effects, to all our people.

The modest but very useful fund for research studies outside the Medical School in a wide range of areas was increased from \$16,000 per year to \$20,000 during the biennium. It has given needed help to research not only in the biological and physiological sciences, but also in the social sciences, the humanities, and education and psychology. The grants under the fund are relatively small, but through them many researches have been initiated and much basic work supported. In one year alone, no fewer than 64 specific investigations were thus subsidized and encouraged.

Impressive as are the fruits of grants made from the various funds of the Graduate School, all too often these funds fall far short of the actual needs that are brought to our attention. Grants are an investment not merely in specific projects, but in the trained abilities of scholars and in the future of our society. The importance of University research to human welfare, the increasing size of the faculty, and our research needs constitute convincing arguments for making larger funds available.

Minnesota Institute of Research—This Institute, with its appropriations increased from \$15,000 to \$25,000 per annum, has made steady and in certain instances exciting progress. The study of dried milk is approaching final solution in several of its phases, and methods are being developed that will expand the use of this product—an outcome that should contribute to the stabilization of the dairy industry. The production of high-grade linen from seed flax straw, one of the most ambitious of the Institute's projects, has been brought up to the pilot plant stage. Several hundred yards of linen cloth have been woven from the yarn made by the new Minnesota process. This cloth is now being made into garments and given appropriate testing, while the research on the field handling of the flax straw promises a feasible method of preparing the straw for retting. Since the growing of mint crops on peat bogs has proved economically desirable, the project has been referred to the iron range resources group for exploitation on a larger scale.

Hormel Institute—The Institute has tripled its laboratory facilities during the biennium and has been brought into closer relations with the Graduate School by making its facilities available for advanced graduate students engaged in research studies. It has engaged in some sixteen research projects, including cooperative undertakings with scholars of the Mayo Foundation and with departments on the Minneapolis and St. Paul campuses. Studies of fat oxidation have added to fundamental knowledge in this branch of biochemistry. Researches in cell fertilization have proved of definite applied value; and a long continued investigation of swine diseases has demonstrated that swine influenza is a major factor in the losses incurred from baby pig disease. Progress has been made

also in studies of the nutrition of swine. Other researches have dealt with such matters as botulism in canned bread, the freezing and storage of foods, and the canning of mild cured bacon.

Dight Institute—The new director of the Dight Institute, Dr. S. C. Reed, formerly of Harvard University, assumed his duties in the late summer of 1947, and a period of vigorous activity ensued. In his program of teaching he included a course in human genetics. The Institute sponsored a series of public lectures by distinguished scholars. Public understanding of its work was increased through many speeches by the director to clubs in Minnesota. Research studies in the biology of human breast cancer were advanced by generous grants from the American Cancer Society and the United States Public Health Service. A huge collection of pedigrees of human inheritance, collected by the first human genetics laboratory in the United States, that of the Carnegie Institution of Washington at Cold Spring Harbor, New York, was presented as a gift to the Institute. Counseling on human genetics doubled in extent during the year 1947-48. The director, in the summer of 1948, attended and spoke at the International Congress of Genetics in Stockholm and made careful studies of laboratories of human genetics in the Scandinavian countries. Thus the Institute is fulfilling its original purposes and its work is growing.

Graduate Dental Education—The dental graduate program and research in dentistry have advanced along promising lines during the biennium under the deanship of Dr. William H. Crawford, with the cooperation of the Graduate School, which continues to administer a small fund in the interest of dental research. Various research studies by Dr. W. D. Armstrong have dealt with topical application of fluorine to teeth in controlling caries, the role of citrate in teeth, and the use of the flame photometer in analyzing the content of teeth and bones.

Greater University Fund—The Graduate School is deeply concerned with the success of the newly organized Greater University Fund and has cooperated with the director and board of that fund in identifying and appraising University needs in research, fellowships, and other areas.

Mayo Foundation—The Graduate School welcomes Dr. Victor Johnson to the important position of director of the Mayo Foundation, and it records its appreciation of the many years of high service as director by his predecessor, Dr. Donald C. Balfour. The Foundation has had an unusually large number of fellows during the biennium, many of them completing studies interrupted by service in the armed forces.

Administration—John G. Darley, professor of psychology, was appointed assistant dean in 1947, to fill the position left vacant by the resignation of Assistant Dean Ralph E. Montonna.

During the biennium the seven regular group committees of the Graduate School, whose chairmen comprise the Executive Committee, have dealt efficiently with the many problems centering in student programs and in graduate policy brought before them in a period of unprecedented enrollment. Special committees have functioned for unusual areas of study, such as American studies, international area programs, and statistics. A system of rotation of membership on the group committees has been established. The graduate faculty, consisting of full and associate members, numbers 894 at the end of the biennium, with graduate programs of study offered in 94 fields.

In 1946-47 the University of Minnesota held the presidency of the Association of American Universities and in the following year the chairmanship of the Graduate Council of the Association of Land-Grant Colleges and Universities. Through these national organizations the Graduate School maintains close relationships with other graduate schools throughout the country.—THEODORE C. BLEGEN, dean.

MAYO FOUNDATION FOR MEDICAL EDUCATION AND RESEARCH

Faculty—With the increased enrollment of new patients and the multiplied responsibilities of the Mayo Foundation, the membership of the faculty has been increased during the past biennium and now numbers 241. Among the newly appointed members of the faculty, who will be actively engaged in teaching and research, are Dr. W. H. Hollinshead (formerly professor of anatomy, Duke University) who has organized and is conducting the work in anatomy, Dr. K. G. Wakim (formerly professor of physiology, Indiana University) in physiology, Dr. B. M. Spock (formerly assistant professor of pediatrics, Cornell University) in psychiatry, Dr. J. W. Henderson (formerly a fellow in ophthalmology of the Mayo Foundation) in ophthalmology, Dr. G. M. Martin (formerly associate professor of physical medicine, University of Kansas) in physical medicine, and Dr. A. Albert (formerly at Massachusetts General Hospital and Harvard Medical School) in physiology. In addition, there are 23 appointments at the instructor level.

The Mayo professorship of Public Health in the University of Minnesota Medical School has now functioned for two years. Dr. Gaylord Anderson occupies this post through a grant made available by the Mayo Association.

The Mayo Foundation regrets the retirement in October, 1947 of Dr. Donald C. Balfour as director; for eleven years he has provided leadership and inspiration in the conduct of the educational and scientific program of the Foundation. As director emeritus, Dr. Balfour will continue to serve in an advisory capacity. He was succeeded as director of the Foundation by Dr. Victor Johnson, formerly of the University of Chicago and the American Medical Association.

During the biennium, the following additional members of the faculty have reached the age of retirement: Dr. W. F. Braasch, professor of urology; Dr. H. Z. Giffin, professor of medicine; and Dr. F. L. Smith, assistant professor of surgery.

The Foundation records with regret the deaths of the following members of the faculty of the Foundation: Dr. H. M. Conner, associate professor of medicine; Dr. E. J. Kepler, professor of medicine; and Dr. F. W. Gaarde, associate professor of medicine.

Facilities—In common with all institutions engaged in medical education, the Mayo Foundation has had a great increase in the numbers of physicians enrolled for advanced study during the past two years. This has resulted from the policy of permitting all fellows who departed for military service to return to their work in Rochester upon discharge. Furthermore, the Foundation has sought to participate in the nation-wide effort to provide training for medical graduates whose advanced hospital experience was markedly curtailed during the war. There has resulted a thorough utilization of all possible clinical, laboratory, and research facilities.

Within the past two years there have been some 160 more examining rooms made available in an Annex to the present Clinic Building. An addition to the Colonial Hospital, providing approximately 150 additional beds, will be available within a few weeks. This will result in a total general bed capacity of about 1,800, which is available to the faculty and fellows of the Foundation.

Plans are now under way for an expansion of the basic science research facilities within the city of Rochester. An addition to the existing Medical Sciences Building will provide more extensive laboratory facilities for the enlarged staff and the increased fellowship roster.

Fellows—Enrollment of fellows reached an unprecedented number in the past biennium, because fellows were permitted to commence or resume their work immediately upon discharge from military service. The peak number during the 1947 summer quarter was 563, of which about 80 per cent were veterans. This number is being reduced gradually, although it is anticipated that the numbers will probably always exceed the prewar maximum of 360.

At the close of the biennium, there were 547 fellows in the Mayo Foundation. Of the 328 fellows who had commenced their work before entering military service, 265 (80 per cent) resumed training upon discharge. Of the 252 fellows who were appointed but did not commence their training before entering military service, 172 (68 per cent) came to the Foundation after military service.

Because of the destruction of facilities and disruption of educational activities abroad, as a consequence of the war, very many young physicians from all over the world are now seeking advanced training in this country. Large numbers have sought fellowships at the Mayo Foundation. This development has come at a time when the demand for training by physician veterans of the last war has already overtaxed the training facilities, so that the number of foreign physicians who can be appointed has been more limited than might be desired. There are now 22 foreign fellows in the Mayo Foundation. It is hoped that this number can be increased somewhat in the future, so that the Mayo Foundation will expand its contribution to the rehabilitation of medicine and medical education abroad.

The University conferred 189 master of science degrees, and four Ph.D. degrees upon fellows of the Foundation during the biennium.

Research—In addition to the research conducted by regular fellows and members of the faculty, special projects under special appointments were carried out by Drs. R. G. Bickford, G. A. Hallenbeck, F. T. Maher, J. J. Schneider, and W. Volwiler.

The Rochester Child Health Institute has been organized as a separate corporation to continue the research and teaching in the general area of child development begun by the Rochester Child Health Project, which the Institute supplanted. Virtually every child born in Rochester in the past few years is included in the study. Support for the Institute is derived from the Mayo Clinic and Mayo Association and grants from other sources.

During the war years much of the basic science research of the Foundation emphasized the solution of military problems. There has been a return to problems which are not directly related to war, although many of the techniques and facilities developed as a result of wartime research have readily been adapted to the peacetime problems. Because of the large number of patients seen by the faculty of the Mayo Foundation, the opportunities for clinical research on the part of fellows and faculty are numerous, since almost any pathological condition is amply represented in the patient enrollment.

However, the Foundation continues in its belief that medical education cannot be conducted at the highest level by an institution which does not carry on basic medical research. Consistent with this policy, the facilities for research in anatomy, bacteriology, biochemistry, biophysics, experimental surgery, pathology, and physiology will be greatly improved by the new building and facilities to be provided in Rochester. In several areas there is a close collaboration through the operation of informal committees of those engaged in clinical investigation and basic science research, resulting in a maximum productivity of teams of investigators.—VICTOR JOHNSON, M.D., *director*.

GENERAL COLLEGE

The biennium just passed was in many ways a critical one for the General College, as it has been for many educational institutions, because of the large influx of veterans and the necessity of making adjustments and accommodations to this tremendously increased student body at a time when space facilities, teaching aids, and additional instructional staff were not readily available. Enrollment in the fall quarter of 1946, for example, was almost twice that of the peak of one thousand students before the war.

In spite of the increased numbers, the General College continued its experimentation and research programs in higher education for which it had established a reputation.

Expansion of Curricular Offerings—A number of courses which had been offered at various times previously were restored, usually with adaptations. These were such courses as Straight and Crooked Thinking, Social Trends and Problems, and Film and Drama. A number of new courses were also offered experimentally in the effort to round out our program of general education. Courses of this type were General Geology, General Anthropology, and a music laboratory course entitled Music Reading and Choral Singing. The success of such new offerings may be attested to by the fact that in General Geology, for example, enrollment reached the closing point very quickly after registration was opened, even though the course was repeated each quarter. A third curriculum modification occurred in the reorganization of such courses as Vocational Orientation and Individual Orientation. Vocational Orientation, for instance, had been given on the basis of a quarter of lecture instruction followed by a quarter of laboratory work. The instructor in charge of the area felt it desirable educationally to combine the two into a single five-credit course, and with the endorsement of the Curriculum Committee, this change was approved by the faculty.

New Comprehensive Examination—A significant educational venture was undertaken during the biennium in the development of a new General Comprehensive Examination to measure in one instrument the various outcomes of instruction in general education as set up in the General College. Previously, students were required to take two comprehensive examinations each year in separate comprehensive areas, of which there were nine in the General College program. This arrangement gave no indication, however, of how much general education a student might possess when he started his General College program, or how much over-all educational growth he might have attained during his enrollment in the college. The new comprehensive examination was designed as both a pre-test and post-test. After the beginning of the fall quarter, 1947, all new students were required to take the General Comprehensive as a pre-test upon admission. The individual profile of each student assisted counselors and advisers in helping him plan his academic program. At the end of the first and second academic years, second and third forms of the General Comprehensive were to be administered, to determine the student's growth in fields of general education during his entire period of residence. A thorough and detailed analysis of each of the first several administrations of the General Comprehensives has been undertaken so that the various forms may be made more functional and improved measuring instruments. A minimum level of performance on the final form which each student takes will be one of the requirements for the A.A. degree.

Additional Occupational Sequences—During this period the college continued to experiment with programs combining vocational and general education courses. Those sequences which were already in successful operation were Child Care, Pre-Applied

Mortuary Science, and Retailing and Selling. Probably the most widely publicized of the new programs is the one for training air hostesses. The Air Hostess curriculum was worked out in consultation with officials of airlines and has their enthusiastic endorsement. This vocational sequence seems a very natural one for the General College to undertake experimentally, since it combines direct vocational training, to be given in the second year, with a supporting framework of general education which will equip young women for richer living even though they may not enter the employment of an airline after graduation.

Other proposals for vocational or occupational sequences are the one in Practical Nursing, administered jointly with the School of Nursing; and one for training library technicians, which is under consideration by the Division of Library Instruction and the General College. A new program in Recreational Leadership, Plan II, has also been worked out jointly with the College of Education.

Transfer Procedures—Considerable progress has been made in smoothing out procedures for transfer of General College students to other colleges of the University. Since the College of Science, Literature, and the Arts, for example, has instituted its own program of general education, it now accepts adequate performance in appropriate General College courses for fulfillment of the group requirements in the College of Science, Literature, and the Arts.

Freshman Orientation Program—Beginning in the summer of 1947 and continuing in 1948, the General College, in cooperation with the College of Science, Literature, and the Arts, worked out a new freshman orientation program whereby freshmen are brought to the campus in small groups for two days of orientation, testing, counseling, and registration. This has further improved student morale and has made the entire registration program considerably easier and educationally sounder.

Physical Expansion—During the biennium there was also an opportunity for a much needed expansion of facilities. Space on the first floor of Wesbrook Hall, formerly occupied by the University of Minnesota Press and the Anthropology Department, was made available to the General College by the removal of these units. This move also made it possible to set up a biological laboratory in the second floor quarters formerly occupied by the administrative offices of the college—an addition long desired by our biological science staff members.

The staff of the General College was greatly interested in the recommendations made by the Minnesota Commission on Higher Education in the pamphlet, *Unfinished Business*, and similar recommendations made by President Truman's Commission on Higher Education, the six volumes of which are entitled *Higher Education in American Democracy*. The kind of education endorsed by these reports has many similarities to the program carried on in part by the General College since its inception and in which considerable experimentation and progress have already been made. The staff of the General College feels that the purposes which the college was originally established to serve, namely, to experiment in developing courses in general education and to carry on educational research centered on a student body which is fairly typical of average youth of that age group, are those which they should continue to follow in the years ahead for the college and the University.—HORACE T. MORSE, dean.

UNIVERSITY COLLEGE

Students who are fully qualified to gain admission to the University may differ widely in intellectual capacity, interests, and social and cultural background. Courses which may properly be required of one student or of a large group of students are not always the best for another student. In an institution as large as ours there will always be a fraction of its student body for whom none of the many curricula of the various colleges will be adequate or proper. Students will find that they wish to cross college lines or they may sometimes have very acceptable reasons for deviating from a curriculum established by a professional college. The liberal arts college can and does permit a wide range of programs but the professional schools wish to have the degrees from their units represent a certain specified and standardized type of training.

It is to provide avenues of registration for such students that University College was organized. The student must himself take the initiative in seeking enrollment. He must present a complete program for a degree—a program which will be acceptable to members of the University College Committee or other faculty to whom it is submitted. Upon satisfactory completion of that program, the student is granted the degree, bachelor of arts or bachelor of science. No professional degree is granted.

During the past biennium 168 students have received degrees from this college—21 with honors. This is the largest number since the college was organized in 1930. The increase is partially the result of the war: Some students took programs before entering the armed forces which were designed to aid them in the active service and greatly modified their objectives upon returning to college. University College offered them a means of coordinating their entire college work.

The number of students registered at one time has not exceeded 200 during the past two years. At all times the number of seniors exceeds that of other classes.

No changes in policy are anticipated for the near future. It is not certain that the college includes all students who should have sought registration in it but it seems preferable not to invite enrollment in this unit of the University. The number of students registered is always less than one per cent of the total in the University.—J. W. BUCHTA, *chairman*, University College Committee.

DULUTH BRANCH

On July 1, 1947, the Duluth State Teachers College became the University of Minnesota, Duluth Branch. This change, made possible by action of the Teachers College Board, the Legislature, and the University Regents, marked the realization of an objective toward which people of this region had been working for twenty-five years. Space will not permit a review of the history and many disappointments on the part of local people in securing the present institution, but this report would not be complete if it failed to mention the fact that one of the institution's greatest assets is the enthusiastic support of the citizens of this region. It will be the purpose of the administration of the Duluth Branch to continue to cultivate this support for the over-all University program of which Duluth is proud to be a part.

Organization—The Regents, upon the recommendation of the president, established the position of provost responsible directly to the president of the University. In the transition it was decided to establish the positions of academic dean and business manager responsible to the provost. The dean has direct responsibility for student personnel services, convocations and lectures, library, health service, public relations, and military science. He works with divisional chairmen and other academic personnel on instructional problems. The business manager is responsible for the business office, service enterprises, and buildings and grounds.

Eighteen months ago the offices of guidance, registrar, and teacher placement were coordinated under the director of student personnel services. This office is responsible now for admission, guidance, records, placement, coordination of student social activities, and supervision of the dormitory. The new organization of student personnel services, although understaffed and crowded for space, has resulted in marked improvement in the whole program of guidance and counseling, simplification of records, and a more orderly system of registration.

The academic program of the institution is organized under six divisions: Professional Education, Fine and Applied Arts, Health and Physical Education, Language and Literature, Science and Mathematics, and Social Studies. The chairmen of these divisions, together with the dean, director of student personnel services, the business manager, and the provost, constitute the Administrative Committee which has many important functions in the administration of the Duluth Branch. The Division of Education offers four-year majors in psychology and elementary education and provides professional courses for all students entering teaching, and general education courses in psychology for students working toward the bachelor of arts degree. The Division of Fine and Applied Arts offers majors leading to the bachelor of arts and bachelor of science degrees in home economics, art, and music. The Division of Health and Physical Education offers majors for men and women leading to the bachelor of science and bachelor of arts degrees. The Division of Language and Literature offers majors in English, speech, German, and French leading to the bachelor of arts and bachelor of science degrees. The Division of Science and Mathematics offers majors in biology, chemistry, physics, mathematics, and industrial arts leading to the bachelor of arts and bachelor of science degrees. This division offers a two-year curriculum in engineering meeting the requirements of the Institute of Technology for the first two years of a major in engineering. The Division of Social Studies offers majors in business and economics, geography, history, and social studies, and minors in philosophy, political science, and sociology, leading to the bachelor of arts and bachelor of science degrees.

In addition to the above curricula, the institution offers pre-professional work in agriculture, dentistry, engineering, forestry, journalism, medicine, pharmacy, social work, veterinary medicine, and law.

Every student who completes the Bachelor's degree is required to complete one major, one minor, and sixty quarter hours distributed through the six divisions. The total credits required for a bachelor of arts degree is 180; the total required for the bachelor of science, 192. Students may receive the associate in arts degree at the end of two years, upon the completion of sixty credits in general education plus electives for a total of ninety or more credit hours.

The divisional organization makes possible more interaction between related departments throughout the institution. Our plans call for continued emphasis upon divisional rather than highly departmentalized organization. Present plans call for reorganization of present divisions during the next biennium reducing the number to four: Science and Mathematics, Education, Social Studies, and Humanities.

Committees on curriculum, faculty-student social activities, University relations, library, student personnel, commencement, and athletics are appointed by the provost subject to the approval of the Administrative Committee. The Curriculum Committee is headed by the academic dean of the institution and has assumed significant responsibilities during the past year in making the transition from the teachers college program to one that is more nearly in conformity to the University of Minnesota. Curricular changes may be initiated by the Curriculum Committee or by staff members working through their own departments and divisions; and curricular changes must have the approval of the division concerned, the Curriculum Committee, and, finally, the Administrative Committee.

During the past year a committee of the faculty has been working on a faculty constitution, which in the near future will be submitted to the president of the University who may desire Regent approval of this document, which will govern the functions, responsibilities, and authority of the faculty of this college.

Staff Problems—Upon acceptance of the institution by the Regents, the President appointed an Advisory Committee consisting of Vice President Malcolm M. Willey as chairman, Deans Richard L. Kozelka, T. R. McConnell, and Wesley E. Peik, and Vice President William T. Middlebrook. It became the responsibility of the chairman of this committee and the provost of the Duluth Branch to re-rank the entire staff at Duluth in order to institute at once University standards with respect to rank, tenure, and retirement. The criteria used in determining rank were: academic achievement as represented by degrees; teaching and research ability; leadership in professional organizations, the institution, and the community. It was recognized at the outset that the staff at this institution was a teaching staff and that, in the past, little opportunity had been provided for research.

Nine people received a rank lower than they had been accorded under the teachers college organization. At the beginning of the fall quarter, 1947, there were 5 professors, 7 associate professors, 27 assistant professors, and 34 instructors. At the beginning of the fall quarter, 1948, there were 5 professors, 12 associate professors, 28 assistant professors, and 41 instructors, 2 staff members on sabbatical leave, and 3 lecturers.

The members of the staff are deeply grateful for the privilege of becoming a part of the University tenure, retirement, and insurance programs. Our staff received credit for experience in the Teachers College toward tenure in the University and were permitted to come under the university retirement plan. With the exception of older members of the staff, retirement benefits will be much greater under the University than they would have been under the State Retirement Plan which applied to the Teachers College staff.

The most serious problem confronting our staff at present is the shortage of classroom and library facilities and the unusually heavy teaching load which has increased steadily since the war. In the fall quarter of 1946, the teaching load was 285 student credit hours per staff member. In the fall quarter of 1947 this figure had increased to 346 student credit hours.

Special Accomplishments—Perhaps the most important single achievement of this biennium has been the upgrading of the staff through the employment of outstanding scholars from other institutions and graduate schools of leading universities. Many outstanding people have come to Duluth to join our staff because they see here a real opportunity for their own growth and development in an institution that is destined to play an increasingly significant role in this section of Minnesota. Our affiliation with the University of Minnesota has made it much easier for us to employ outstanding teachers and research scholars.

During the summer of 1947, the Advisory Committee, with Vice President Willey as chairman, approved two important new departments for the Duluth Branch. These departments were Business and Economics, and Psychology—both of which more than justified their establishment during the first year.

Other departments have expanded their scope of offerings through additional staff members added during the last two years. Dr. William R. McEwen, head of our Depart-

ment of Mathematics, is working in close cooperation with Dean T. A. H. Teeter and other men in the Institute of Technology and has developed a two-year program in engineering which is a great improvement over that offered under the teachers college organization.

Recommendations for the Next Biennium—It is recommended that the departments of Political Science, Sociology, and Philosophy, in which we are now offering minors, be expanded through the employment of additional staff members and the addition of new courses in order that majors may be offered in each of these three departments.

It is recommended that with the completion of the new science building the institution provide a curriculum leading to a degree in nursing and in conservation.

It is recommended that a program of graduate work leading to the Master's degree be instituted at the beginning of the summer, 1949. Duluth is a natural setting for the development of summer workshops and graduate work in education. The faculties in education and psychology will be strong enough from the standpoint of personnel to offer the Master's degree beginning in the summer of 1949. Dozens of leaders in the public schools of this region have made inquiries concerning the possibility of securing graduate work here in Duluth. It is our recommendation that the Master's degree be offered in order to serve those teachers and administrators in public schools of this region. The Master's degree in education should require a strong minor in one of the academic departments in order to improve the teacher's ability in his field of specialization. Most of the departments in the divisions of Science, Fine Arts, and Social Studies will be staffed with personnel competent to give graduate work. It is recommended, however, that we begin the graduate program on a basis acceptable to the dean of the Graduate School. This will mean that the Master's degree can be offered in several of our departments, whereas in others it will be necessary to build up a stronger staff than we have at present. One year of graduate work in the sciences, for example, would help us materially in securing laboratory assistants and instructors at salaries comparable to those paid at the University of Minnesota. It is further recommended that in the initial stages of this graduate work, the Duluth Branch be permitted to draw upon the staff of the College of Science, Literature, and the Arts for Summer Session personnel in order to guarantee from the very outset the high standards of the Graduate School of the University of Minnesota.—RAYMOND C. GIBSON, *provost*.

GENERAL EXTENSION DIVISION

Extension Classes—During the biennium enrollments in evening extension classes continued to increase, rising from 15,230 in 1946 to 18,720 in 1948. The latter figure is an increase of 9,887 over the low point in 1942, and is the highest enrollment total ever recorded by the department. Registrations in collegiate subjects showed a steady but diminishing growth, but the earlier trend towards them was matched during 1946-48 by much larger growth of registrations in business and engineering subjects. Service to metropolitan areas has improved during the biennium, but there is still an active and indeed increasing demand for courses throughout the state which the University cannot meet, largely because of staff shortages. The situation in this regard, however, is more hopeful than in the preceding biennium. Statistics for extension classes and short courses appear in Table I.

Correspondence Study—Registrations for correspondence instruction during the biennium declined from the peak enrollments of the war years. New registrations for 1947-48 totaled 2,934 as compared to 7,924 in 1944-46 and to 1,991 in 1940-41. Thus, in reference to new enrollments, it is apparent that the fiscal year has significantly exceeded (by 47 per cent) a typical prewar year (1940-41), but has not approached the record registrations of 1944-45 and some subsequent years.

Of the 2,934 new registrations accepted in 1947-48, 748 or 25 per cent were made by veterans enrolled under special contract with the Veterans Administration. Military enrollments for the same period accounted for 7 per cent of the total registration. Civilian registrations were 1,738 or about 67.5 per cent. In 1946-47, for comparison, 3,411 new registrations were received, of which 611 or 18 per cent were veteran enrollments; 283 or 7 per cent were military; and 2,148 or 75 per cent were civilian. It is evident, therefore, that veteran registrations have increased over the preceding year; the civilian registrations have decreased; and military enrollments are constant.

In the past year, attention has been directed to revising and rewriting courses. Further revisions are indicated, and course modifications will continue to be an administrative and financial problem in the immediate future.

TABLE I. EXTENSION CLASSES AND SHORT COURSES, 1946-48

	1946-47	1947-48
Summary of extension classes:		
Number of student registrations:		
Collegiate	10,929	11,587
Business	4,624	4,831
Engineering	2,310	2,302
Total	17,863	18,720
Net gain over previous year	2,633	857
Number of classes given	666	680
Number of individuals in classes	11,418	11,993
Net gain over previous year	764	575
Summary of short courses:		
Number of short courses	4	6
Number of registrations in short courses	431	658

TABLE II. CORRESPONDENCE STUDY ENROLLMENTS

	1946-47	1947-48
Regular Courses:		
Registrations in force, beginning of year	5,090	3,337
New registrations during year	3,411	2,934
New registrations made through the USAFI	283*	210*
New registrations under the G. I. Bill of Rights	611*	748*
Reinstatements from previous years	242	135
Registrations expiring within the year	794	694
Total registrations in force during the year	8,743	6,406
Registrations terminating during year	6,200	4,294
Registrations in force at close of year	3,337	2,806
Special Courses		
Citizenship†		
New registrations during year	103	98
Individuals Enrolled (regular courses)		
New registrations	2,888	2,547
Total active registrations	7,475	5,451
Lesson Reports Received		
Regular courses and citizenship	32,756	29,104
Geographical Distribution of New Students		
Minnesota	2,069	1,422
Other states	1,216	1,125
Outside the United States	46	39
Army Post Office	53	62
Fleet Post Office	27	24
Number of states represented (including D. C.)	47	49
Number of foreign countries represented	10	13
Courses Offered	279	281
Instructors	113	113

* This figure is included in the total new registrations for the year.

† No fee charged for this course.

Refunds were substantially reduced in 1947-48. All military registrations accepted prior to May, 1946, were under terms of a contract which demanded earmarking of funds for partial rebate of course fees. In 1945-46 the refunds reached \$33,764.60, but dropped to \$10,694.74 for 1947-48. In view of the fact that nearly all students enrolled under the USAFI contract have completed or have been disenrolled, it is reasonable to predict that refunds will not exceed \$5,000 for 1948-49.

Educationally it is encouraging to note that the ratio of lesson assignments to registrations is approaching prewar standards. In 1940-41 the average number of lesson reports per registration was 7.4, but fell to 3.2 in 1944-45. For 1947-48, the rate is 4.5 and is likely to exceed this figure as expirations (2,583 in 1947-48 and 4,477 in 1946-47) are reduced. For the most part, the disenrolled military registrations, a carry-over from record years, account for a significant number of expirations. Moreover, cancellations, which totaled 799 in 1947-48, are excessive, as many were veterans carried over from the previous fiscal year. As more and more of the inactive military and veteran enrollments are dropped, and students are able to devote more time to lesson assignments, a better course completion rate should be established.

Community Program Service—During the biennium, this department operated three subdivisions: the Lecture and Lyceum Bureau, which provided school assembly programs;

the off-campus Concert and Lecture Bureau, which provided educational and artistic entertainment for communities; and the Loan Play Library, which assisted Minnesota schools in selecting plays for dramatic performances. The Audio-Visual Extension Department, formerly a part of the Community Program Service, was made an independent department during the 1946-48 biennium. Lecture and Lyceum services to the schools totaled about the same as the services of the entire division in 1944-46, so that the off-campus Concert and Lecture services represent a net addition of considerable proportions and one of valuable cultural significance to the territory served. The reorganization of the Loan Play Library reported last biennium has had gratifyingly good results, the distribution of plays rising from 403 requests and 1,771 copies in 1944-46 to 1,287 requests and 8,792 copies in 1946-48. (See Table III.)

Radio Station KUOM—Although KUOM had been broadcasting instructional features for adults since the early 1930's, it was only during this biennium that these programs were grouped together under one name. The Minnesota University of the Air includes classroom lectures as well as broadcasts presented from our studios for the radio audience only.

The Minnesota School of the Air includes all programs for in-school use. During the first year of the biennium fifteen regular program series were presented each week; during the second year there were ten.

TABLE III. COMMUNITY PROGRAM SERVICE ACTIVITIES

	1946-47	1947-48
Lecture and Lyceum		
Number of programs used	33	38
Number of schools and organizations served	595	624
Number of engagements filled	2,410	2,574
Off-Campus Concerts and Lectures		
Number of programs used	42	35
Number of colleges and organizations served	85	74
Number of engagements filled	359	347
Loan Play Library		
Total number of plays in library	3,756	3,885
Number of requests filled	463	824
Number of copies sent out	2,200	6,592

KUOM's musical programs are widely appreciated and enthusiastically admired. Most of these programs are based on an excellent record library, although the station also presents outstanding broadcasts of live music. Among the most significant musical services were broadcasts of the Young People's Concerts by the Minneapolis Symphony Orchestra. Occasionally the station broadcasts the orchestra's rehearsal sessions. Through special arrangements with the FCC, KUOM went on the air three evenings in order to broadcast the opening Minneapolis Symphony Orchestra concert of the 1947-48 season, as well as the Master Piano Series recitals of Claudio Arrau and Rosalyn Turek.

In the summer of 1946 Minnesota was beset by a severe polio epidemic. To answer the question, "How could radio help?" KUOM broadcast two special series of programs, *KUOM for Kids* and *School by Air*. Most of these polio programs were broadcast between July 31 and September 15, 1946.

KUOM serves both rural and urban listeners through three series of programs prepared on the St. Paul Campus: *The Homemaker's Quarter Hour*, *The University Farm Hour*, and *The Friendly Road*.

In addition to the programs outlined above, KUOM broadcasts dramatic programs such as *The Summer Drama Festival* and the *Radio Guild Playhouse*, several newscasts and news commentaries, University of Minnesota and Macalester College Convocations, and *The Afternoon Novel*.

In 1947, KUOM was given the responsibility of preparing, arranging, and presenting various University relations programs over outside radio stations.

During the first year of the biennium, however, even though KUOM was not formally charged with responsibility for programs of this sort, the station represented the University in supplying guest interviewees to other Twin Cities stations. KUOM arranged the broadcasting of the Variety Club Heart Hospital presentation dinner September 23, 1946; all the radio stations in the Twin Cities broadcast all or a portion of this ceremony, live or transcribed. In the second year of the biennium KUOM arranged a number of programs for University of Minnesota Week (February 15 through 21, 1948). Four special 15-minute programs, *The University Reports to the People*, were transcribed and

sent to most of the stations in Minnesota outside Minneapolis and St. Paul. A half-hour dramatized review of the life of the president of the Board of Regents, Fred B. Snyder, was broadcast February 19, 1948, from the Coffman Memorial Union Ballroom as a part of the Snyder testimonial dinner attended by many civic, educational, and government leaders from all parts of Minnesota. Fifteen University of Minnesota broadcasts were carried by Minneapolis and St. Paul stations during University of Minnesota week.

During the year 1947-48 KUOM prepared several special programs for broadcast in France, Germany, and England.

Early in 1947, KUOM made an exchange of time with WCAL which gave KUOM a better operating schedule. The station is now on the air every day, Monday through Friday, from 10:30 a.m. until local sunset, with the same hours on Saturday except for the 12:30 to 2:00 p.m. period.

During 1946-47, KUOM continued unsuccessfully to search for a new frequency which would permit broadcasting full daytime hours, as well as after sunset.

With Board of Regents authorization KUOM formally filed application on April 28, 1948, for a construction permit for a 3,000-watt frequency modulation station to operate on 91.9 megacycles, one of the 20 channels set aside for educational institutions. The new station will use the call letters KUOM-FM.

During the biennium, KUOM received six awards in nationwide radio program competitions. For services during the polio emergency in 1946 the station received a plaque award from *Variety* magazine for "expanding radio's social usefulness," as well as an honorable mention in a selection of public service programs by the City College of New York. A special category was set up in the exhibition of recordings at the Institute for Education by Radio at Columbus, Ohio, in May, 1947, and KUOM received a first award for its polio programs. During the second year of the biennium KUOM received two awards in the "Local Program Competition" conducted by *Billboard* magazine. The first *Billboard* award was a Special Award in the Public Service category for the series, *The University Reports to the People*; the second was an Honorable Mention for the March 19 broadcast of a Minneapolis Symphony Orchestra rehearsal session devoted to the Symphony No. 1 by James Aliferis, associate professor of music at the University.

From the Institute for Education by Radio in May, 1948, KUOM received an Honorable Mention for the world's premiere broadcast of "All the King's Men" based on the Pulitzer prize winning novel by Robert Penn Warren.

A major portion of the time of the engineering department during the period of this biennium was devoted to the technical portions of KUOM's several applications, first for a new AM frequency and then for an FM frequency.

The quality of KUOM programs has steadily improved, and technical facilities are better than ever. The addition of FM should enable the University to attain one of its long-time objectives—that of offering a regular evening program service.

The one respect in which KUOM is most lacking is in having funds with which to pay University faculty members for regular contributions to programs. Theoretically, as the radio voice of a great state university, KUOM is in a position to base educational programs on its vast research and teaching resources. Actually, however, broadcasting must be imposed on the faculty as an extra, unremunerative task. Only when funds are available to pay University staff members for contributions to KUOM programs can the station utilize fully the institution's radio potentialities.

Municipal Reference Bureau—The Bureau serves as a University division for students' reference work and, as headquarters for the League of Minnesota Municipalities,

TABLE IV. MUNICIPAL REFERENCE BUREAU ACTIVITIES

	1946-47	1947-48
Number of inquiries	1,743	2,394
Monthly magazines		
Total number of copies published	66,890	76,405
Average monthly number published	5,574	6,367
Annual convention attendance	584	483
Attendance at regional meetings	688	1,013
Number of regional meetings held	18	17
Number of cities receiving charter consultation service	10	14
Number of Civil Service examinations held	3	none*
Attendance at short courses	254	395
Number of short courses held	4	4

* Service discontinued; turned over to State Civil Service Department.

extends its facilities to governmental officials throughout the state. During the biennium, the Bureau's activities expanded, partly at least as a result of increased membership in the League, which is at the highest point of its history. (See Table IV for general statistics of Bureau activities.) During the biennium the Bureau published and circulated pamphlet materials and reprints upon municipal revenue problems, community health and recreation programs, and also 1947 and 1948 editions of its directory of Minnesota city and village officials. The Bureau assisted in presenting, at the Center for Continuation Study, the annual schools sponsored by the League, and the regional meetings of the League itself, both of which activities proved increasingly popular during the biennium.

Center for Continuation Study—During the biennium the Center offered 174 courses or institutes with a total registration of 8,992, as against 119 courses and a registration of 6,756 in 1944-46, the largest previous biennium. This means that the average number of courses in the building was two and a half on each working day of the period. Inasmuch as the average enrollment per course is about 50 and the dormitory capacity is about 75, it is apparent that the institution is operating at capacity. Besides its regular course groups, the Center has served as a meeting place for several educational and cultural groups. The latter have totaled in attendance nearly 11,000 since 1936, bringing to over 45,000 the count of those who have benefited from the facility since its opening. (Tables V, VI, and VII give statistics for the Center.)

Audio-Visual Extension Service—This department was separated from the Department of Community Program Service at the beginning of the second year of the biennium. Gilford W. Remington was appointed as its head. The number of visual programs furnished during 1946-47 was 13,581 and during 1947-48 was 17,361—an increase of 27.8 per cent.

TABLE V. CONTINUATION COURSES AND INSTITUTES, 1936-48

	1936-38	1938-40	1940-42	1942-44	1944-46	1946-48	Totals	Per Cent or Average
Number of courses	58	90	115	139	120	174	696	.....
Number of registrations	2,867	3,832	5,694	6,071	6,767	8,992	34,223	100
Minnesota	2,518	2,570	4,207	4,438	5,438	7,134	26,305	75
Other U. S. states	319	1,198	1,456	1,543	1,273	1,791	7,579	24
Foreign countries	30	64	31	90	56	67	339	1
Male	1,706	2,472	3,571	3,115	3,669	6,114	20,647	60
Female	1,761	1,360	2,123	2,956	3,098	2,878	13,576	40
Number on faculty	1,045	1,581	2,352	1,850	2,024	2,676	11,532	17
Course-hours	2,042	2,666 $\frac{3}{4}$	3,473 $\frac{1}{4}$	9,074	4,793 $\frac{1}{2}$	6,648 $\frac{1}{2}$	28,758	41
Course-days	317	429	538	1,470	841 $\frac{1}{2}$	1,678 $\frac{1}{2}$	5,394	8

Bureau of Current Affairs—The General Extension Division and the University Library jointly operate, on the first floor of the University Library, a reading room and special library service on matters of current interest to the public. This service is combined with a similar service in the realm of the fine arts. During each year of the biennium the count of daily users of the room totaled over 15,000.—J. M. NOLTE, dean.

TABLE VI. CONTINUATION COURSES AND INSTITUTES BY TYPES, 1936-48

Course	Number of Courses	Registra- tions	Minnesota	Other States	Foreign Countries	Men	Women	Number on Faculty	Course- Hours	Course- Days
Hospital service and public health	106	6,417	5,024	1,374	19	552	5,865	2,024	2,609¾	796½
Kenny technique (technicians, nurses)	38	537	29	476	32	10	527	261	7,062	1,140
Medical	144	5,716	2,814	2,735	167	5,007	709	3,343	8,754¼	1,699
Kenny technique (physicians)	24	441	46	376	19	414	27	188	699	136½
Educational	91	5,071	4,333	727	11	1,853	3,218	1,641	2,756½	462
Commercial	44	3,785	3,569	216	0	3,432	353	823	1,038¾	164
State-municipal functions	69	3,481	3,248	204	29	3,226	255	1,094	1,286¾	206
Technological	26	2,258	1,595	633	30	2,245	13	382	488	74½
Civic and cultural	32	1,636	1,511	124	1	253	1,383	432	870¾	143½
Social welfare	33	1,563	1,198	352	13	581	982	472	954¼	160
Dental	55	1,095	811	273	11	1,088	7	388	1,503½	299½
Legal	12	700	673	27	0	673	27	80	273½	47½
Pharmaceutical	11	545	497	46	2	425	120	202	251	33
National defense	6	506	505	1	0	450	56	147	155	22
Labor	5	472	452	15	5	438	34	55	55	10
Totals	696	34,223	26,305	7,579	339	20,647	13,576	11,532	28,758	5,394

TABLE VII. BIENNIAL ATTENDANCE BY TYPES OF COURSES, 1936-48

Course	1936-38		1938-40		1940-42		1942-44		1944-46		1946-48		Totals		Average Attend- ance per Course
	No. of Courses	Attend- ance	No. of Courses	Attend- ance	No. of Courses	Attend- ance	No. of Courses	Attend- ance	No. of Courses	Attend- ance	No. of Courses	Attend- ance	No. of Courses	Attend- ance	
Hospital service and public health	2	131	13	875	26	1,471	16	1,143	27	1,565	22	1,232	106	6,417	60
Medical	14	397	34	936	35	1,182	10	510	14	762	37	1,929	144	5,716	40
Educational	14	927	15	576	16	678	12	926	17	879	17	1,085	91	5,071	56
Commercial	2	328	1	184	9	1,025	9	514	10	926	13	808	44	3,785	86
State-municipal functions	7	332	10	475	12	610	11	506	14	691	15	867	69	3,481	50
Technological	2	83	6	294	5	181	3	314	4	394	6	992	26	2,258	87
Civic and cultural	12	429	2	60	1	35	6	442	8	503	3	167	32	1,636	51
Social welfare	3	129	4	212	1	29	1	48	15	696	9	449	33	1,563	47
Dental	.....	.....	2	63	4	131	3	103	3	49	43	749	55	1,095	20
Legal	.....	.....	1	52	3	145	3	175	2	164	3	164	12	700	59
Pharmaceutical	2	111	2	105	2	102	1	46	2	92	2	89	11	545	50
Kenny technique (nurses, technicians)	.....	.....	.....	.....	.....	.....	38	537	.....	.....	.....	.....	38	537	14
National defense	.....	.....	.....	.....	1	105	5	401	.....	.....	.....	.....	6	506	84
Labor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5	472	5	472	92
Kenny technique (physicians)	.....	.....	.....	.....	.....	.....	21	406	3	35	.....	.....	24	441	18
Totals	58	2,867	90	3,832	115	5,694	139	6,071	119	6,756	175	9,003	696	34,223	814

SUMMER SESSION

Enrollment—The Summer Session enrollment reached its all-time maximum in the first summer term of 1947. The enrollment exceeded 14,000 individuals in the first term and 12,000 individuals in the second. However, the 1948 Summer Session showed a decline to approximately 13,000 students in the first term and 10,000 in the second. The enrollment declined because the peak of veteran enrollment has passed and the University population is approaching its normal standard. Then, too, Summer Session attendance became optional for medical students in 1948, whereas it had been compulsory from 1942 to 1947, inclusive. Beginning in 1949, all medical students will be required to attend the first summer term.

Curriculum—No major changes in the curriculum have been incorporated during the biennium. Workshops were continued in the College of Education with the addition of a Workshop in Teacher Education.

The Institute of Spanish Studies was reinstated in the summer of 1947 without a residence house. A residence house was procured in the summer of 1948 and the popularity of the Institute continues.

Although the accelerated program of students has been formally discontinued in the Summer Session, the effect upon the curriculum in the Summer Session has so far not been noticeable. The relative enrollment in the various colleges is still practically the same as during the period of acceleration. The Summer Session enrollment in the Institute of Technology reached its peak in the summer of 1947 with a maximum of 5,050 students for the entire summer, but dropped to 4,761 in 1948—a decrease of 289. This drop was caused largely by the decrease in veteran enrollment.

Student Personnel—In the upper classes, student personnel numbered about the same as in the previous biennium, but the freshman classes show a decline. It is apparent that the crest of the veteran enrollment has passed into the upper classes. Veteran enrollment is not expected to be a governing factor in the next biennium.

Classes—The program in American Studies was continued through the biennium. Two new programs were introduced: one on Russia and the Far East, in 1947; another on the Scandinavian Area, in 1948. A tentative experimental course in the history of science was incorporated in the curriculum in 1948. One of the most interesting innovations was the Student Project for Amity Among Nations, a foreign travel course for the purpose of informing American students concerning the problems in foreign relations.

Recreation—During the summer of 1947 the University Theatre presented *All the King's Men*, *Squaring the Circle*, *The Male Animal*, *The Trojan Women*, and *Lysistrata*. During 1948, the plays were *Macbeth*, *Beggar on Horseback*, *What Every Woman Knows*, and *The Professors' Circus*. The latter, a new play, was written by William Davidson of St. Paul. Except for Friday matinees, houses were filled to capacity or near capacity for all performances. Critical comment was very favorable.

The recreation program included in its scope various excursions to places calculated to be of interest to out-of-town students; social dances held every Friday evening; a new opportunity, inaugurated this year, for swimming at the numerous city beaches; evening splash parties held twice a week at Cooke Hall; daily hours for recreational swimming in both the St. Paul and Minneapolis Campus pools; and tournaments in athletic sports. All were well attended and the interest evidenced in the various events testified to their success.

Graduate School—The Graduate School has continued to maintain its enrollment through the biennium at approximately 2,900 in the first term and 2,100 students in the second term, including the Mayo Foundation graduates, or a total registration, including duplicates, of about 5,000 for the session.

Trends—One of the effects of the war and the postwar period upon the Summer Session has been to increase the enrollment. Many teaching staff members are working four quarters of the year without any extended vacation period. There is serious need for the relief of this situation. The employment of these staff members through the entire Summer Session has been essential because of the demand on the part of the students. Possibly this demand for four quarters of study may continue. Acceleration of education to four quarters per year may become an established habit among students of the future.

The increased enrollment over prewar years, especially in the graduate division, necessitates the employment of higher salaried faculty members. This, in turn, has compelled the University to raise the Summer Session fees.—THOMAS A. H. TEETER, dean.

DIVISION OF LIBRARY INSTRUCTION

The biennium marked a decided upswing in the enrollment of the Division of Library Instruction. Since students enroll for the course in library science during their junior, senior, or graduate years, increased enrollment in the Division of Library Instruction was partly a result of the general University increase at the Senior College level. As a result, the 1948 Summer Session enrollment was the highest since prewar years.

Perhaps the most important characteristic of the biennium has been the inadequacy of the Division of Library Instruction to supply to libraries in the Upper Midwest, adequate numbers of qualified librarians to meet the serious shortage all over the area. In general, there were five or six times as many requests for persons to fill positions as there were available qualified students. No decrease in demand was noted at all during the biennium.

Accordingly, opportunities and compensation increased substantially. Beginning salaries for librarians averaged somewhere near \$2,400 during the biennium and many students with superior abilities accepted positions paying beginning salaries of close to \$3,000. Opportunities in all types of libraries increased substantially.

The new program adopted during the previous biennium proved to be satisfactory in every respect. Students were enabled to follow a well-planned program combining library science courses and courses in other departments. As a result, their preparation for librarianship was considerably improved. Additional experience with the new courses resulted in considerable improvement in the instructional program.—ERRETT W. McDIARMID, *director*.

INSTITUTE OF CHILD WELFARE

Research—In the biennium, 28 new research projects were undertaken. These, added to 8 projects carried over from earlier years, make a total of 36 active projects. Seventeen research projects were completed.

Nursery School and Kindergarten—The Nursery School was in session during 1946-47 with an enrollment of 42, and in 1947-48 with an enrollment of 45. The Kindergarten enrollment was 22 in 1946-47, and 24 in 1947-48. Both schools were in session during the first summer term each year.

Instruction and Enrollments—For 1946-47, the total enrollment in Institute classes on the campus, both undergraduate and graduate, was 3,084, and for 1947-48, 2,934. One student received the Ph.D. degree and six received M.A. degrees with majors in child welfare.

Parent Education—The parent education program is summarized in the accompanying table.

SUMMARY OF PARENT EDUCATION ACTIVITIES

	1946-47		1947-48	
	No. groups	Enrollment	No. groups	Enrollment
Extension courses				
Credit	5	57	6	103
Correspondence courses				
Credit	4	43	4	55
Non-credit	2	36	2	60
Study groups for parents	12	203	14	314
Lectures to parent groups	36		49	
Radio talks	11		16	

Publications—During the biennium, 31 scientific and professional articles, and 9 popular or semiprofessional articles, exclusive of book reviews, were published. Three monographs, *The Relation of Parental Authority to Children's Behavior and Attitudes*, by Marion L. Radke; *Intellectual Status at Maturity as a Criterion for Selecting Items in Preschool Tests*, by Katharine M. Maurer; and the *Application of the Rorschach Test to Young Children*, by Mary Ford, were published by the University of Minnesota Press, and a fourth monograph, *The Development of Reasoning in Children with Normal and Defective Hearing*, by Mildren C. Templin, is now in press. *Education in the Kindergarten*, by Neith E. Headley and Josephine C. Foster, was completely revised by Miss Headley.

Other Activities—During the biennium, members of the staff gave 243 lectures or addresses to various groups, societies, and organizations, both lay and professional. Exhibits for organizations, traveling libraries, radio programs, and a newspaper feature

going to many Minnesota weeklies, were made available as in previous years. 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 Members—During the first year of the biennium the same advisory committee served as in the preceding biennium, with T. R. McConnell, dean, College of Science, Literature, and the Arts, continuing as chairman for 1946-47. The following persons served in 1947-48:

Helen G. Canoyer, associate professor, School of Business Administration; John G. Darley, assistant dean, Graduate School; Ruth E. Eckert, professor of education and coordinator of educational research; Carl J. Eide, professor of plant pathology and botany; Ruth Harrington, associate professor of nursing and assistant director, School of Nursing; Palmer O. Johnson, professor of education; Thomas L. Joseph, professor of metallurgy; Robert J. Keller, assistant professor of education and associate director, Bureau of Institutional Research; Clifford Kirkpatrick, professor of sociology; Horace T. Morse, dean, General College; Maynard E. Pirsig, professor of law; Edward B. Stanford, associate professor and assistant University librarian; R. Edward Summers, dean, Office of Admissions and Records; Malcolm M. Willey, vice president, Academic Administration; Russell M. Cooper, assistant dean, College of Science, Literature, and the Arts, *chairman*.

Developments in the Central Office—In order to minimize confusion with other educational research agencies on the campus the term *institutional research* was substituted for *educational research* in the titles of both the central office and its advisory committee. The central office has continued to share quarters with the Bureau of Educational Research, Field Studies, and Surveys of the College of Education, but the location of these offices has been changed from 301 Eddy to 211 Burton Hall. Professor Ruth E. Eckert was named coordinator of educational research in order to relate more effectively the work of the two bureaus. Additional budgetary provisions during the second year of the biennium made it possible to add an associate director, Robert J. Keller, to the Bureau of Institutional Research staff and to extend the services rendered by the central office.

Studies of State Educational Problems—The research undertaken by the bureau during this biennium has included several studies that reach beyond our own campus but have definite implications for University policies and programs. Included among these studies was a series of investigations relating to the types of students served by the University Schools of Agriculture at Crookston, Morris, Grand Rapids, and St. Paul. Comprehensive appraisals of the training received at these schools were obtained from students, from parents of students, and from former students. Follow-up studies of high school graduates also held an important place in exploring educational needs of Minnesota. The vocational, social, and educational status of all high school graduates of 1945 was surveyed one year following their graduation, and a carefully selected sample of 1938 high school graduates was inventoried nine years after they left the secondary school.

Four other studies, bearing directly on the question of post-high-school opportunity in Minnesota, were conducted in cooperation with the Minnesota Commission on Higher Education. Three of these studies concern junior college developments, relating to trends in curricular offerings, the subsequent academic and work histories of junior college students, and the identification of areas of the state most in need of junior college facilities. The fourth investigation, initiated near the close of the biennium, is a follow-up study of students who were enrolled in Minnesota liberal arts colleges in 1939-40.

Admissions and Retention Studies—Problems arising from the University's unprecedented postwar enrollment were considered in several studies in the area of admissions and retention. One study canvassed the educational plans of veterans to determine how many intended to enroll at the University. Another explored reasons for changes in students' college plans between the time of their application for admission to the University and the time they normally would have matriculated. The third study probed the reasons students give for leaving the University without finishing their programs.

Studies in General Education—During the biennium the Bureau assisted in compiling a comprehensive bibliography in general education and inaugurated several evaluative studies in this area. A special grant of \$2,000 from the president's office was used to initiate special studies of the General College program. Also conducted in this period were less extensive evaluative studies of the communications courses offered by the College of Agriculture, Forestry, and Home Economics and the College of Science, Literature, and the Arts.

Examinations Studies—Closely allied with these evaluative studies were three projects dealing with the improvement of examinations. The new 800-item comprehensive examination prepared by the General College faculty was studied intensively. In a project undertaken cooperatively with the Psychology Department, relationships between four types of objective questions and a comprehensive oral examination in Psychology 144 and 145 were explored. The third examination study investigated possibilities of developing more effective achievement examinations in Economics 6 and 7.

Prediction Studies—The Bureau assisted in studying relationships between various background factors and the success of students in Physics 7, 8, and 9 of the engineering program. Studies also were undertaken to identify factors related to the academic success of students entering the Central School of Agriculture and the Duluth Branch.

Other Studies in Higher Education—In cooperation with the subcommittee on faculty promotional standards of the Senate Committee on Education, the bureau staff summarized educational literature on the evaluation of college teaching and surveyed promotional standards and practices at the University. Several studies focused on problems of the Senior College and Graduate School also were undertaken during this biennium, including surveys of the time required for completion of graduate programs and of the geographical area served by the Graduate School. Among investigations designed to clarify the role of foreign language requirements in graduate programs were an inventory of practices in other outstanding graduate schools and an analysis of the use our own graduate faculty members and advanced graduate students make of foreign languages in their professional work. The University College Study, which had been started in the previous biennium, was also carried forward, with concentration on identification of the patterns of interest and achievement shown by students admitted to the University College. Also initiated toward the close of this period was a study of the vocational significance of training acquired by students who major in sociology at the undergraduate level.

Cooperation of University Departments and Other Educational Agencies—The studies outlined above could not have been made without the active cooperation of many persons. Nine major divisions, including some forty departments of the University, helped to carry forward the studies of campus problems. Investigations undertaken jointly with the State Department of Education, the Minnesota Junior College Association, and the Association of Minnesota Colleges, extended such cooperative research to include all high schools, junior colleges, and liberal arts colleges in the state.—RUTH E. ECKERT, *coordinator*.

PUBLIC ADMINISTRATION CENTER

Fifteen students were enrolled in the graduate training program in public administration in 1946-47 and ten in 1947-48, bringing the total number enrolled in this program since its establishment in 1936-37 to 140. At the close of the biennium an effort is being made to bring our alumni records up to date. Information already has been received from more than half of our graduates, and the records many of them have made in government service in spite of the interruption of World War II are very gratifying. An alumni directory and a history of the training program since its inception twelve years ago are planned for the coming year.

An extension course in public administration was offered for the first time in the fall of 1947, the enrollment in which was drawn largely from government employees in the Twin Cities area, and a correspondence course is being introduced by the Extension Division in 1948.

The research activity of the Center in 1946-47 was devoted to a continuation of work on the series of administrative histories of state departments and agencies in Minnesota. In 1947-48 a portion of the time of the director and the entire time of the three half-time research assistants was devoted to the work of the Minnesota Constitutional Commission. Approximately thirty research reports and memoranda were prepared on various state and local governmental problems of concern to the Commission and its several study committees. An alumnus of the public administration training program served as director of research for the Commission.

The joint reference library of public administration materials—one of the best of its kind in the United States—and the information service to students and faculty with respect to government employment opportunities are important ancillary activities of the Center. The director of the Center served as chairman and member of three national and regional advisory committees concerned with the recruitment, training, and supervision of government personnel.

Since the termination of the grant from the Rockefeller Foundation in 1944-45, and the resulting discontinuance of preservice fellowships, the University of Minnesota has been seriously handicapped in recruiting graduate students of superior qualifications for training in public administration. Veteran educational aid and an increase from one to three in our part-time research assistantships have partially and temporarily compensated for this loss, but the need for fellowship aids in the future is imperative if Minnesota is to maintain its present position of high rank among the universities offering graduate instruction in this field. The gift of \$800 from alumni of this program, which was accepted by the Board of Regents in September, 1946 to establish the Public Administration Alumni Student Aid and Loan Fund, was an encouraging evidence of alumni loyalty and confidence in the future of the program. In addition to the need for fellowship funds, the Center needs a research associate who can assist the director in planning and supervising the research program and in preparing research reports for publication.—LOYD M. SHORT, *director*.

DEPARTMENT OF PHYSICAL EDUCATION AND ATHLETICS

In 1946, the department submitted a plan to meet the challenge of the post-war period. The objectives were to provide, insofar as possible, student development through participation in a balanced program of intercollegiate athletics, intramural athletics, physical education, and adapted physical education for the handicapped; an outstanding teacher-training program in physical education and recreation on both an undergraduate and graduate level; assistance throughout the state in community recreation, athletics, and physical education; and improved public relations. The proposed plan was developed to meet the needs of the students on the campus, the number of whom had increased from about 9,000 in 1941 to over 19,000 in 1946.

This plan was, in general, approved by the administration. During the biennium, the department directed its efforts to carrying out the plan. Great progress was made by all divisions in the expansion of programs, additions to the staff, development of new facilities, and the repairing and remodeling of existing facilities.

Each year the department conducts a number of special events in addition to the regularly 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:

1946-47

1. Intersectional Ice Hockey Series with St. James Canadian Club, Fort William, Brandon Elks.
2. State High School Championship meets in basketball, golf, tennis, wrestling, swimming, track.
3. Basketball tournaments: District 18, District 14, District 17, Region V, Twin Cities.
4. Twin City High School football game.
5. High School All-Star football game.
6. Twin City swimming, A.A.U. Swimming Meet, High School swimming meets.
7. Metropolitan Area and Twin City Track Championship meets.
8. State High School Coaches Clinic.

1947-48

1. Intersectional Ice Hockey series with Winnipeg Canadians.
2. State High School Championship meets in basketball, gymnastics, tennis, track, golf, wrestling, swimming, baseball.
3. Basketball Championship tournaments: District 18, Region V, Twin City High Schools.
4. Twin City High School football game.
5. Northwest Gymnastic Meet.
6. Metropolitan Area and Twin City Track Championship Meet.
7. N.C.A.A. Track and Field Meet and tryout for the U. S. Olympic Team.
8. State High School Coaches Clinic.

Intercollegiate Athletics—Intercollegiate sports were expanded by the increased number of games played and the numbers participating. Statistics are found in Table I.

Boxing was added as a new sport in 1946. The program has been well supervised and is developing good student interest both in participation and in attendance at bouts. The numbers competing increased from 45 in 1946-47 to 99 in 1947-48.

TABLE I. STATISTICS ON INTERCOLLEGIATE ATHLETICS, 1946-48

Activities and Head Coaches	Total No. Games		No. Conference 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. Numerals Awarded		No. Games Won		No. Games Lost		No. Games Tied	
	46-47	47-48	46-47	47-48	46-47	47-48	46-47	47-48	46-47	47-48	46-47	47-48	46-47	47-48	46-47	47-48	46-47	47-48	46-47	47-48	46-47	47-48	46-47	47-48	46-47	47-48	46-47	47-48
Baseball																												
MacMillan	13		11		2		139				52		25		16		18		4									
Siebert		26		12		14				84		23		21		18				98		32		3		14		10
Basketball																												
MacMillan	21	20	12	12	9	8	164	180	59	86	17	21	22	10	15	3	8		121		27		14	10	7	10	0	0
Boxing																												
Chisholm	4	6	1	1	3	5	45	99	31	39	29	15	16	6	10	9	6		68		6		0	1	3	5	1	0
Cross Country																												
Kelly	4	4	2	2	2	2	30	7	7	9	7	7	7	3	3	2	0		0		0		3	2	1	2	0	0
Football																												
Bierman	9	9	7	6	2	3	209	144	60	60	55	71	51	39	39	29	15		84		82		5	6	4	3	0	0
Golf																												
Bolstad	9	11	3	3	6	8	45	57	37	40	25	11	24	9	7	0	17		20		13		7	11	1	0	1	0
Gymnastics																												
Piper	5	10	2	4	3	6	44	47	15	14	6	6	6	5	6	4	0		32		8		4	8	1	2	0	0
Hockey																												
Armstrong	20		4		16		125				40		23		17		13						13		4		3	
Romnes		21		4		17		109		26		25		23		15		8		67		22		9		12		0
Swimming																												
Thorpe	7	7	5	5	2	2	75	51	30	34	21	15	20	10	6	5	13		21		14		5	3	2	4	0	0
Tennis																												
Brain	8	9	3	3	5	6	61	50	37	39	13	11	8	6	6	3	7		15		7		6	7	2	2	0	0
Track																												
Kelly	9	9	7	9	2	0	37	40	17	32	25	24	18	15	15	8	3		23		11		4	6	5	3	0	0
Wrestling																												
Bartelma	12		4		8		84				26		18		7		6						5		6		1	
Hanson		10		4		6		66		44		22		17		7		18		22		14		5		4		1
Totals	121	142	61	65	60	77	1,058	1,026	447	471	268	247	233	143	147	100	99		571		236		69	82	46	59	6	1

In 1946-47, freshmen were permitted to compete on our varsity teams. However, in 1947-48 the freshman rule was restored and freshmen squads in all sports were again established. During the biennium, "B" teams competed with outside institutions in a number of sports. The program was most successful and afforded an opportunity for competition for many who would otherwise not have been able to take part in the intercollegiate program.

The cost of operating the intercollegiate sports program was greatly increased during the biennium due to increased cost of travel, supplies, equipment, and administration. There are no indications of a reduction in the immediate future.

During the war period and immediately thereafter many changes in the conduct of intercollegiate athletics were made. These changes affected the principle and philosophy of our amateur code. They presented problems concerning the conduct of the University's program. These problems were set out in a report from the department staff to President Morrill. The president transmitted the report to the Senate Committee on Intercollegiate Athletics with a request that consideration be given to the questions of policy raised by the action of the Athletic Department staff.

The Senate Committee conducted a series of hearings for the purpose of securing factual data and opinions of those familiar as to possible remedies. Representatives of the department, the faculty, the alumni, the "M" Club, and the students appeared before the committee and gave a large volume of information. The committee also conferred with Commissioner K. L. Wilson of the Western Conference relative to recruiting, subsidizing, and enforcement of conference and N.C.A.A. rules and regulations. The committee reported their findings, conclusions, and recommendations. The two most significant recommendations were:

1. The University should continue to recognize and develop intercollegiate athletics on an amateur basis as an integral part of its educational program.
2. The University should encourage its alumni and friends to assist it in interesting students to enroll who will aid the intercollegiate athletic program as an integral part of its educational activities and who will help to achieve the highest possible competitive standings within the Conference in all sports. It should continue to subscribe to the policy of strict compliance with the rules and regulations of the Conference and N.C.A.A.

Physical Education—The physical education division has continued to operate programs in three main areas: teacher education, organized class physical activity programs, and intramural athletics.

The number of students in the teacher education curricula reached a new peak of 402; there will be a downward trend toward normal. A new curriculum in Recreation Leadership was established and was to be put in operation in September, 1948. This new program entitled Recreation Leadership Plan II is directed toward the training of men and women workers as distinct from administrators, teachers, etc. Under this new plan students otherwise qualified may be admitted to training even though they do not meet all of the academic requirements for entrance into the College of Education. The program is on a trial basis with all students being selected after approval of the Personnel Department of the College of Education and the Department of Physical Education.

During 1947-48, physical education was recognized by the Graduate School as an area in which graduate study may be pursued in addition to the M.Ed. The department now offers work leading to the M.A. and Ph.D. degrees with major emphasis in physical education.

The University is remiss in its duty to the students with regard to organized physical education. Only 1,015 elected to take work in 1946-47 and 1,854 in 1947-48. It is evident that some requirement is necessary if any appreciable percentage of students is to be reached. This is especially true with regard to the physically handicapped. Although the Health Service refers some students to the adapted physical education division, only a negligible number, about 45 each year, availed themselves of these services. It is recommended that an immediate requirement of at least one year of physical education for all men be adopted.

Intramural athletics has continued to promote an extensive schedule of recreational activities. The addition of new facilities, such as new fields, a golf driving tee, and a new field house, will benefit the program. There is still, however, a great need for additional out-of-door space. Table II provides statistics showing the extent and kind of participation.

Facilities—In the plan that was submitted and approved, definite recommendations were made as to facilities. They included acquisition of new property, new construction, and deferred maintenance. The following is a report of what was accomplished:

1. Deferred Maintenance: *Field House*—repair of outside walls, new aluminum roof, new lighting system, new coils in heating system, and a new public address system; *Stadium*—new public address

system, paved concourse and storage areas under the Stadium, painted concourse and made arrangements for repair of underlying structure and for new seats; *Northrop Field*—new lights; *Golf Course*—remodeled, repaired, and painted caretaker's house, repaired and painted club house.

2. New acquisitions of land and construction: *Golf Course*—acquired 18 acres, installed driving tee with electric lights, built two additional golf holes, installed watering system; *Intramural Field*—purchased seven acres and rented four acres, graded, fenced, installed watering system, electric lights for baseball and football fields; will develop 2 baseball fields, 3 football fields, and 6 softball fields with toilets, showers, and limited dressing rooms; *Tennis Courts*—resurfaced courts and installed electric lights; *New Field House*—400 x 200 building for indoor field with dirt floor for football, track, baseball, intramural, and physical education activities; *Remodeling Field House*—plans are being prepared for a basketball stadium with 20,000 seating capacity, ice rink for recreational skating and hockey with 9,500 seating capacity; *Enlargement of Stadium*—plans have been prepared to increase seating capacity by adding 20,000 seats.

TABLE II. INTRAMURAL PARTICIPATION*

Activity	Number of Men Participating, 1946-47	Number of Men Participating, 1947-48
Archery	C	C
Badminton	117	128 + C
Baseball	212	200
Basketball	2,080	1,807
Bowling	2,142	2,212
Boxing	100	110
Diamondball	1,122	1,309
Fencing	86	102
Golf	232	158
Handball	110	78
Hockey	320	380
Horseshoes	48	52
Skiing .....	.....	128
Squash	24	29
Skating .....	.....	54
Swimming	136	259
Tennis	252	278
Touchball	936	752
Track	211	228
Volleyball	333	375
Wrestling .....	.....	.....
Total number participants.....	8,461	8,639

C = class only.

* These figures include tournament play only. A large number should be added to bowling, golf, and tennis because many were accommodated who did not enter tournament play.

Athletic Ticket Office—Operations of the Athletic Ticket Office during the biennium increased approximately 30 per cent, due, in the main, to increased revenue handled and capacity attendance at home athletic events. At the same time, budget expenditures in 1947-48 were 45 per cent greater than in 1945-46.

During this period, football attendance increased from 42,500 per game to 57,900 and receipts rose 60 per cent. Basketball attendance jumped 28 per cent and receipts over 36 per cent. Seating capacities for basketball and hockey required a special ticket exchange for students and faculty resulting in additional expenditures.

Gross athletic receipts in 1946-47 were 125 per cent of 1945-46 while 1947-48 receipts were 146 per cent of 1945-46 and 116 per cent of 1946-47.

Public Relations—The offices of public relations and sports information were set up in 1946. Chester Roan, who directs the program in his capacity as assistant to the director of the Department, also serves in the capacity of executive secretary of the University of Minnesota lettermen's "M" Club. He spends considerable time in traveling throughout the state and adjoining territory addressing high school and civic groups, calling on newspaper editors and publishers, and alumni of the University. He also does contact work with high school coaches, principals, and superintendents. Mr. Roan handles all details of distribution of working press, and radio passes and requests from the country press of the state. He also deals directly with radio stations and networks wishing to broadcast Minnesota's athletic contests. Otis Dypwick is in charge of the sports information activities. He disseminates information to the press and radio, publicizes the activities of the Athletic Department, makes available accurate information on all staff members and athletes active in the intercollegiate sports program, keeps official statistics and provides summaries of all home athletic contests, provides copy for and edits the "M" Gazette, and edits the annual departmental handbook.—FRANK G. McCORMICK, *director*.

DEPARTMENT OF PHYSICAL EDUCATION FOR WOMEN

Enrollment—The average total of all individuals handled by the Department of Physical Education for Women in the 1946-48 biennium was 2,029, a figure similar to that of the last biennium. There was an increase over the last biennium of almost 100 per cent in participations in the college instructional program and of 25 per cent in registrations in the recreational program.

Chief Accomplishments—These projects were carried out during the biennium: A study of the reactions of 500 women students to the plan of administering information and experiences for meeting the common needs of all University women; the initiation of a study of student preferences in course sequence; a study of trends in the activity-offering of the department during the last ten years in relation to best thinking in the field.

An increasing amount of service has been given by the staff to groups outside of the University. During 1947-48, 8 of the 10 full-time staff members served 23 different national, district, state, and local organizations.

The enrichment program for meeting the common needs of all University women was reorganized; a start was made on a plan for meeting the specialized needs of the women of each college or department served; and approval was given by the College of Science, Literature, and the Arts to work in this department up to 6 credits.

The recreational activities program drew increasing registrations; an Outing Club was organized; a new program on the St. Paul Campus was developed; and new ways of recognizing student leadership were established.

The expansion of the student teaching program; the relating of all undergraduate skills and teaching technique courses to the department program of induction into teaching; the development of new course offerings, a new minor in dance, and a revision of the school health education minor; further progress on the guidance program of both undergraduate and graduate students and recognition of superior students—all these were achieved during the biennium.

The public relations program of the department has been expanded. A total of 3,512 contacts, for example, were made by mail. More than 500 persons were in attendance at three institutes and the two playdays conducted by the department during the biennium.

Problems and Plans—Personnel is still the number one department problem; holding present staff and finding adequately qualified women in this field are at this time probably equally a problem with finding available talent and securing higher salaries.

Successful recruitment of promising students to take professional training at the undergraduate level is contingent upon more extended contacts at both the high school and junior college levels; at the graduate level, successful recruitment is contingent directly upon Graduate School approval of the department to offer work toward the M.A. and the Ph.D.

Unless the department secures additional space for outdoor activity, both staff and student interest in that phase of our program will continue to deteriorate and the number participating in outdoor activity will continue to decrease.

The recreational needs of all University women that can be served through this department can only be met better through an increase in staff leadership and increased financial support.—*GERTRUDE M. BAKER, director.*

MINNESOTA GEOLOGICAL SURVEY

General—On the retirement of Professor William H. Emmons, Frank F. Grout became director in June, 1944. In June, 1946 Professor Grout requested that he be relieved from the duties of directing the survey so that he might devote his full energy to teaching and completing field work and reports previous to his retirement, June 30, 1948. George M. Schwartz, a member of the Department of Geology since 1919, was appointed director.

The biennium has been one of increasing activity largely made possible by additional funds provided by President J. L. Morrill and the cooperation of the United States Geological Survey. The hard work and enthusiasm of the part-time staff of the survey produces a volume and quality of work far beyond that which is ordinarily received for the amount expended.

Field Work and Projects Under Way—The most important field project is the Airborne Magnetometer Survey of the northern part of the state undertaken in cooperation with the United States Geological Survey. The initial work was laid out by the Minnesota Survey in the spring of 1947, and the Federal plane arrived in April and spent a month flying a large area in central Minnesota. The expense of this first work was largely borne by the Federal Survey, but a staff to work on compilation was furnished by the Minne-

sota Survey. The plane returned in August for another month's work on a 50-50 expense basis and again in May, 1948. A total of 22,000 square miles has been flown with traverse lines one mile apart. The very large amount of work of compilation is being carried forward continuously in Minneapolis and Washington. Mrs. Audrey Adrian has had charge of the compilation in the Minnesota Survey office and has rendered exceptional service. The results of this magnetic work will be of great value in further exploration for iron ore deposits. The first county reports will be released late in 1948, and additional reports will follow at short intervals.

An exhaustive investigation of the clay and shale deposits of Minnesota was started during the biennium under the general supervision of Professor George A. Thiel.

During the 1947 field season Kenneth Bickford and Donald Price sampled the high alumina clays of the Minnesota Valley and detailed studies on these samples will be carried out. Edward Bradley, on June 15, 1948, started a detailed study of the mineralogy of the clays and Charles Riley, field and experimental studies of possible bloating clays—a subject of considerable importance in the development of lightweight aggregates for concrete.

James Zumberge started in June, 1948, a detailed investigation of the geology and origin of Minnesota lakes. Information on this subject is an important foundation for the intelligent conservation of this valuable resource of the state.

Edward Lund has carried on, during the 1947 and 1948 seasons, a detailed study of the igneous and metamorphic rocks of the Minnesota Valley and adjacent areas in southwestern Minnesota.

Dr. W. C. Bell has been engaged in reorganizing, consolidating, identifying, and cataloging the Survey collections of fossils housed in the Geological Museum; he was assisted part time by Robert Berg, Mary Danos, and Howard Ellinwood—students in the Geology Department. In addition he has supervised the work of three graduate students engaged in a revision of the Cambrian stratigraphy and paleontology along the St. Croix and Mississippi Rivers. The Ph.D. thesis by Clem Nelson on the St. Croix area, and the M.A. theses by Oliver Feniak and Vincent Kurtz on the Mississippi area, will be submitted during the fall of 1948.

Publications—The following publications have been issued during the biennium: George A. Thiel, *The Geology and Underground Waters of Northeastern Minnesota*, Minnesota Geological Survey, Bulletin 32, 1947. Professor Thiel prepared a series of articles on Minnesota's mineral resources from Minnesota Geological Survey data. These were published as: *Minnesota's Mineral Heritage*, Minnesota Department of Conservation, Conservation Bulletin No. 12, 1947.

Bulletins on Cook County and the Cuyuna Range are being prepared by Professor Grout, and funds permitting, will appear during the next biennium.

A bulletin by G. M. Schwartz on the Geology of the Duluth Metropolitan Area went to press during the biennium and will appear late in 1948.

A series of articles on the geology of the state parks have been prepared by the director and other members of the Survey for publication in the *Conservation Volunteer*. Others are being prepared as space for publications becomes available.

Other Activities—As the work of the Survey increases, requests for information on many kinds of problems become more numerous so that a considerable part of the time of the director is used in answering these daily questions.—G. M. SCHWARTZ, *director*.

DEPARTMENT OF ALUMNI RELATIONS

Alumni officers—The officers of the General Alumni Association for 1946-47 and 1947-48 were Arthur R. Hustad, Arts '16, president; Arthur O. Lampland, Bus. '30, Law '34, vice president; Arnulf Ueland, Arts '17, treasurer; and E. B. Pierce, Arts '04, secretary.

Minnesota Alumnus—Continuous circulation-promotion campaigns helped to give the magazine a record number of subscribers during the 1946-48 period. A valuable by-product of the promotion mailings to nonsubscribers was an address-check on class, college, and geographical lists of alumni. Work was started on the revision of the printed directories of the alumni of various colleges of the University which were originally published by the magazine before the war. Initiated by the editor in the fall of 1947 was a football pictures project through which the official motion pictures of each Minnesota game were shown every week during the football season in numerous communities throughout the state. News emphasis in the magazine continued to be on the educational program and special services of the University to the people of the state.

Alumni advisory committee—This group, appointed by the Alumni Board and composed of representative alumni located at points throughout the state, meets annually with

the president and Board of Regents of the University at homecoming time. On November 8, 1946, a luncheon meeting was held in Coffman Union at which President Morrill analyzed the University's needs for the 1947-49 biennium. On November 7, 1947, at a similar meeting, President Morrill spoke of the problems and program of the University.

Alumni meetings—The following meetings were held during the years 1946-47 and 1947-48:

1946-47—September—Los Angeles (Minnesota State Society picnic); October—Chicago, Salt Lake City (organized), Madison, Wisconsin, Columbus (Ohio State game); November—New York City, Madison (Wisconsin game), annual meeting of Institute of Technology alumni, M Club, Homecoming—alumni advisory committee luncheon, alumni dinner (Minnesota and Purdue), journalism alumni; December—Chicago, Cleveland, Fairmont, Fox River Valley, Hibbing, San Francisco; January—New York City (luncheon for President and Mrs. Morrill), Duluth, Winnipeg; February—Faribault, Mankato; March—Alexandria, Hutchinson, Atlantic City (education alumni attending conference); April—Houston; May—Red Wing, Schenectady; June—Detroit Lakes, Old Faithful Lodge, Yellowstone Park; Alumni Day—Alumnae Club luncheon, general alumni dinner, class luncheons and dinners. The Minnesota Alumnae Club, the Gopher Club of Los Angeles, and the Minnesota Alumni Club of Schenectady held monthly meetings. Alumni in Washington, D.C., held meetings during the football season on the occasion of the football games.

1947-48—July—Los Angeles, San Francisco; September—Madison, Wisconsin; October—Omaha (Nebraska game), Detroit (Michigan game); November—New York City, Moorhead, Institute of Technology alumni, Homecoming—alumni advisory committee luncheon, general alumni dinner (Minnesota and Purdue), 1928 football team luncheon, M Club; December—Cleveland, Chicago (annual football dinner), Faribault (honoring E. B. Pierce), Fox River Valley, Kansas City, New York City, Schenectady; January—Des Moines; January 26-February 15—President and Mrs. Morrill and Alumni Director and Mrs. Pierce made a tour visiting the alumni units in the Pacific Northwest, including Great Falls, Spokane, Seattle, Portland, San Francisco, San Diego, Los Angeles, Denver, Kansas City, and St. Louis. The spirit and the enthusiasm of the alumni at these gatherings were very stimulating and heartening and left nothing to be desired. This was the first opportunity for the alumni in these areas to meet President Morrill and their appraisal of him on these occasions was very gratifying. The trip did much to insure the solidarity of the alumni organizations in the cities visited. February—Dallas (organized), Duluth (University Week Program), Fort Worth, Houston, Oklahoma City, education alumni attending conference at Atlantic City, Minnesota State alumni at Los Angeles, reunion luncheons of Minnesota dental classes; April—Red Wing, 1923 Civil Engineering Class reunion; May—Alexandria (honoring E. B. Pierce), Des Moines (organized), Fairmont (honoring E. B. Pierce), New York City; June—Alumni Day—Alumnae Club luncheon, General alumni dinner, class reunions. Monthly meetings were held by the Minnesota Alumnae Club, the Gopher Club of Los Angeles, and the Minnesota Alumni Clubs of Schenectady and Seattle.

Homecoming—The Alumni Association continued its practice of inviting to its homecoming dinner alumni of the institution represented by its football opponent, especially those living in the Twin Cities. Those representatives have shown great interest in our homecoming program and have been active on the planning committees. Purdue was our guest both in 1946 and 1947. In 1946, Frederick Hovde, alumnus of the University of Minnesota, former football star, and now president of Purdue University, was present and spoke briefly.

Alumni Day—In 1947, Alumni Day fell on June 13. The alumni dinner was held in the Coffman Union ballroom. Due to President Morrill's absence from the city, Theodore C. Blegen, dean of the Graduate School and an alumnus of the University, welcomed the alumni back to the campus and gave an interesting talk about the University. The quinquennial classes, those with numerals ending in 2 or 7, held class luncheons in Coffman Union and reported capacity attendance. In 1948, Alumni Day fell on June 11. President Morrill addressed the alumni. Outstanding Achievement Medals, awarded to alumni or former students who have achieved success in their chosen fields, were awarded to H. W. Wilson, '94, president and founder of the H. W. Wilson Company of New York City, and Dr. William W. Will, Medicine '05, physician at Bertha, Minnesota. Mr. Wilson and Dr. Will were the first recipients of this medal. The "Builder of the Name" medal, awarded to individuals who have assisted materially in the building and development of the University, was presented to E. B. Pierce, retiring director of alumni relations. Mr. Pierce was the second individual to receive this medal. He also received from the Alumni Association a watch and scroll. The quinquennial classes this year were those with numerals ending in 3 or 8. Their reunions (luncheons and coffee hours held in the Coffman Union) were very well attended.

Alumnae Club—In addition to its regular monthly meetings for members, the Alumnae Club sponsors on Alumni Day a luncheon for the early graduates of the University—members of the fifty-year class and older classes. This has become one of the highlights of the reunion period. On January 18, 1947, the Club held an institute in Coffman Union. The theme chosen was "The Plight of Education." Each year the club sponsors a University Theatre play as a scholarship benefit. Last year three scholarships were awarded to University students.

Greater University Fund—During the year, 1946-47, plans were consummated for launching a program of annual giving. Final impetus was given to the venture at a special

alumni dinner on May 26, 1947, following thorough discussion at Board meetings. In June, the Board of Trustees was elected, consisting of the following members: Alumni—Elmer E. Engelbert, Arthur R. Hustad, Ben W. Palmer, Parker D. Sanders, Mrs. Arnulf Ueland; Regent—Fred B. Snyder; ex officio—President J. L. Morrill, Vice Presidents Malcolm W. Willey and William T. Middlebrook. The alumni secretary is ex-officio secretary of the Board of Trustees. The establishment of this enterprise, the Greater University Fund, marks one of the most significant mileposts in Minnesota alumni history. A detailed report of the Greater University Fund follows.—E. B. PIERCE, *director*.

GREATER UNIVERSITY FUND

Following many months of preliminary work involving planning between the University administration and the Board of Directors of the General Alumni Association, approval of the program by the Board of Regents of the University, election of a Board of Trustees and approval of a budget, the Greater University Fund program was started on November 1, 1947 with the appointment of Stanley J. Wenberg as director.

The director immediately made a study of several eastern and midwestern university fund programs and returned with the following recommendations to the Board of Trustees:

1. The president's office should invite project proposals to be submitted by the University staff for consideration as projects to be promoted during the 1948 program year.
2. An advisory committee should be established to review the proposals.
3. The 1948 program should, in general, be limited to a direct mail effort with the publication of the following materials: (a) a quarterly newsletter—*The Greater University Report*; (b) a detailed explanatory booklet—*A Share in Greatness*; (c) an illustrated follow-up pamphlet—*Growing Out of the Soil of Democracy*; (d) an end-of-the-year reminder envelope—*There Is Still Time*.
4. The annual program should coincide with the calendar year.
5. The first annual program should be divided into two phases commencing April 15 and October 1.
6. Work should be started immediately on a master mailing list to permit an accurate mailing to 40,000 alumni and friends during the first year program—this figure to be increased to a maximum of approximately 70,000 during the first three years of operation.

These recommendations were approved by the trustees and are being effected. A total of 3,300 non-alumni were included in our first mailing list of approximately 35,000 names. The alumni list will be expanded to 40,000 by December 31, 1948.

A statement of purpose and an enumeration of objectives were also formulated and adopted as follows:

I. Purpose—To encourage and to enable alumni and friends of the University of Minnesota to share in forwarding the total educational program of the University, including teaching, research, and service for the public good, and to supplement the University's income through annual giving as well as through bequests and devises.

II. Objectives—To promote and stimulate the enrichment of the educational program of the University, especially those phases beyond the reach of normal income. Such a program for the future includes: (1) *Helping Students*—By providing more University scholarships, fellowships, and student aids; (2) *Building a Stronger Faculty*—By retaining faculty strength already achieved and by encouraging the recruitment of additional scholars and scientists of outstanding promise; (3) *Advancing Vital Research*—By expanding the University's research program to add to fundamental knowledge and to serve the social and economic interests of the state and the nation; (4) *Increasing Present Facilities*—By acquiring new and vitally needed equipment, materials, and research resources; and (5) *Expanding Services*—By strengthening all departments of the University in their teaching, research, and other services to the people of the state and the nation.

In addition to this, a Greater University Fund Alumni Advisory Council of forty-one members has been formed. While the Council is essentially honorary it will have a definite advisory function in the planning of the annual state and national program of the Fund.

Work has been started on a bequest folder to represent needs of the University considered to be within the objectives of the Greater University Fund. This should be ready for distribution late in the fall. Numerous miscellaneous projects have been started as integral parts of a fund office: files on donors to the University, miscellaneous fund activities in the state, outstanding alumni and friends, details of research and other phases of University activity, fund activities of other educational institutions, etc.

The Fund's clerical staff now includes five full-time and three part-time persons. Two offices are maintained: the business office in 209 Coffman Memorial Union and the mailing office in 114 Temporary South of Mines, Building B. The mailing office contains our addressograph machinery and files, our stock of printed material, and automatic mailing equipment.

On March 9, 1948, the Board of Trustees adopted in principle the report of the Projects Advisory Committee. The body of the report was not adopted in its entirety because it was the consensus of the Board of Trustees that no definite monetary goal be established for the first year.—STANLEY J. WENBERG, *director*.

CHARLES FREMONT DIGHT INSTITUTE FOR THE PROMOTION OF HUMAN GENETICS

Educational Program—During the biennium, a course in human genetics was offered for the first time. It fills one of the most important functions of the Dight Institute. Public lectures, sponsored by the Institute, were given by Professors Corner, Spiegelman, Gates, and Dobzhansky. The director gave lectures to representatives of adoption agencies, field nurses, social welfare workers, premarital groups, young parents, churches, and the intellectually curious. The lectures described some of the applications of knowledge of human heredity in the different fields of life.

Research—The study of the inheritance of various characters in man proceeded along the lines outlined in previous reports. The Institute was fortunate in obtaining a grant of \$6,925 from the American Cancer Society and one of \$2,527 from the U. S. Public Health Service to support the project on the biology of human breast cancer. The Graduate School has granted \$400 for a study on gene frequencies in man.

Acquisitions—A gift of considerable value was secured by the director from the Carnegie Institution. The first human genetics laboratory in this country was established by Dr. C. B. Davenport at the Carnegie Institution, Cold Spring Harbor, New York, and called the Eugenics Record Office. The Eugenics Record Office is now a part of the Dight Institute and represents an addition of over 40,000 pedigrees of human inheritance accompanied by a cross index of over 2,000,000 cards.

Human Genetics in Scandinavia—The director presented a paper at the Eighth International Congress of Genetics in Stockholm and attended the meetings devoted to human genetics. The primary purpose of the trip was to study the origin and functioning of the highly successful laboratories of human genetics there. It was discovered that when the Danish laboratory was founded in 1938, less than 100 cases of counseling in human genetics were handled during the year. Apparently these were mostly cases where the individuals concerned had learned about the laboratory in some accidental fashion, as has been the situation at the Dight Institute. Nine years later (1947) the Danish laboratory handled over one thousand cases a year, which, it is thought, approaches the demand from the population of perhaps 2 million people who are within reach of Copenhagen.

There are probably about 2 million people in Minnesota and neighboring states from whom clients for the Dight Institute might come. Consequently, to the extent which this region parallels Denmark, we can expect a five- to ten-fold increase in requests for advice in the next few years. It would not be possible to service this increase at present. An assistant with both Ph.D. and M.D. degrees is needed urgently to assist the director with the counseling in human genetics. It is hoped that funds to support such an assistant can be found.

Counseling and Public Service—A two-fold increase in human genetics counseling has already taken place. In the previous biennium (1944-46), there were 83 cases, while in the ten months from August to June (1947-48), 81 cases were accommodated. This increase was spontaneous, since no widespread attempts to inform the public of the existence of the Dight Institute have been made. The Dight Institute should make known its functions to all medical and welfare groups in the state on a systematic basis. Until funds for an assistant can be obtained, however, no increase in activity can be invited.—SHELDON C. REED, *director*.

INDUSTRIAL RELATIONS CENTER

The Industrial Relations Center was established on February 21, 1945 as an interdepartmental University agency, devoted to interdisciplinary professional training, industrial relations and labor market research, and service. Through this program, the Center seeks to improve the conservation and utilization of human resources through better industrial relations and effective cooperation between labor, management, and the public.

Organization—An all-University faculty committee is responsible for the policies and program of the Center. This committee is drawn from seven departments of the University

closely allied with the field of industrial relations. The faculty committee includes members from the departments of economics, psychology, public administration, engineering, sociology, business administration, and agricultural economics.

An Advisory Council consisting of representative citizens of Minnesota, selected to present the viewpoint of labor, management, and the public, counsels the Center on major policy decisions, appraises suggested research projects, aids in evaluating training needs and programs, generally facilitates the work of the staff, and interprets the Center's activities to the public.

The staff of the Center is composed of the director, two research associates—one of whom serves as assistant director—several faculty members, seven research assistants, one research scientist, two reference analysts, and four clerical assistants.

Training Program—The Center coordinates and sponsors several types of training in industrial relations: day and night school courses in several departments; and short courses, conferences, and institutes on selected industrial relations subjects of current interest, which are held in the Twin Cities, Duluth, and elsewhere in the state. Some typical subjects on which conferences were held during the biennium are: Taft-Hartley Act, problems of labor arbitrators, workmen's compensation and unemployment compensation, an annual conference on training and research in the field, an annual conference on current problems of industrial relations.

Research—The Industrial Relations Center has inherited the research program of the Employment Stabilization Research Institute, with the tradition of multi-disciplinary, segmental approach to labor market problems. In addition, research is directed toward evaluation and appraisal of industrial relations policies and practices in industry, labor organizations, and government.

Among the research projects completed within the biennium are studies of: (1) technical terminology in the field of industrial relations; (2) the readability of communications between managers and employees; (3) accounting methods and practices for use in local unions; (4) procedures used in conducting wage surveys; (5) job descriptions for some of the principal industrial relations positions in labor and business organizations.

Other research projects still in process include: (1) a critical analysis of the "aggregative" as compared with the "local" approach to labor market research and "full employment"; (2) a study of the possibility of providing a "package library" of industrial relations literature for small community libraries; (3) a pilot study of labor mobility, based on data collected in the sampling surveys maintained by the Employment Stabilization Research Institute in 1940 and 1941; (4) development of a standardized morale or job satisfaction scale to be used in the appraisal of employee attitudes; (5) extension of the study of functions performed by persons holding industrial relations jobs to include the educational, experiential, and personal qualifications required; (6) a critical appraisal of the part played by the Minnesota Labor Relations Act and related statutes; (7) a study of a local service industry to discover significant factors affecting the demand for labor; (8) revision and standardization of the Industrial Relations Classification and Placement Test; (9) a study of the determinants of variations in individual output under an incentive wage system; (10) development of Strong Vocational Interest measurements for manpower managers; (11) development of a selection program for department store personnel.

Service Activities—The reference room of the Industrial Relations Center provides service to representatives of labor, management, and government agencies, as well as to the public and to students. Important tools of the new profession, including approximately 1,000 books, 100 professional journals, 17 technical and specialized reporting services, and certain testing materials are available for reference use in the Center. The library staff also maintains a bibliographic service to provide reference lists for special problems. One of the bibliographies in greatest demand during the past year summarizes articles on compulsory arbitration. More than 2,000 copies were sent out in response to requests from 46 states.

An average of 650 persons use the reference room facilities each month, not including those whose requests for information are answered by mail and telephone.

The Center staff has been of service to many agencies and individuals through clinical counseling and advisory capacities. This type of service has been mainly concentrated within the Twin Cities area, although many inter- and intra-state inquiries are handled by mail and telephone.

An average of 70 public speaking engagements per year have been filled by staff members; because of lack of time and personnel, many more talks have been declined.

Publications—Results of research and special studies, as well as proceedings of the annual training and research conference, have been made available through the Center's bulletin series. In 1947, an arrangement was made with the University of Minnesota Press to publish and distribute the series. In the biennium, seven bulletins have been published.

In addition, a mimeographed Technical Report series presents results of studies dealing with technical manpower management problems.

Staff members have recently completed, under the title, *Local Labor Market Research*, the final report of a study of unemployment in St. Paul undertaken by the Employment Stabilization Research Institute in 1940-41.—DALE YODER, *director*.

DIVISIONS OF ACADEMIC ADMINISTRATION

OFFICE OF THE DEAN OF STUDENTS

Advising Foreign Students—The number of foreign students increased steadily during the biennium. The average number on campus was 283 in 1946-47 and 348 in 1947-48. The number of undergraduate foreign students has decreased markedly; in 1946-47 the ratio of undergraduates to graduates was one to two; in 1947-48 it was one to three. A total of 537 community contacts were arranged during the past year, including the Hibbing International Outing, the Minneapolis Rotary Club Luncheon, and the Minneapolis Junior Chamber of Commerce mixer.

The average number of counseling interviews per student has increased from four in 1946-47 to six in 1947-48. The increases are caused partly by increased services resulting from closer federal regulations and changing financial situations.

Coordinating Religious Activities—The position of coordinator of student religious activities was established during 1947-48. Dr. Henry E. Allen, an educator and former president of Keuka College, was appointed to this position in September, 1947. The coordination of the work of the 21 separate student religious organizations, functioning in connection with the Minneapolis and St. Paul campuses, has helped promote the general University policy of encouraging a multiplicity of well-rounded programs to serve the varied needs of students. During the year, 23,100 students voluntarily indicated their interests in the various religious organizations.

Loans and Scholarships—During the fiscal year 1946-47, 885 students were interviewed. This increased to 1,793 in 1947-48. In 1946-47, 338 applications for loans were made. Of these, 221 were approved totaling \$21,339.40. In 1947-48, 477 students filed 659 applications for loan assistance. A total of 592 loan applications were approved for 434 students involving \$49,414.

In 1946-47, scholarship assistance was given to 72 students totaling \$7,995.75. This increased in 1947-48 to 173 grants to 136 students for the amount of \$28,991.26.

Beginning in September, 1947, grants-in-aid were provided by the University to veteran students receiving assistance under Public Law No. 346 and No. 16. During the year 1,363 grants were made to 606 students for the amount of \$29,265.60. In 1946-47, 20 scholarship grants totaling \$1,756 were made to students by non-University organizations. In 1947-48, 24 such grants were made totaling \$2,270. During the first year of the biennium six students were approved for non-University loan assistance totaling \$1,250. The second year, five such grants were made totaling \$702.

During the biennium, the Bureau of Loans and Scholarships served as the authorized agent of the American Legion Auxiliary in evaluating applications for gift layettes. In 1946-47, 140 such applications were approved; this increased to 206 during 1947-48.

Since the entire financial aid program operates in the framework of financial counseling, a significant portion of the load involved aid with financial problems of budgeting, insurance, and purchase of homes, trailers, automobiles, furniture, and clothing. In addition to those who applied for financial aid, the bureau assisted 186 students with such problems in 1946-47 and 262 in 1947-48.

Mobile Speech Clinic—During the biennium the Mobile Speech Clinic of the University of Minnesota, operating on funds provided by the Minnesota Society for Crippled Children, has done outstanding work in giving 153,339 speech and hearing tests to school children in communities of the state. The percentage of marked speech disability in the 20 counties tested was 7.6 per cent for 5,250 cases. The hearing disability cases were 4 per cent for 2,979 cases. In 1946-47, 391 clinics were organized; in 1947-48, the total was 715. The enthusiastic reception of these services by the people of the state has been extremely gratifying.

Student Activities—The 1944-46 biennium was a period of transition for the Student Activities Bureau from a war-time program to a postwar period. An unusual increase in the volume of services to students and student organizations developed during 1946-48. The number and scope of organized extra-curricular activities showed a comparable increase. During 1947-48, 14,113 conferences were held with student leaders and student groups as compared with 7,092 during the preceding year.

The following table, comparing the two bienniums, is an indication of the marked expansion in extra-curricular life:

	1944-46	1946-48
Speaker approvals	179	443
Poster approvals	725	769
Post-office approvals	1,166	1,763
Party approvals	1,019	1,487
Eligibility checks	3,523	6,611
New organizations recognized	48	66
Organizations declared inactive	19	11

The funds of student organizations continued to increase as indicated in the following table:

	1944-45	1945-46	1946-47	1947-48
Deposits	\$131,019.08	\$223,209.39	\$405,367.14	\$469,112.66
Expenditures	125,176.70	209,786.81	384,781.51	473,032.42
Balance, June 30	34,967.86	48,390.44	68,976.07	65,071.51
Investments	34,243.81	41,368.81	66,428.31	78,923.31
Securities in custody	13,589.00	13,589.00	13,626.00	8,376.00

During the past two years, major staff effort has been directed toward creating an integrated pattern of extra-curricular life on a University-wide level.

The staff has continued a program of counseling services to individuals in the area of social adjustment, 330 cases being handled during this biennium.

During the past two years, an attempt was made to coordinate curricular and extra-curricular experiences of students. In addition, a program of individualized registration and orientation was established for new students in the undergraduate colleges. This program provided integrated testing, counseling, registration, and social activities in a single program for small groups of students not exceeding 50 in number for each two-day period beginning each August 1.

During the biennium, the place of fraternities and sororities on the campus was again reviewed and their status as recognized student organizations more clearly defined. All fraternal groups were brought within the financial supervisory policy of the Senate Committee on Student Affairs as administered in the Student Activities Bureau. Under the guidance and stimulation of the professional staff of this Bureau, fraternal groups undertook a study of restrictive membership practices in a fashion compatible with the educational nature and goals of the institution.

Other significant developments included the establishment of a student Legislative Action Committee and an expansion in the training of residential counselors and the extra-curricular program for residence units. All academic and professional fraternities, as well as men's and women's dormitories, now possess resident counselors. This development has enabled the University to embody its program of specialized personnel services into the daily life of students within residences. A larger number of programs of student political and social-action nature was sponsored during the past biennium than ever before as an outgrowth of the more mature interest pattern of the postwar college student.

Regularly scheduled staff meetings of employed workers were instituted to facilitate the coordination of religious groups, the student Union, the YMCA, the YWCA, and this Bureau.

There are now 312 officially recognized student organizations as compared with 303 in 1946-47.

Student Conduct—The number of individual discipline and rehabilitation counseling cases was 358 (262 men, 96 women) in the first year of the biennium and 369 (272 men, 97 women) in the second. During the two years of the preceding biennium the corresponding figures were 171 and 361.

In addition to these individual cases, there were five student organizations involved in disciplinary incidents in 1946-47. In 1947-48, there were eight. Non-student cases were reduced to four.

Of the 358 students involved in discipline situations during 1946-47, a total of 20 participated in more than one incident during the current or preceding years. The corresponding figure for 1947-48 was 30 out of 369.

Speech Clinic—During the first year of the biennium, the Speech Clinic provided clinical therapy for 246 students and during the second year, 962. There were 7,775 new student speech examinations during 1946-47 and 2,908 during 1947-48.

Student Counseling—Some phases of the essential services of the Student Counseling Bureau, and of their growth, are summarized in the following table:

	1946-47	1947-48
Total number of cases	4,222	4,785
Number of interviews	7,664	8,813
Case reports to other counselors	1,964	3,512
Case reviews and consultations	31	221
Number of psychological tests administered	193,311	158,837

The Educational Skills Clinic was provided with more adequate space during 1947-48. During the first year of the biennium 160 new students were aided in all phases of educational skills; during the second year, 196. The total number of student visits was 2,088 in 1946-47 and 3,260 in 1947-48. The number of students counseled in previous years, who returned during the current year, was 774 in 1946-47 and 1,246 in 1947-48. In 1946-47, 11,023 individual cases were handled for special and regular admission testing for the admissions committee of the college; in 1947-48, 5,719 cases.

The total number of counseling contacts registered at the faculty-student contact desk was 115,986. New cases registered increased from 5,747 in 1946-47 to 16,460 in 1947-48.

Student Housing—The residential status of each student enrolled in the University the fall quarter of each year was as follows:

	1946-47		1947-48	
	Men	Women	Men	Women
Parents' homes*	8,343	3,727	8,548	3,164
Commuting from suburbs	590	223	921	199
Relatives' homes	551	149	732	154
Friends' homes	256	104	372	123
Dormitories†	1,380	866	1,958	1,074
Fraternities or sororities	905	275	983	266
Cooperative houses		147		142
Apartments	1,808	344	2,136	309
Rooming houses	4,841	1,397	3,174	952
Own or rent own home	885	74	1,322	64
Employers' homes	118	119	161	126
	19,677	7,425	20,307	6,573

* In Minneapolis or St. Paul.

† Includes temporary facilities, prefabricated houses, trailers and quonsets, dormitories, Stadium, and facilities for the University nurses at Powell Hall, Miller Hospital, and Minneapolis General Hospital.

There has been a decided increase in the number of students who rent or own their homes and a steady increase in the number of students who commute to and from the suburbs (only 339 commuted in 1945-46).

The changed emphasis from a room-listing service to an active, aggressive attempt to locate and maintain adequate facilities has been continued. A preinspection and solicitation system makes more certain that the rooms students live in are acceptable according to social, moral, and hygienic standards. This change in type of service has resulted in a marked increase in the work of the Housing Bureau, as is indicated in the following:

	1944-45	1945-46	1946-47	1947-48
Interviews with householders	27	1,612	1,700	5,114
Interviews with students	4,093	16,144	18,008	10,942

The reduction in student interviews in 1947-48 reflects the decrease in proportion of new students in the student body and also the increasing effectiveness of the intensive work with the householders.

The number of approved rooming houses has continued to increase from 1,823 in 1946-47 to 3,370 in 1947-48.

During the first year of this biennium 1,048 Health Service inspections were requested. In 1947-48 the number was 1,845.

Attention to the housing problem of foreign students and the physically handicapped has been continued. Some limited service has been given to faculty in securing family housing.

Counseling Veterans—The veteran enrollment reached its peak during this biennium and has declined slightly during 1947-48. The fundamental program of the Bureau of Veterans' Affairs remains essentially as established during 1944-45: (1) orientation

and induction interviews for new veterans at the time of admission to college; (2) continued counseling and assistance at any time the veteran desires and needs assistance supplementary to that offered by other campus agencies; (3) exit interviewing to those veterans who are dissatisfied and wish to leave the University; (4) the issuance of vouchers for necessary books and supplies; and (5) the liaison office between the Veterans Administration, the student, and the University.

During the first year of the biennium there were 21,082 interviews with veterans. This number decreased to 17,389 for 1947-48. There were 97,864 book and supply vouchers approved during 1946-47 and 83,228 during 1947-48.

During this biennium significantly changed laws and regulations affecting the veteran were established. Subsistence was raised from \$65 to \$75 for single veterans, from \$90 to \$105 for veterans with one dependent, and to \$120 for veterans with more than one dependent.

Married veterans totaled 29 per cent as compared with 32 per cent during the 1944-46 biennium. Of those married 29 per cent had one child, 9 per cent had two or more children, and 62 per cent had no children. The comparable figures for the 1944-46 biennium were 26, 3, and 69 per cent.

University Veterans' Counseling Center—The Veterans' Counseling Center had 2,113 counseling cases during the first year of the biennium and 1,044 during 1947-48. In addition, 337 cases for reconsideration were processed in 1946-47 and 323 the following year.—EDMUND G. WILLIAMSON, *dean*.

UNIVERSITY OF MINNESOTA LIBRARY

On June 30, 1948 the total number of accessioned volumes in the University of Minnesota Library was 1,471,889. This represented an increase for the biennium of 97,065 volumes. Perhaps the outstanding fact regarding acquisitions during the biennium was that the flow of materials from foreign countries increased substantially—some materials coming through even from occupied countries. The University continued its policy of acquiring important periodical files to complete existing sets; and it added substantially to its book collections—particularly in Americana, Upper Midwestern Americana, English literature and history, and Swedish literature. A policy of utilizing "standing orders" from selected publishers resulted in the quick acquisition of many publications which the library otherwise would have had to order at greater cost and delay as individual titles.

The Library's holdings were also strengthened greatly by the addition of microfilm materials, particularly for newspaper files. Exchange relations with libraries and institutions abroad, seriously interrupted during and immediately after the war, were resumed on a substantial scale, and materials have come through regularly during the current biennium. Considerable time and energy has been spent in reviewing exchanges and selecting those items which will be of most use to the various University projects.

It should be noted further that the University Library, during the past year, has contributed substantially by gift of duplicates and exchange to the building of foreign libraries which were either damaged through war action or forced to do without American publications because of war-time shipping restrictions.

The biennium witnessed a heavy upswing in use of the University Library in practically all of its departments. As compared with a recorded circulation in 1944-45 of 436,623, the year, 1947-48, showed 793,905 volumes charged out—an increase of 81 per cent in four years.

Use of the Library was equally heavy in the reading rooms where actual circulation is not regularly recorded. During this biennium the use of periodicals, reference books, documents, and other similar types of materials increased from 17 per cent to 36 per cent over the figures of the previous biennium. Part of this is due to the increase of students at the upper-class and graduate levels and part is due also to improvements in the Library's organization, services, and personnel. Since the war, for example, it was possible to increase the staff in the Reference Department in order that more individual assistance might be given in locating and using some of our more complicated reference and documentary materials. As a result, demands on the time of the staff and actual use of the Library have actually increased even more than the statistics of recorded use will indicate.

Turnover among library personnel during this biennium has been rapid and has made for difficult problems in staffing the Library adequately. Several positions have remained unfilled for long periods and many positions have had several incumbents during a relatively short period. Raynard C. Swank, chief catalog librarian, resigned and was

replaced late in 1946 by Ray O. Hummel. Also during the biennium James M. Kingsley, Jr., was appointed to the position of librarian of the Medical-Biological Library.

As a forward step toward improving library facilities outside of the General Library, departmental libraries were officially authorized by the Regents for pharmacy and for mathematics-physics. Previous collections in both of these units have now been organized, staffed, and incorporated in the University Library system to give better service to users.

The significant achievements of 1946-48 lay principally in two areas: (1) strengthening and improving the acquisitions program, particularly because of the increased funds made available to the Library for the purchase of materials and the reopening of purchase and exchange relations with foreign countries; (2) remedying in part serious staff shortages, and thus enabling the Library to keep more nearly up to date in acquiring and processing material and providing more effective assistance to library users. Reading-room space in two temporary buildings provided some relief as far as seating capacity was concerned. However, the University Library building is still inadequate to take care of all who wish to make use of its rapidly growing resources.

The storage of books and materials presents a critical problem. Already the present capacity of the library building has been exceeded. Additional space must be found, either by way of departmental libraries or by semipermanent storage, or the Library must face the alternative of discarding material from its collections.

Finally, although the library has made some progress in acquiring adequate staff, there are still important personnel needs that must be met if it is to give to the University community the type of library service it deserves.—ERRETT W. MCDIARMID, *librarian*.

OFFICE OF ADMISSIONS AND RECORDS

In appraising and reporting activities such as the 1946-48 biennium brought to the Office of Admissions and Records, there is always present the hazard of merely reciting numerical gains and of dealing in superlatives of little significance. Student enrollments were by far the largest ever encountered. In terms of the number and magnitude of attendant problems and of the rate of flow of student personnel through the University, this biennium may have been the one of greatest effort for some years yet to come.

Two objectives were necessarily foremost in much of the work. First, it was imperative that the office carry the load occasioned by the unprecedented influx of students and be able to deal with the almost wholly new demand for admission. A second goal was that of reorganizing the staff in a new operational situation. It was required that this be done when the total office had grown so that it could no longer operate as a single compact unit, in which, essentially, every employee knew something of the work of every other employee. This was necessary during a great flux of employee personnel when, from various causes, the majority of all workers were untrained or of short tenure; yet there emerged such tangible progress and development that many of the new techniques will be carried forward as improvements useful in future years. Methods evolved in this time of stress should contribute to real growth of the services of the office to the applicant, the student, the alumnus, and the entire University community.

Numbers of students enrolled serve only as a partial index to the public contacts of the Office of Admissions and Records in this period. Even if normal conditions had prevailed, while enrollments increased greatly, many of the operations of the office would have been observed to follow a geometrical progression in their growth.

Bulletin distribution and mail handling were no longer incidental endeavors. Evaluation of advanced standing credentials became a great new task when every student-veteran acquired potential service-connected credits. The post-war years permitted a resettling of college populations of long-interrupted attendance and of widely diversified academic experience. Transcripts of their records at the University were supplied to thousands of former students to assist them in obtaining new employment or in proceeding with further training.

The correspondence and individual contact work of admissions suddenly became several times the volume normally associated with a given student attendance. Advent of emergency restrictions of undergraduates from outside of Minnesota, as a means of insuring first consideration to state residents, was a case in point. The work of the residency classification board, the Board of Review, which serves the office, grew beyond belief. Through the spring, summer, and fall of 1946, the Board dealt with an average of sixty cases each month. Those were only the most involved and difficult of the residency determinations and were screened from perhaps ten times as many total cases with which the office had to deal. Not only the volume of work incident to admissions, but also the normal upward march of separate college requirements with respect to difficulty

and detail, directed new attention to the necessity of better organization of all work in admissions. This need was met, in part, by creation of the position of admissions supervisor.

Board of Admissions—The Board of Admissions was reconstituted as of July, 1946, and the new members, appointed by the president, comprised a representative group largely from colleges and University agencies directly concerned with freshmen. Acting as a cabinet to the dean of admissions and records, the Board was assigned (1) to assist in difficult and borderline cases of admission, (2) to serve as a liaison group between the Office of Admissions and Records and the several colleges, and (3) to stimulate, coordinate, and apply research on the part of University agencies interested in the educational problems of admission. The new Board of Admissions has necessarily devoted much of its effort to the pyramiding enrollments, but the development of consistent and new admission policies continues to be its major objective.

Establishment of the Duluth Branch of the University necessitated the coordination of the registrar's work there with related customary practices on the campuses in Minneapolis and St. Paul. The Summer Session became a full normal academic quarter insofar as related duties of this office were concerned. It was necessary that the recorder's office provide much more extensive data to the faculties in the certification of candidates for some degrees; and other reports on graduates, such as those related to teachers' certificates, became more complex and more frequent.

Veterans' Billing—Preparation of primary statements for tuition and fees of student-veterans receiving benefits under Public Laws 16 and 346 became a major new activity of the office with the advent of thousands of veterans on the campus in 1946. Consolidation of supply and textbooks costs with tuition, certification of attendance by veterans, reporting of their programs or grades, and compliance with special requirements of the Veterans Administration all necessitated employment of new methods and of additional personnel.

Statistics and Statistical Machines—In order to give service on grades, student statistics, and the like, it became necessary to employ revolutionary techniques. The office installed punched card machines and incorporated their use, first in statistical procedures, and finally in matters of grade sorting and distribution.

Class and Space Scheduling—The University was forced to extend its instructional week to at least 54 hours in every department and to promote the utmost utilization of building space in order to proceed in any way within its inadequate facilities. There was established an office of room scheduling which coordinates the use of all classrooms in academic buildings. That office now expedites preparation of a quarterly class schedule which lists room assignments previously included in the former incomplete yearly class schedule. The office works extensively with instructional departments in making assignments of general purpose rooms and offices on the Minneapolis and St. Paul campuses and has primary responsibility for the utilization of temporary buildings. It has completed detailed surveys of room use and has classified rooms by kind, equipment, and ultimate usefulness.

Statistical Information and Tables—The University provided instruction during this period to the largest total group in its history, serving 68,687 individuals in 1946-47 and 65,175 in 1947-48. The largest previous number served was 45,588 in 1940-41. Of these groups, 36,578 in 1946-47 and 34,131 in 1947-48 were collegiate students enrolled during the academic year or Summer Session. The other students were enrolled in the evening or correspondence extension classes, continuation study courses, the schools of agriculture, including short courses, the University High School, Elementary School, and the Nursery School and Kindergarten.

Collegiate enrollment during the academic year reached an all-time high with 28,646 students registered fall quarter 1947, which was 80 per cent above the prewar record enrollment of 15,905 students in the fall quarter 1940. Of these students, 75 per cent were men and 25 per cent women. The prewar relationship was 60 per cent men and 40 per cent women. Male enrollment was 131 per cent above prewar. Women's enrollment, likewise, was 36 per cent above prewar. Veterans on the campus constituted 51 per cent of the student body. A policy of restricted nonresident enrollment maintained the percentage of nonresidents in the student body at below the prewar average despite an unprecedented demand for admission by out-of-state students. The percentage of nonresidents, including graduate students, was 14 per cent in 1946-47 and 13 per cent in 1947-48, compared to a 15 per cent prewar average. Enrollments increased to new high levels in all colleges except nursing. The greatest increases came first in those colleges accepting freshmen. The impact then moved on to the upper levels of instruction and to the Graduate School.

Enrollment in the School of Nursing declined partly because of discontinuance of the Federal Nurse Training Program and, perhaps, partly because of the abandonment of the three-year course.

The largest number of new students admitted to the University in any one year entered in 1946-47 when 7,478 freshmen from high school and 2,529 advanced standing students from other institutions enrolled. The prewar average was approximately 3,200 freshmen and 1,200 advanced standing students. The largest number of degrees granted by the University in any one year was awarded in 1947-48 when 6,167 students were graduated. The previous peak in the number of graduates was in 1940-41 when 3,409 degrees were awarded.

The first term Summer Session enrollment in 1947 was 15,804 students, more than twice the highest prewar summer enrollment of the year 1942, and comparable to the highest prewar fall quarter registration. The increase in summer attendance resulted primarily from the desire on the part of veterans to continue in college without interruption in order to complete programs of study in the shortest possible time.

Evening extension class enrollment also increased to a new high of 12,279 students during the year 1947-48, compared with the previous high of 8,429 students in 1939-40. Correspondence study enrollment has declined from 11,109 in 1944-45 to 5,598 in 1947-48, due to reduced demand, following demobilization, on the part of members of the armed forces. Correspondence study enrollment is still 70 per cent above the prewar figure of 3,221 in 1939-40. Enrollment in the Center for Continuation Study increased to a new high, with 4,994 students enrolled in 1947-48 compared with 3,980 in 1942-43.

There has been no significant change for a number of years in sub-collegiate enrollment in the schools of agriculture, University High School, Nursery School and Kindergarten, and Elementary School. The enrollment in this area was 1,814 in 1947-48 as against 1,885 in 1939-40. The adult short course program conducted by the schools of agriculture, which decreased during the war years, has increased during the biennium to near prewar level with 10,468 individuals participating in 1947-48, compared with 10,779 in 1940-41.

These, and other data, are found in the various charts and tables which follow.—
R. E. SUMMERS, dean.

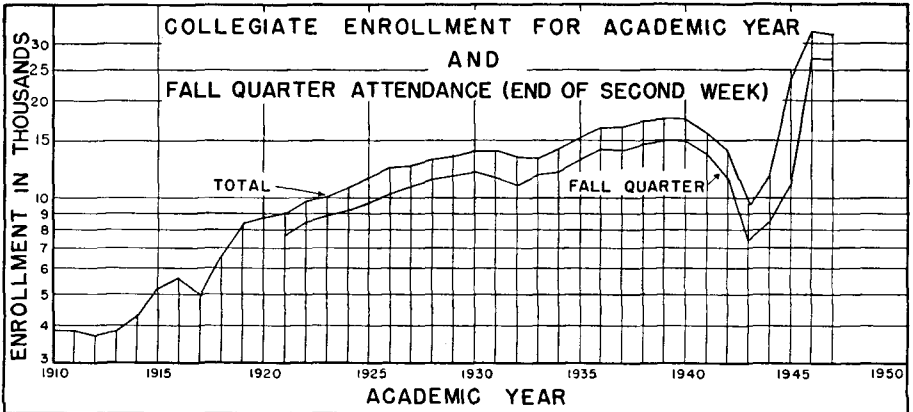


TABLE I. COLLEGIATE ENROLLMENT BY COLLEGES AND SCHOOLS, 1946-48

College or School	Year 1946-47			Year 1947-48			Gain	Loss
	Men	Women	Total	Men	Women	Total		
General College								
Second year	238	226	464	727	198	925	461	
First year	1,799	400	2,199	1,056	333	1,389		810
Adult specials	12	7	19	7	2	9		10
Totals	2,049	633	2,682	1,790	533	2,323		359
University College								
Seniors	74	45	119	84	44	128	9	
Juniors	64	40	104	49	20	69		35
Sophomores	33	17	50	14	3	17		33
Freshmen	13	7	20		1	1		19
Adult specials	4	1	5	4	2	6	1	
Totals	188	110	298	151	70	221		77
Science, Literature, and the Arts								
Seniors	407	505	912	663	481	1,144	232	
Juniors	876	628	1,504	1,276	532	1,808	304	
Sophomores	3,059	1,476	4,535	3,083	1,101	4,184		351
Freshmen	3,993	1,346	5,339	2,020	934	2,954		2,385
Adult specials	433	203	636	271	210	481		155
Totals	8,768	4,158	12,926	7,313	3,258	10,571		2,355
Institute of Technology								
Seniors	361	7	368	879	13	892	524	
Juniors	893	16	909	1,474	17	1,491	582	
Sophomores	1,686	32	1,718	2,085	6	2,091	373	
Freshmen	3,395	24	3,419	1,248	14	1,262		2,157
Adult specials	165	5	170	60	2	62		108
Totals	6,500	84	6,584	5,746	52	5,798		786
Agriculture, Forestry, and Home Economics								
Seniors	140	124	264	144	133	277	13	
Juniors	167	146	313	168	99	267		46
Sophomores	393	218	611	712	263	975	364	
Freshmen	721	188	909	510	161	671		238
Adult specials	84	26	110	63	20	83		27
Totals	1,505	702	2,207	1,597	676	2,273	66	
Law								
Seniors	39	1	40	69	3	72	32	
Juniors	71	4	75	165	1	166	91	
Sophomores	131	3	134	266	11	277	143	
Freshmen	507	14	521	337	9	346		175
Adult specials	9		9	23	2	25		16
Totals	757	22	779	860	26	886	107	
Medicine								
Interns	116	4	120	115	10	125	5	
Seniors	113	10	123	95	17	112		11
Juniors	98	8	106	79	18	97		9
Sophomores	75	16	91	100	5	105	14	
Freshmen	177	18	195	119	12	131		64
Adult specials	2	1	3	4		4		1
Totals	581	57	638	512	62	574		64
Medical Technology								
Seniors		67	67		65	65		2
Juniors		61	61	1	54	55		6
Adult specials		1	1		3	3		2
Totals		129	129	1	122	123		6
Occupational Therapy								
Seniors	16	24	40		52	52	12	
Adult specials	1	1	2		2	2		
Totals	17	25	42		54	54	12	
Physical Therapy	13	41	54	7	20	27		27
Public Health								
Seniors	24	130	154	20	139	159	5	
Juniors		64	64	2	93	95		31
Sophomores		147	147	7	98	105		42
Adult specials	21	55	76	38	60	98		22
Totals	45	396	441	67	390	457	16	

TABLE I.—Continued

College or School	Year 1946-47			Year 1947-48			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Nursing								
Third year		331	331		246	246		85
Second year		314	314		66	66		248
First year		103	103		88	88		15
Affiliated		291	291		145	145		146
Adult specials		21	21		16	16		5
Totals		1,060	1,060		561	561		499
Dentistry								
Seniors	89	1	90	31		31		59
Juniors	29		29	52	2	54		25
Sophomores	53	3	56	87	2	89		33
Freshmen	98	2	100	112		112		12
Adult specials	8		8	2		2		6
Totals	277	6	283	284	4	288		5
Dental Hygiene								
Second year		43	43		46	46		3
First year		53	53		47	47		6
Totals		96	96		93	93		3
Pharmacy								
Seniors	27	18	45	25	12	37		8
Juniors	30	11	41	70	10	80		39
Sophomores	86	15	101	139	10	149		48
Freshmen	190	15	205	122	11	133		72
Adult specials	16	2	18					18
Totals	349	61	410	356	43	399		11
Education								
Seniors	138	336	474	257	405	662	188	
Juniors	212	332	544	262	279	541		3
Sophomores	169	222	391	218	216	434	43	
Freshmen	235	142	377	163	133	296		81
Adult specials	130	228	358	105	159	264		94
Totals	884	1,260	2,144	1,005	1,192	2,197	53	
Business Administration								
Seniors	250	38	288	1,026	49	1,075	787	
Juniors	1,475	127	1,602	1,035	61	1,096		506
Adult specials	95	6	101	62	7	69		32
Totals	1,820	171	1,991	2,123	117	2,240	249	
Graduates (including Mayo Foundation)	2,919	776	3,695	3,105	736	3,841	146	
Veterinary Medicine								
Freshmen				24		24		24
Duluth Branch								
Seniors				63	43	106		106
Juniors				160	71	231		231
Sophomores				350	128	478		478
Freshmen				524	275	799		799
Adult specials				19	6	25		25
Totals				1,116	523	1,639		1,639
Totals academic year	26,672	9,787	36,459	26,057	8,532	34,589		1,870
Less duplicates	3,036	975	4,011	2,073	570	2,643		1,368
Net totals academic year	23,636	8,812	32,448	23,984	7,962	31,946		502
Summer Session								
First term	9,520	3,991	13,511	11,413	3,987	15,400	1,889	
Second term	8,512	2,582	11,094	9,450	2,391	11,841		747
Totals	18,032	6,573	24,605	20,863	6,378	27,241	2,636	
Less duplicates	7,856	2,221	10,077	8,754	2,039	10,793		716
Net totals Summer Session	10,176	4,352	14,528	12,109	4,339	16,448	1,920	
Mayo Foundation (graduates)	465	29	494	509	26	535		41
Net totals Summer Session (including Mayo Foundation)	10,641	4,381	15,022	12,618	4,365	16,983	1,961	
Grand totals collegiate	34,277	13,193	47,470	36,602	12,327	48,929		1,459
Less duplicates	8,619	2,273	10,892	11,860	2,938	14,798		3,906
Net grand totals collegiate	25,658	10,920	36,578	24,742	9,389	34,131		2,447

TABLE IA. VETERAN ENROLLMENT BY COLLEGES AND SCHOOLS, 1946-48

College or School	Year 1946-47			Year 1947-48			Gain	Loss
	Men	Women	Total	Men	Women	Total		
General College								
Second year	156	6	162	620	12	632	470	
First year	1,506	29	1,535	641	18	659		876
Adult special	12	2	14	7	1	8		6
Totals	1,674	37	1,711	1,268	31	1,299		412
University College								
Seniors	52	2	54	75	2	77	23	
Juniors	55	8	63	38	4	42		21
Sophomores	23	1	24	14		14		10
Freshmen	8	1	9	1		1		8
Adult specials	4		4	2		2		2
Totals	142	12	154	130	6	136		18
Science, Literature, and the Arts								
Seniors	281	22	303	567	53	620	317	
Juniors	550	41	591	948	85	1,033	442	
Sophomores	2,495	114	2,609	2,276	125	2,401		208
Freshmen	2,760	130	2,890	1,351	47	1,398		1,492
Adult specials	348	34	382	171	28	199		183
Totals	6,434	341	6,775	5,313	338	5,651		1,124
Institute of Technology								
Seniors	293		293	775	3	778	485	
Juniors	736	1	737	1,320	4	1,324	587	
Sophomores	1,400	5	1,405	1,819		1,819	414	
Freshmen	2,868	8	2,876	780	4	784		2,092
Adult specials	134		134	50		50		84
Totals	5,431	14	5,445	4,744	11	4,755		690
Agriculture, Forestry, and Home Economics								
Seniors	116	7	123	120	12	132	9	
Juniors	136	10	146	141	8	149	3	
Sophomores	315	21	336	590	24	614	278	
Freshmen	555	15	570	304	13	317		253
Adult specials	65	7	72	49	4	53		19
Totals	1,187	60	1,247	1,204	61	1,265	18	
Law								
Seniors	32		32	63		63	31	
Juniors	59		59	150		150	91	
Sophomores	104		104	256	3	259	155	
Freshmen	467	3	470	282	2	284		186
Adult specials	4		4	5	1	6	2	
Totals	666	3	669	756	6	762	93	
Medicine								
Interns				11		11	11	
Seniors	8		8	36		36	28	
Juniors	30		30	44	2	46	16	
Sophomores	49	1	50	80	3	83	33	
Freshmen	101	3	104	97	3	100		4
Adult specials				1		1	1	
Totals	188	4	192	269	8	277	85	
Medical Technology								
Seniors		1	1		3	3	2	
Juniors		7	7	1	9	10	3	
Adult specials		1	1					1
Totals		9	9	1	12	13	4	
Occupational Therapy								
Seniors				2	1	3	3	
Totals				2	1	3	3	
Physical Therapy	11	5	16	7	4	11		5
Public Health								
Seniors	11	23	34	11	61	72	38	
Juniors		47	47	1	56	57	10	
Sophomores		100	100	3	49	52		48
Adult specials	14	25	39	18	12	30		9
Totals	25	195	220	33	178	211		9

TABLE IA.—Continued

College or School	Year 1946-47			Year 1947-48			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Nursing								
Third year		6	6		2	2		4
Second year		3	3		6	6	3	
First year		6	6		6	6		
Affiliates								
Adult specials		7	7		3	3		4
Totals		22	22		17	17		5
Dentistry								
Seniors	32		32	7		7		25
Juniors	11		11	29		29	18	
Sophomores	33		33	112		112	79	
Freshmen	84	2	86	86	2	88	2	
Adult specials	3		3					3
Totals	163	2	165	234	2	236	71	
Dental Hygiene								
Second year					3	3	3	
First year		3	3		5	5	2	
Totals		3	3		8	8	5	
Pharmacy								
Seniors	22		22	17		17		5
Juniors	21		21	58		58	37	
Sophomores	72		72	84	2	86	14	
Freshmen	159	2	161	103	2	105		56
Adult specials	16		16					16
Totals	290	2	292	262	4	266		26
Education								
Seniors	83	19	102	238	66	304	202	
Juniors	167	50	217	244	40	284	67	
Sophomores	128	40	168	202	19	221	53	
Freshmen	177	7	184	99	5	104		80
Adult specials	67	16	83	69	11	80		3
Totals	622	132	754	852	141	993	239	
Business Administration								
Seniors	210	1	211	947	9	956	745	
Juniors	1,354	20	1,374	954	8	962		412
Adult specials	77	2	79	41	1	42		37
Totals	1,641	23	1,664	1,942	18	1,960	296	
Graduates (including Mayo Foundation)	1,636	64	1,700	1,474	14	1,488		212
Veterinary Medicine								
Freshmen				19		19	19	
Totals				19		19	19	
Duluth Branch								
Seniors				53	4	57	57	
Juniors				123	4	127	127	
Sophomores				275	6	281	281	
Freshmen				238	8	246	246	
Adult specials				14	2	16	16	
Totals				703	24	727	727	
Totals academic year	20,110	928	21,038	19,213	884	20,097		941
Less duplicates	2,044	65	2,109	1,655	59	1,714		395
Net totals academic year	18,066	863	18,929	17,558	825	18,383		546

TABLE IIA. COLLEGIATE ENROLLMENT BY QUARTERS, 1946-47

College or School	First Term, Summer Session, 1946			Second Term, Summer Session, 1946			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	247	45	292	158	23	181	1,471	513	1,984	1,499	455	1,954	1,442	409	1,851	2,103	653	2,756
University College	51	22	73	47	18	65	98	65	163	111	77	188	133	82	215	208	123	331
Science, Literature, and the Arts	3,128	1,055	4,183	2,840	603	3,443	6,480	3,377	9,857	6,155	3,013	9,168	5,798	2,873	8,671	9,322	4,675	13,997
Institute of Technology	2,312	15	2,327	2,203	14	2,217	5,585	61	5,646	5,434	61	5,495	5,172	52	5,224	6,711	85	6,796
Agriculture, Forestry, and Home Economics	422	132	554	370	80	450	1,203	597	1,800	1,229	573	1,802	1,132	568	1,700	1,589	752	2,341
Law	346	7	353	334	7	341	583	17	600	594	19	613	624	17	641	794	24	818
Medicine and Interns	435	44	479	425	44	469	434	46	480	402	51	453	420	47	467	596	60	656
Medical Technologists (including X-ray) .....	.....	37	37	.....	6	6	.....	124	124	.....	114	114	.....	131	131	.....	137	137
Nursing and Affiliates	1	976	977	1	942	943	.....	826	826	.....	719	719	.....	705	705	1	1,313	1,314
Occupational Therapists .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	18	18	.....	18	18	.....	25	25
Physical Therapists	8	27	35	8	29	37	12	37	49	8	21	29	8	18	26	14	47	61
Public Health	6	225	231	6	147	153	32	287	319	31	276	307	40	274	314	50	519	569
Dentistry	102	2	104	69	2	71	260	5	265	252	5	257	249	5	254	300	5	305
Dental Hygienists .....	.....	15	15	.....	6	6	.....	90	90	.....	72	72	.....	64	64	.....	107	107
Pharmacy	79	8	87	70	11	81	306	46	352	293	45	338	264	43	307	358	60	418
Education	514	880	1,394	335	368	703	612	934	1,546	653	932	1,585	656	926	1,582	1,220	2,011	3,231
Business Administration Graduate (including Mayo Founda- tion)	570	40	610	559	26	585	1,204	125	1,329	1,366	123	1,489	1,526	109	1,635	1,958	190	2,148
Totals	9,985	4,020	14,005	8,977	2,611	11,588	20,584	7,713	28,297	20,366	7,122	27,488	19,819	6,871	26,690	28,766	11,933	40,699
Less duplicates	29	25	54	12	5	17	225	90	315	264	54	318	280	85	365	3,108	1,013	4,121
Net totals	9,956	3,995	13,951	8,965	2,606	11,571	20,359	7,623	27,982	20,102	7,068	27,170	19,539	6,786	26,325	25,658	10,920	36,578

* This represents a net count of individuals with all duplicates deducted.

TABLE IIB. COLLEGIATE ENROLLMENT BY QUARTERS, 1947-48

College or School	First Term, Summer Session, 1947			Second Term, Summer Session, 1947			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	340	60	400	213	37	250	1,457	465	1,922	1,282	386	1,668	1,175	352	1,527	1,886	525	2,411
University College	79	49	128	61	33	94	113	58	171	111	54	165	101	48	149	127	77	204
Science, Literature, and the Arts	2,895	1,037	3,932	2,450	668	3,118	5,888	2,888	8,776	5,602	2,491	8,093	5,313	2,439	7,752	7,365	3,210	10,575
Institute of Technology	2,775	20	2,795	2,489	19	2,508	5,281	56	5,337	4,986	46	5,032	4,656	41	4,697	5,195	58	5,253
Agriculture, Forestry, and Home Economics	463	174	637	355	71	426	1,335	549	1,884	1,323	505	1,828	1,196	465	1,661	1,751	766	2,517
Law	529	3	532	514	3	517	737	21	758	748	24	772	696	18	714	885	25	910
Medicine and Interns	423	45	468	420	44	464	437	52	489	442	52	494	426	49	475	540	64	604
Medical Technologists (including X-ray)	1	42	43	1	18	19	.....	110	110	1	96	97	1	77	78	1	99	100
Nursing and Affiliates	.....	574	574	.....	573	573	.....	457	457	.....	384	384	.....	392	392	.....	811	811
Occupational Therapists	.....	13	13	.....	12	12	.....	29	29	.....	25	25	.....	27	27	.....	53	53
Physical Therapists	.....	2	4	.....	2	3	.....	16	23	.....	7	19	.....	7	14	.....	8	17
Public Health	.....	23	243	.....	7	165	.....	58	301	.....	123	200	.....	55	256	.....	311	466
Dentistry	.....	43	1	.....	44	40	.....	1	41	.....	266	5	.....	271	248	.....	4	252
Dental Hygienists	.....	.....	.....	.....	.....	.....	.....	.....	79	.....	79	.....	.....	79	.....	.....	69	69
Pharmacy	.....	96	6	.....	102	70	.....	6	76	.....	336	41	.....	377	328	.....	36	364
Education	.....	770	1,076	.....	1,846	500	.....	403	903	.....	787	974	.....	1,761	816	.....	996	1,812
Business Administration	.....	1,173	54	.....	1,227	980	.....	40	1,020	.....	1,649	92	.....	1,741	1,577	.....	96	1,673
Graduate (including Mayo Founda- tion)	.....	2,310	605	.....	2,915	1,857	.....	315	2,172	.....	2,501	557	.....	3,058	2,498	.....	525	3,023
Veterinary Medicine	.....	.....	.....	.....	.....	.....	.....	.....	24	.....	24	.....	.....	24	.....	.....	24	24
Duluth Branch	.....	.....	.....	.....	.....	.....	.....	.....	954	.....	478	.....	.....	1,432	.....	.....	954	458
Totals	11,922	4,013	15,935	9,959	2,417	12,376	21,830	7,228	29,058	21,070	6,476	27,546	20,210	6,333	26,543	26,819	9,965	36,784
Less duplicates	80	51	131	32	22	54	332	80	412	309	98	407	348	113	461	2,077	576	2,653
Net totals	11,842	3,962	15,804	9,927	2,395	12,322	21,498	7,148	28,646	20,761	6,378	27,139	19,862	6,220	26,082	24,742	9,389	34,131

* This represents a net count of individuals with duplicates deducted.

THE PRESIDENT'S REPORT

TABLE III. SUBCOLLEGIATE ENROLLMENT, 1946-48

School or Course	Year 1946-47			Year 1947-48			Gain	Loss
	Men	Women	Total	Men	Women	Total		
School of Agriculture (St. Paul) (three-year course)								
Seniors	60	33	93	79	27	106	13	.....
Juniors	156	38	194	196	24	220	26	.....
Freshmen	70	13	83	48	10	58	.....	25
Unclassed	38	3	41	19	3	22	.....	19
Totals	324	87	411	342	64	406	.....	5
Intermediate	14	4	18	10	18	28	10	.....
Total school registration	338	91	429	352	82	434	5	.....
School of Agriculture (Crookston) (three-year course)								
Seniors	75	35	110	77	35	112	2	.....
Juniors	93	33	126	72	35	107	.....	19
Freshmen	87	26	113	86	32	118	5	.....
Unclassed	10	1	11	10	.....	10	.....	1
Totals	265	95	360	245	102	347	.....	13
Intermediate	61	18	79	50	27	77	.....	2
Total school registration	326	113	439	295	129	424	.....	15
School of Agriculture (Morris) (three-year course)								
Seniors	75	34	109	73	33	106	.....	3
Juniors	92	34	126	94	32	126	.....	.....
Freshmen	84	37	121	103	32	135	14	.....
Unclassed	15	6	21	18	12	30	9	.....
Totals	266	111	377	288	109	397	20	.....
Intermediate	28	21	49	34	24	58	9	.....
Total school registration	294	132	426	322	133	455	29	.....
School of Agriculture (Grand Rapids) (three-year course)								
Seniors	12	.....	12	15	.....	15	3	.....
Juniors	35	.....	35	24	.....	24	.....	11
Freshmen	28	.....	28	27	.....	27	.....	1
Unclassed	12	.....	12	5	.....	5	.....	7
Totals	87	.....	87	71	.....	71	.....	16
Intermediate	19	.....	19	16	.....	16	.....	3
Total school registration	106	.....	106	87	.....	87	.....	19
University High School	133	156	289	159	151	310	21	.....
Nursery School and Kindergarten	37	38	75	41	40	81	6	.....
University Elementary School .....	.....	.....	.....	10	13	23	23	.....
Net totals schools	1,234	530	1,764	1,266	548	1,814	50

DIVISIONS OF ACADEMIC ADMINISTRATION

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TABLE III—Continued

School or Course	Year 1946-47			Year 1947-48			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Short Courses								
School of Agriculture (St. Paul)								
Agricultural institutional on the farm training program	44		44					44
Animal nutrition	150		150	151		151	1	
Artificial insemination	118		118	191		191	73	
Artificial insemination	47		47					47
Bankers' conference	300		300					300
Beekeepers	78	24	102	39	11	50		52
Boy Scouts of America	45		45					45
Butter manufacturers' symposium	152		152					152
Canners' fieldmen				119		119	119	
Cheesemakers	66		66					66
County extension secretaries					68	68	68	
Crop improvement day				500		500	500	
Dairy day				500		500	500	
Dairy fieldmen's conference	208		208					208
Dairy herd improvement association supervisors	105		105	72		72		33
Dry milk manufacture	86		86					86
Dairy products				375	3	378	378	
Editors	280	27	307	180	24	204		103
Egg grading and marketing	49	10	59					59
Electricity in agriculture	48	1	49					49
Fair management	64	6	70	89	5	94	24	
Farm and home				682	236	918	918	
Farm Bureau women		238	238		251	251	13	
Farm crops day	250		250					250
Farm income tax	385	40	425	383	41	424		1
Field inspectors	18		18					18
Flock selecting and pullorum testing agents	322	9	331	235	8	243		88
Florists	64	3	67					67
Flying farmers' day	200		200					200
4-H Club week	1,500		1,500	750	750	1,500		
4-H tractor maintenance	41		41	43		43	2	
High school congress	626		626					626
Home experience day		62	62					62
Horticulture	176	240	416	139	275	414		2
Livestock breeding association	400		400	300		300		100
Machinery servicemen				98		98	98	
Milking	81	1	82					82
Milling sanitation	216	4	220					220
Minnesota soybean				57	2	59	59	
Nutrition conference for home demonstration agents		50	50					50
Rose growers' day	44	54	98					98
Rural church institute	133	9	142					142
Rural state youth	131	50	181	119	74	193	12	
Seed and weed inspectors	62		62	65		65	3	
Swine feeders' day	243		243	317		317	74	
2,4-D use				292		292	292	
Vegetable growers' day	150		150					150
Veterinary medicine	66		66	112		112	46	
Vocational agriculture				827		827	827	
Totals	6,948	828	7,776	6,635	1,748	8,383	607	
School of Agriculture (Crookston)								
4-H Club	259	337	596	366	279	645	49	
Women's camp		141	141		118	118		23
Totals	259	478	737	366	397	763	26	
School of Agriculture (Morris)								
4-H Club	358	444	802	396	423	819	17	
Women's week					159	159	159	
Homemakers' week		126	126					126
Totals	358	570	928	396	582	978	50	
School of Agriculture (Grand Rapids)								
4-H Club	135	168	303	141	171	312	9	
Women's rest camp					32	32		32
Totals	135	168	303	141	203	344	41	
Totals, short courses	7,700	2,044	9,744	7,538	2,930	10,468	724	
Less duplicates								
Net totals, short courses	7,700	2,044	9,744	7,538	2,930	10,468	724	
Grand totals, schools and short courses	8,934	2,574	11,508	8,804	3,478	12,282	774	
Less duplicates								
Net grand totals, schools and short courses	8,934	2,574	11,508	8,804	3,478	12,282	774	

TABLE IVA. EXTENSION ENROLLMENT, 1946-48

Department or Course	Year 1946-47			Year 1947-48			Gain	Loss
	Men	Women	Total	Men	Women	Total		
General extension	6,660	4,758	11,418	6,953	5,326	12,279	861	.....
Extension short courses								
Analysis and design—steel				43		43	43	.....
Applied mortuary science	95	3	98	108		108	10	.....
Camping education workshop					23	23	23	.....
Commercial pilots' ground training	30		30	50		50	20	.....
Dentists					95	95	95	.....
Pilots' ground training	26		26					26
Post convention	15		15					15
World trade	67	16	83	34	4	38		45
Totals, short courses	233	19	252	235	122	357	105	.....
Less duplicates .....								.....
Net totals, short courses	233	19	252	235	122	357	105	.....
Correspondence study	5,229	2,450	7,679	3,410	2,188	5,598		2,081
Grand totals, extension	12,122	7,227	19,349	10,598	7,636	18,234		1,115
Less duplicates	165	98	263	147	72	219		44
Net grand totals, extension	11,957	7,129	19,086	10,451	7,564	18,015		1,071

TABLE IVB. CENTER FOR CONTINUATION STUDY ENROLLMENT, 1946-48

Course	Year 1946-47			Year 1947-48			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Administrative law				35	3	38	38	.....
American Academy of Periodontology	17	3	20					20
American studies	8	60	68	4	44	48		20
Anesthetists (nurses)		66	66		30	30		36
Assessors' school	3	88	91	191	6	197	106	.....
Audio-visual institute	23	13	36	37	15	52	16	.....
Bankers' conference	155	2	157	214		214	57	.....
Basic sciences	215		215	150	3	153		62
Camping education workshop		33	33					33
Cancer	108	89	197	170	189	359	162	.....
Cardiovascular diseases				77	3	80	80	.....
Ceramics and acrylics				11		11	11	.....
Chest radiology	66	2	68					68
Child care institute	11	54	65	9	41	50		15
Children's dentistry	19		19					19
Church music institute	26	52	78					78
Clinical dietetics		79	79		76	76		3
Community activities for public health services	1	82	83					83
County highway engineers	91		91	91		91		.....
County welfare	28	129	157					157
Crisis points in human relations of today	16	24	40					40
Crown and bridge work				3		3	3	.....
Dental caries				35	1	36	36	.....
Dental health workshop				28		28	28	.....
Dental prosthesis				6		6	6	.....
Dental roentgenology	59		59					59
Dental radiology	26		26					26
Dentistry				29		29	29	.....
Dentistry for children				27		27	27	.....
Dentistry, postgraduate training in	62		62					62
Dentistry, training in field of operative	7		7					7
Finance officers	36	6	42	45	6	51	9	.....
Full denture service	27		27	12		12		15
Health educators' conference	11	29	40					40
Hematology				2	269	271	271	.....
Hospital administration	17	44	61	23	37	60		1
Housing sanitation seminar	33	1	34					34
Immediate denture				53		53	53	.....
Income taxation	96	4	100	68	1	69		31
Industrial nursing	3	67	70		154	154	84	.....
Industrial relations	95	15	110	224	20	244	134	.....
Industrial security				41	3	44	44	.....
Institute for chronic alcoholism	52	11	63					63
Institute on municipal airport policies	18		18					18
Institute in resort operation	42	27	69					69
Institute on supervision	35	53	88					88
Labor institute				31	2	33	33	.....

TABLE IVB.—Continued

Course	Year 1946-47			Year 1947-48			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Labor law				190	11	201	201	
Language institute	20	16	36					36
Leadership				32	6	38	38	
Legal course in labor law				46	1	47	47	
Management of cooperatives	21		21	27		27	6	
Medical social service					42	42	42	
Mental hygiene				87	49	136	136	
Mining symposium	314		314	280		280		34
Modern dance				2	41	43	43	
Modern methods of instruction				276	26	302	302	
Motor vehicle fleet supervisors	32		32	33		33	1	
NAJD-NSPA				20	84	104	104	
Neurology				17	1	18	18	
Ophthalmology	56		56					56
Oral medicine seminar	66	1	67	88		88	21	
Oral surgery				31		31	31	
Otolaryngology				30	2	32	32	
Party responsibility	1	56	57					57
Pediatrics	14	4	18	54	3	57	39	
Periodontology				22	3	25	25	
Personnel procedures				26	28	54	54	
Pharmacy	40	5	45	38	9	47	2	
Physical education and recreation				18	12	30	30	
Plumbing school	6		6	7		7	1	
Plumbing and sewer school				3		3	3	
Poliomyelitis (after care)		80	80					80
Poliomyelitis (modern concept)	280	17	297					297
Probation and parole	37	16	53	50	15	65	12	
Proctology					20	20	20	
Psychiatric nursing					22	22	22	
Public health administration	20	43	63					63
Public health nursing (field teachers' workshop)		31	31					31
Pupal therapy				9		9	9	
Radio news	38	1	39	33	1	34		5
Radiography techniques				32		32	32	
Rail transport				27		27	27	
Rh factor conference	3	97	100					100
Resort operation				24	18	42	42	
Rheumatic fever and American Legion child welfare program	11	22	33					33
Sampling techniques	34	9	43					43
Sewer school	18		18	27		27	9	
Social and health concepts in basic nursing curriculum		65	65					65
Student Nurses' Association					40	40	40	
Supervision				38	55	93	93	
Supervisory workshop				21	19	40	40	
Surgery				104	1	105	105	
Territorial Centennial				32	8	40	40	
Traffic engineers' conference				35		35	35	
Tuberculosis	3	71	74					74
Tuberculosis control	20		20	8	78	86	66	
Vegetable dry oils symposium	302	2	304					304
Water school	22		22	31		31	9	
Water and plumbing school	9		9	3		3		6
Water, plumbing, and sewer school	15		15	17		17	2	
Water and sewer schools	4		4	4		4		
Welding	46		46	33		33		13
X-Ray technology					25	25	25	
Totals	2,838	1,569	4,407	3,471	1,523	4,994	587	
Less duplicates								
Net totals	2,838	1,569	4,407	3,471	1,523	4,994	587	

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TABLE V. ENROLLMENT SUMMARY, 1946-48

Division	Year 1946-47			Year 1947-48			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Collegiate students	25,658	10,920	36,578	24,742	9,389	34,131	.....	2,447
Subcollegiate students	8,934	2,574	11,508	8,804	3,478	12,282	774	.....
Totals	34,592	13,494	48,086	33,546	12,867	46,413	.....	1,673
Less duplicates	.....	.....	.....	.....	.....	.....	.....	.....
Net totals	34,592	13,494	48,086	33,546	12,867	46,413	.....	1,673
Extension students	11,957	7,129	19,086	10,451	7,564	18,015	.....	1,071
Center for Continuation Study	2,838	1,569	4,407	3,471	1,523	4,994	587	.....
Grand totals	49,387	22,192	71,579	47,468	21,954	69,422	.....	2,157
Less duplicates	2,001	891	2,892	3,068	1,179	4,247	1,355	.....
Net grand totals	47,386	21,301	68,687	44,400	20,775	65,175	.....	3,512

TABLE VI. COMPARATIVE ENROLLMENT FIGURES, 1946-48

Instructional Unit	1946-47			1947-48			Gain		Loss	
	M	W	T	M	W	T	M	W	M	W
General College	2,049	633	2,682	1,790	533	2,323	.....	.....	259	100
University College	188	110	298	151	70	221	.....	.....	37	40
Science, Literature, and the Arts	8,768	4,158	12,926	7,313	3,258	10,571	.....	.....	1,455	900
Institute of Technology	6,500	84	6,584	5,746	52	5,798	.....	.....	754	32
Agriculture, Forestry, and Home Economics (including schools of agriculture and agricultural short courses)	10,269	3,082	13,351	10,191	3,950	14,141	.....	868	78	.....
Law	757	22	779	860	26	886	103	4	.....	.....
Medicine (including Medical Technology, Nursing, Physical and Occupational Therapy, and Public Health)	656	1,708	2,364	587	1,209	1,796	.....	.....	69	499
Dentistry (including Dental Hygiene)	277	102	379	284	97	381	7	.....	.....	5
Pharmacy	349	61	410	356	43	399	7	.....	.....	18
Education (including High School, Elementary School, and Nursery School and Kindergarten)	1,054	1,454	2,508	1,215	1,396	2,611	161	.....	.....	58
Business Administration	1,820	171	1,991	2,123	117	2,240	303	.....	.....	54
Graduate School	2,919	776	3,695	3,105	736	3,841	186	.....	.....	40
Duluth Branch	.....	.....	.....	1,116	523	1,639	1,116	523	.....	.....
Veterinary Medicine	.....	.....	.....	24	.....	24	.....	.....	.....	.....
Summer Session (net)	10,641	4,381	15,022	12,618	4,365	16,983	1,977	.....	.....	16
Totals	46,247	16,742	62,989	47,479	16,375	63,854	1,232	.....	.....	367
Less duplicates	11,655	3,248	14,903	13,933	3,508	17,441	2,278	260	.....	.....
Net totals	34,592	13,494	48,086	33,546	12,867	46,413	.....	.....	1,046	627
Extension	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
General extension	6,660	4,758	11,418	6,953	5,326	12,279	293	568	.....	.....
Short courses	233	19	252	235	122	357	2	103	.....	.....
Correspondence study	5,229	2,450	7,679	3,410	2,188	5,598	.....	.....	1,819	262
Totals	12,122	7,227	19,349	10,598	7,636	18,234	.....	409	1,524	.....
Less duplicates	165	98	263	147	72	219	.....	.....	18	26
Net totals	11,957	7,129	19,086	10,451	7,564	18,015	.....	435	1,506	.....
Center for Continuation Study	2,838	1,569	4,407	3,471	1,523	4,994	633	.....	.....	46
Summary:	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Resident students	34,592	13,494	48,086	33,546	12,867	46,413	.....	.....	1,046	627
Extension students	11,957	7,129	19,086	10,451	7,564	18,015	.....	435	1,506	.....
Center for Continuation Study	2,838	1,569	4,407	3,471	1,523	4,994	633	.....	.....	46
Grand totals	49,387	22,192	71,579	47,468	21,954	69,422	.....	.....	1,919	238
Less duplicates	2,001	891	2,892	3,068	1,179	4,247	1,067	288	.....	.....
Net grand totals	47,386	21,301	68,687	44,400	20,775	65,175	.....	.....	2,986	526

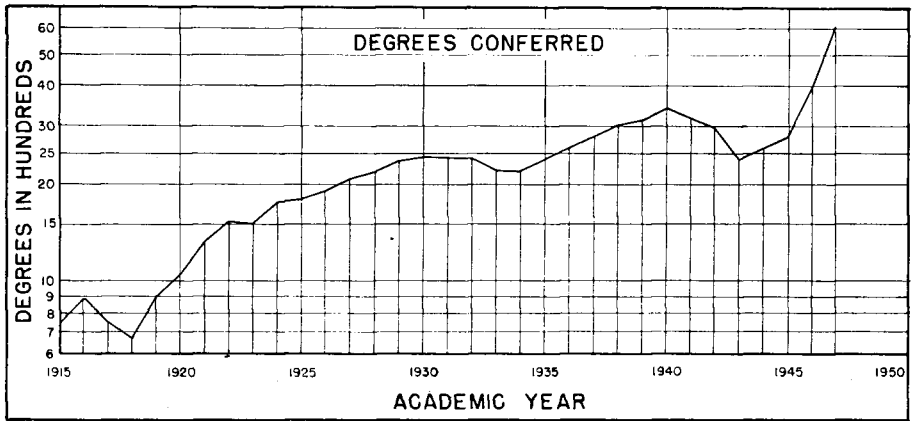


TABLE VIIIA. DEGREES CONFERRED, 1946-48

College and Degree	Year 1946-47			Year 1947-48		
	Men	Women	Total	Men	Women	Total
Science, Literature, and the Arts						
B.A. <i>summa cum laude</i>	4	2	6	8	2	10
B.A. <i>magna cum laude</i>	22	27	49	56	42	98
B.A. <i>cum laude</i>	22	39	61	53	34	87
B.S. <i>magna cum laude</i> .....	.....	.....	.....	.....	1	1
B.S. <i>cum laude</i> .....	.....	2	2	.....	.....	.....
B.S. in library science <i>cum laude</i> .....	.....	.....	.....	.....	2	2
B.A.	211	249	460	428	318	746
B.S.	12	9	21	4	9	13
B.S. in library science	2	7	9	3	4	7
Associate in liberal arts	20	27	47	74	30	104
Institute of Technology						
Bachelor of aeronautical engineering with high distinction	1	.....	1	8	.....	8
Bachelor of aeronautical engineering with distinction	7	.....	7	11	.....	11
Bachelor of aeronautical engineering	53	1	54	92	1	93
Bachelor of agricultural engineering with high distinction	1	.....	1	.....	.....	.....
Bachelor of agricultural engineering with distinction .....	.....	.....	.....	3	.....	3
Bachelor of agricultural engineering .....	.....	.....	.....	7	.....	7
Bachelor of architecture with distinction	2	.....	2	2	1	3
Bachelor of architecture	13	.....	13	6	.....	6
B.S. in architectural engineering .....	.....	.....	.....	1	.....	1
Bachelor of civil engineering with high distinction	2	.....	2	3	.....	3
Bachelor of civil engineering with distinction	6	.....	6	9	.....	9
Bachelor of civil engineering	29	1	30	70	.....	70
Bachelor of electrical engineering with high distinction	11	.....	11	8	.....	8
Bachelor of electrical engineering with distinction	8	.....	8	25	1	26
Bachelor of electrical engineering	45	.....	45	105	1	106
Bachelor of mechanical engineering with high distinction	1	.....	1	3	.....	3
Bachelor of mechanical engineering with distinction	15	.....	15	21	.....	21
Bachelor of mechanical engineering	90	.....	90	138	1	139
Bachelor of chemical engineering with high distinction	2	.....	2	5	.....	5
Bachelor of chemical engineering with distinction	3	.....	3	11	.....	11
Bachelor of chemical engineering	25	1	26	65	3	68
Bachelor of chemistry with high distinction	1	.....	1	2	1	3
Bachelor of chemistry with distinction	1	.....	1	4	.....	4
Bachelor of chemistry	5	1	6	15	1	16
Bachelor of physics with high distinction	1	.....	1	2	.....	2
Bachelor of physics with distinction .....	.....	.....	.....	4	.....	4
Bachelor of physics	1	.....	1	4	.....	4

TABLE VIIA.—Continued

College and Degree	Year 1946-47			Year 1947-48		
	Men	Women	Total	Men	Women	Total
Bachelor of geological engineering				2		2
Bachelor of metallurgical engineering with distinction	1		1	5		5
Bachelor of metallurgical engineering	9		9	11		11
Bachelor of mining engineering with distinction				1		1
Bachelor of mining engineering	4		4	6		6
Bachelor of petroleum engineering	1		1	2		2
B.S. in naval technology	1		1			
Agriculture, Forestry, and Home Economics						
Master of forestry	2		2	3		3
B.S. with high distinction (agriculture)				1		1
B.S. with distinction (agriculture)	5		5	7		7
B.S. (agriculture)	54		54	66		66
B.S. with distinction (fish and wildlife management)				2		2
B.S. (fish and wildlife management)	3		3	7		7
B.S. with high distinction (food technology)				1		1
B.S. with distinction (food technology)	1		1	1		1
B.S. (food technology)	3		3	2	1	3
B.S. with high distinction (forestry)	1		1	1		1
B.S. with distinction (forestry)	3		3	2		2
B.S. (forestry)	23		23	26		26
B.S. with high distinction (home economics)		2	2		5	5
B.S. with distinction (home economics)		5	5		10	10
B.S. (home economics)		51	51		75	75
B.S. with high distinction (science specialization)				1		1
B.S. with distinction (science specialization)	4		4	4		4
B.S. (science specialization)	4		4	6	1	7
B.S. (wildlife management)	2		2			
Agriculture and Education						
B.S. with high distinction (agricultural education)				2		2
B.S. with distinction (agricultural education)				7		7
B.S. (agricultural education)	16		16	13		13
B.S. with high distinction (home economics education)		2	2			
B.S. with distinction (home economics education)		5	5		5	5
B.S. (home economics education)		23	23		26	26
B.S. (home economics and nursery school education)					1	1
Agriculture and Business Administration						
Bachelor of agricultural business administration with distinction				1		1
Bachelor of agricultural business administration	8		8	5		5
Law						
Bachelor of laws	57	1	58	107	2	109
Bachelor of science in law	60		60	172	5	177
Medicine						
Master of public health	20	15	35	24	9	33
Master of hospital administration				10	1	11
Doctor of medicine	110	5	115	128	12	140
Bachelor of medicine	98	8	106	138	19	157
B.S. (medicine)	62	7	69	126	9	135
B.S. with high distinction (medical technology)		3	3		1	1
B.S. with distinction (medical technology)		9	9		7	7
B.S. (medical technology)		74	74		47	47
B.S. with distinction (occupational therapy)					1	1
B.S. (occupational therapy)					11	11
B.S. with distinction (physical therapy)	1	1	2	1	5	6
B.S. (physical therapy)	7	7	7	3	9	12
B.S. with high distinction (public health nursing)		3	3		7	7
B.S. with distinction (public health nursing)		22	22		26	26
B.S. (public health nursing)		73	73		112	112
B.S. (X-ray technology)		2	2		2	2
Graduates in nursing		320	320		274	274
Dentistry						
Doctor of dental surgery	86		86	33		33
Graduate dental hygienists		31	31		32	32
Pharmacy						
B.S. in pharmacy	23	10	33	20	9	29

TABLE VIIA.—Continued

College and Degree	Year 1946-47			Year 1947-48		
	Men	Women	Total	Men	Women	Total
Education						
Master of education	39	5	44	30	12	42
B.S. with high distinction	1	16	17	4	19	23
B.S. with distinction	9	31	40	30	42	72
Bachelor of science	94	225	319	158	287	445
B.S. in library science		24	24	1	22	23
School of Business Administration						
B.B.A. with distinction	4	2	6	30	1	31
B.B.A.	255	36	291	613	35	648
B.S. in economics	10		10	18	2	20
University College						
B.A. <i>magna cum laude</i>	1		1	2	1	3
B.A. <i>cum laude</i>	3	2	5	5	2	7
Bachelor of arts	28	18	46	29	23	52
B.S. <i>magna cum laude</i>	1	1	2	1		1
B.S. <i>cum laude</i>					1	2
Bachelor of science	12	11	23	20	2	22
General College						
Associate in arts	159	75	234	375	66	441
Graduate School						
Master of arts	190	102	292	234	119	353
M.A. in public administration	7	2	9	14	4	18
Master of business administration	4		4	8		8
Master of science	67	31	98	100	26	126
M.S. in aeronautical engineering	22	1	23	17		17
M.S. in agricultural engineering	3		3	13		13
M.S. in chemical engineering	3		3	10		10
M.S. in civil engineering	16		16	25		25
M.S. in electrical engineering	1		1			1
M.S. in mechanical engineering	21		21	23		23
M.S. in anesthesiology	3		3	3		3
M.S. in dermatology and syphilology	1		1	2		2
M.S. in experimental surgery						1
M.S. in medicine	13	4	17	39	1	40
M.S. in neurological surgery	1		1			
M.S. in neurology and psychiatry	1	1	2	1		1
M.S. in neurosurgery	3		3	4		4
M.S. in obstetrics and gynecology		2	2	5	1	6
M.S. in orthopedic surgery	1		1	6		6
M.S. in otolaryngology and rhinology				2		2
M.S. in pathology	1	1	2	2		2
M.S. in pediatrics		1	1	1	1	2
M.S. in proctology				3		3
M.S. in psychometrics	1		1			
M.S. in radiology	3	1	4	3		3
M.S. in surgery	22		22	56	1	57
M.S. in urology	1		1	7		7
Doctor of philosophy	74	7	81	95	10	105
Ph.D. in civil engineering				1		1
Ph.D. in medicine	1		1	2		2
Ph.D. in neurosurgery	1		1	1		1
Ph.D. in petroleum engineering	1		1			
Ph.D. in surgery	4		4	3		3
Duluth Branch						
B.A.				15	6	21
B.S.				33	39	72
A.A.					24	24
Totals (earned degrees)	2,360	1,644	4,004	4,244	1,923	6,167
Honorary degrees						
Doctor of Science	2		2			
Grand totals	2,362	1,644	4,006	4,244	1,923	6,167

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TABLE VIII. CERTIFICATES CONFERRED, 1946-48

School, Division, or Course	Year 1946-47			Year 1947-48		
	Men	Women	Total	Men	Women	Total
School of Agriculture (St. Paul)	63	31	94	79	42	121
Applied mortuary science	118	3	121	77		77
Child care		42	42			
Extension	10	5	15	16	3	19
School of Agriculture (Grand Rapids)	24		24	26		26
School of Agriculture (Crookston)	123	50	173	110	61	171
Operating room nursing					1	1
Physical therapy	3	22	25	2	17	19
Practical nursing					6	6
Psychiatric nursing					18	18
Pediatric nursing					2	2
Public health nursing		98	98		195	195
Surgical nursing					1	1
University High School	44	41	85	28	50	78
School of Agriculture (Morris)	82	50	132	56	31	87
Totals	467	342	809	394	427	821
Certificates of good standing	9		9			

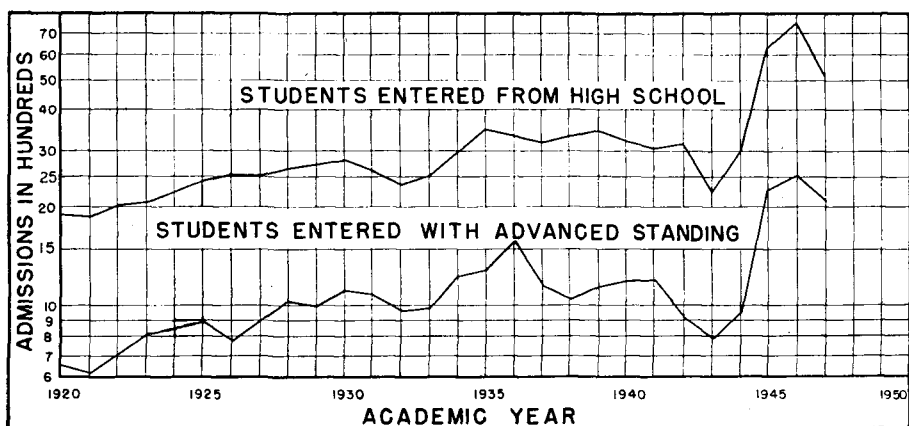


TABLE VIII.A. STUDENTS ENTERED FROM HIGH SCHOOL, 1946-47

Schools from Which Entrants Came	General College	S., L., and A.	Institute of Technology	A., F., and H. E.	Nursing	Dental Hygiene	Pharmacy	Education	Total
Minneapolis public	710	1,263	489	131	3	11	29	113	2,749
St. Paul public	332	461	201	52	7	5	13	38	1,109
Other Minnesota public	300	1,012	591	307	10	20	62	89	2,391
Minnesota private	138	235	68	23		2	6	15	487
Totals from Minnesota	1,480	2,971	1,349	513	20	38	110	255	6,736
From other states	56	369	164	54	6	1	13	50	713
From foreign countries	1	9	13	5					29
Grand totals	1,537	3,349	1,526	572	26	40	123	305	7,478

TABLE VIII.B. STUDENTS ENTERED FROM HIGH SCHOOL, 1947-48

Schools from Which Entrants Came	General College	S., L., and A.	Institute of Technology	A., F., and H. E.	Nursing	Dental Hygiene	Pharmacy	Education	Duluth	Total
Minneapolis public	433	817	222	99	3	6	14	83	3	1,680
St. Paul public	216	262	81	50	.....	1	4	10	.....	634
Other Minnesota public	191	538	195	210	.....	8	28	60	638	1,868
Minnesota private	96	141	36	25	.....	4	5	12	36	355
Totals from Minnesota	936	1,758	544	384	3	19	51	165	677	4,537
From other states	42	173	46	35	2	2	6	25	58	389
From foreign countries	3	8	6	.....	.....	.....	.....	.....	4	21
Totals	981	1,939	596	419	5	21	57	190	739	4,947
Unknown	23	86	13	39	1	1	.....	4	18	185
Grand totals	1,004	2,025	609	458	6	22	57	194	757	5,132

TABLE IXA. SUMMARY OF STUDENTS ENTERED WITH ADVANCED STANDING, 1946-47

Entrants From																	
	General College	University College	S., L., and A.	Institute of Technology	A., F., and H. E.	Law	Medicine	Medical Technology	Public Health	Physical Therapy	Nursing	Dentistry	Dental Hygiene	Pharmacy	Education	Business Administration	Total
Institutions in Minnesota	2	5	494	284	156	61	2	8	43	4	15	11	3	21	144	96	1,349
Institutions in other states	4	6	449	306	69	47	5	3	81	1	16	13	3	6	93	50	1,152
Institutions in foreign countries	.....	.....	11	11	2	.....	.....	.....	3	.....	1	.....	.....	.....	.....	.....	28
Totals	6	11	954	601	227	108	7	11	127	5	32	24	6	27	237	146	2,529

TABLE IXB. SUMMARY OF STUDENTS ENTERED WITH ADVANCED STANDING, 1947-48

Entrants From																				
	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	Total
Institutions in Minnesota	9	1	369	247	146	42	8	6	31	.....	1	8	28	5	35	93	83	.....	125	1,237
Institutions in other states	2	.....	210	107	55	23	2	1	79	.....	.....	14	10	1	6	67	35	.....	49	662
Institutions in foreign countries	.....	.....	1	4	.....	.....	.....	.....	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	21
Totals	11	1	580	358	201	65	10	7	125	.....	1	22	38	6	41	160	118	.....	175	1,920
Unknown	2	.....	30	17	25	2	1	1	8	.....	.....	2	.....	2	4	25	6	.....	5	147
Grand totals	13	1	610	375	226	67	11	8	133	.....	1	24	38	8	45	185	124	.....	192	2,067

TABLE XA. SUMMARY OF GEOGRAPHICAL DISTRIBUTION OF COLLEGIATE STUDENTS (OTHER THAN SUMMER SESSION), 1946-47

Location of Residence	Location of Residence																	Total		
	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	Duplicates
Counties in Minnesota																				
Hennepin	1,511	172	6,083	2,784	631	287	152	34	72	19	10	368	45	36	137	891	846	950	1,677	15,028
Ramsey	728	31	2,406	1,207	305	136	95	14	39	9	2	76	21	17	62	326	324	357	744	6,155
Others	386	69	3,192	1,942	1,063	264	268	44	127	11	12	344	110	35	176	636	635	721	1,119	10,035
Totals	2,625	272	11,681	5,933	1,999	687	515	92	238	39	24	788	176	88	375	1,853	1,805	2,028	3,540	31,218
Other states	56	26	1,209	465	194	61	121	34	193	3	29	270	95	7	35	233	185	1,364	459	4,580
Foreign countries	1		36	186	14	31	2	3	10		1	2	12	1		58	1	303	12	661
Grand totals	2,682	298	12,926	6,584	2,207	779	638	129	441	42	54	1,060	283	96	410	2,144	1,991	3,695	4,011	36,459

TABLE XB. SUMMARY OF GEOGRAPHICAL DISTRIBUTION OF COLLEGIATE STUDENTS (OTHER THAN SUMMER SESSION), 1947-48

Location of Residence	Location of Residence																	Total				
	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
Counties in Minnesota																						
Hennepin	1,334	102	5,001	2,396	651	321	157	31	68	19	7	188	53	40	114	768	953	898	7	9	1,002	13,117
Ramsey	650	43	1,931	997	320	160	81	17	33	9	2	33	34	13	47	335	329	432	3	2	407	5,471
Others	305	46	2,560	1,760	1,101	305	232	45	126	11	14	181	120	30	211	756	759	739	12	1,569	730	10,882
Totals	2,289	191	9,492	5,153	2,072	786	470	93	227	39	23	402	207	83	372	1,859	2,041	2,069	22	1,580	2,139	29,470
Other states	25	27	732	450	167	85	104	24	197	5	2	152	70	6	24	263	179	1,408	2	56	207	3,978
Foreign countries	2		23	41	8			1	19	2		1	11	1	1	3	6	324		3	7	446
Unknown	7	3	324	154	26	15		5	14	8	2	6		3	2	72	14	40			290	695
Grand totals	2,323	221	10,571	5,798	2,273	886	574	123	457	54	27	561	288	93	399	2,197	2,240	3,841	24	1,639	2,643	34,589

COFFMAN MEMORIAL UNION

During the biennium the Coffman Memorial Union staff and governing organization were faced with a student body approximately twice the size of that originally intended to be accommodated by the physical facilities of the building. However, the success with which the building and its facilities and services have been extended to yield the maximum benefits to the greatest number has been due predominantly to the accumulated knowledge and experience which had been developed during the preceding six years.

Finances—At the time the building was originally constructed in 1939, it was found necessary to sell some \$400,000 worth of interest-bearing bonds to meet costs of building and equipment. The final payment on the bonds was made during the past biennium, and the Union is now debt-free. Although the recent increase in salary and other operating costs have tended to absorb much of the annual net operating balance, what does accumulate in the future will be utilized to complete the expansion program outlined in the last biennial report. However, it is now quite apparent that the plans for constructing the new St. Paul Campus Union building and the addition to Coffman Union must necessarily be delayed longer than was originally indicated.

University Village—Shortly after the Como Avenue housing project was inaugurated it became apparent that students and their families living there would need a separate community center. Such a center, it was agreed, could continue to be of service to the residents of the low cost housing development which will succeed the present veterans housing program at that location. Efforts to secure a structure for this purpose from federal surplus were unsuccessful. Instead, a portion of a temporary classroom building was transferred to a site at the University Village, at a cost of approximately \$65,000, and is now being rapidly completed. The building houses approximately 6,000 square feet of space and will provide for a main assembly and lounge area, a canteen, a sewing room, community group offices, a study hall, and a nursery.

Although the project has been supported and financed from the outset by the Coffman Union Board of Governors, arrangements have been made for the establishment of a separate self-governing organization. The Board of Directors of the University Village includes seven student residents or their wives, one member appointed by the academic vice-president, the Village Union manager, and the director of student unions.

St. Paul Campus—The St. Paul Campus Union Board of Governors has continued its efforts during the past biennium to draft plans for a new community center. Although the plans for the building have not reached the blueprint stage, considerable progress has been made in drawing together the various agencies and groups which must ultimately arrive at a common basis of understanding before the building can be actually constructed and operated. Because of the increased building cost, the present recommendation is that the construction of the building be planned in two units, the first to include expanded social and recreational facilities as well as the type of food service now available in Old Dairy Hall.

With the cooperation of the St. Paul Campus administrative officials, the Union was able to secure two additional rooms on the second floor of Old Dairy Hall. These have been redecorated and equipped to serve primarily as an overflow for the commuters' lunch service which has overtaxed the Union facilities for many years. In addition they will make available needed conference room areas for groups in the late afternoons and evenings.

The recent occupation of the University Grove East housing project has presented an opportunity for the St. Paul Campus Union to become the focal point for the social and recreational needs of that new University community. Under the leadership of the director of the St. Paul Campus Union, and the volunteer committee from the Village, several exploratory social and recreational events for the residents have already been planned.

Building Renovation—A traffic survey made during an entire week in the 1947 winter quarter showed that an average of 20,000 individuals entered Coffman Union each day. For 1941, the comparative figure was 12,000. This constant flow of students makes the Union one of the most heavily used buildings in the Northwest. This traffic has resulted in considerable wear on the exposed surface areas, the furniture, and equipment. An agreement reached during the past biennium calls for the reconditioning of all of the major areas of the building. Initial steps have already been taken, under the direction of Johns Hopkins, University color consultant, to begin this process on a major scale.

The need for additional physical facilities in the building which were felt almost from the initial operating period in the Union has now become intensified. One of the most obvious and pressing needs is that of an additional ballroom equal in size to the present room. Only this additional facility can eliminate the constant conflict between the many varieties of campus activities which now seek access to this single room.

Union Program—In evaluating the program activities of the Union, it can be readily demonstrated that there exists a core of program activities which have been and will almost certainly continue to be of value and interest to students in meeting some of their basic recreational and social needs. Activities which teach or develop fundamental social skills such as instruction in dancing (modern and folk), bridge, and recreational games, Charm Inc., personal development courses, and many others can be identified in this group. However, no student activities program can long remain static. Subtle but significant social and economic forces produce factors which can be overcome only by an entire new approach or a major modification of former programs.

The past biennium has been no exception. Within a two-year period the campus has experienced a marked decline in participation in the major social dance activities, although the first year saw record attendance at similar events. Whereas crowds of four to five hundred were normal during 1946 at the afternoon and evening social dance parties, during the past year this average has been reduced to less than two hundred.

To offset this decline, the Union has explored new social media. The activities most successful have been the square and folk dance activities, the toastmaster and toastmistress clubs, the arcraft workshop program, and the men's clothing clinics. Television broadcasts, available within the Union building during the past few months, offer a new and unpredictable factor in the recreational area. This medium of recreation is almost certain to have a noticeable effect on existing programs. As with radio, the Union will pioneer this field and will draw from it what benefits there may be for students.

Sociologists, psychologists, and recreational leaders alike have urged the extension of the creative outlets in the fields of the arts and crafts as a highly desirable method of solving individual elemental emotional, social, and mental problems. Skills in this area are cumulative and are not usually discarded in adulthood as are many of the other recreational experiences. For these reasons it is extremely heartening to note the ever growing popularity of the Union Arcraft Workshop. A recent study shows that over 2,000 students worked on projects in the shop, and 2,000 others entered the shop on an exploratory basis. Improved ventilation, lighting, equipment, and staff instruction have been responsible for these results. The next major innovation in this activity will be the development of a photographic darkroom.

As a basis of comparison, the total student participations in all Union programs for the past two years were 120,000 in 1946-47 and 135,000 in 1947-48.

Board of Governors—The quality of student leadership on the Board of Governors during the past biennium has been above average. The male membership on the Board, which predominated, has consisted almost entirely of veterans. This group has been represented as lacking interest in student affairs; actually there is every evidence that veterans on the Board have equaled nonveterans in their interest, and their maturity has made for sounder policy-making.

Codification of and streamlining all the house rules by the House Committee and numerous opinion polls and surveys by the Public Relations Committee have made for the greatest single improvement in the Union operation, while the innovation of a weekend leadership camp for Union committee workers gave an equal improvement in the area of activities organization.

Looking Ahead—In contemplating the biennium to follow, the problems which will require careful consideration by the Union Board and staff are:

1. Attempting, in the face of mounting operating costs, to keep service charges low and net operating balances high in order to facilitate early expansion of facilities;
2. Striving to continue and speed up the process of renovating Coffman Union, building the new St. Paul Campus Union, enlarging Coffman Union, and locating and building an outing center;
3. Revitalizing the Union program committee system and improving volunteer student participation, and continuing to evaluate this area in terms of basic educational values and correlating these student experiences with their educational objectives;
4. Continuing to improve and enlarge services to the University community by increased efficiency of staff through application of sound personnel methods.

As always, the future presents a challenge to an organization which endeavors to measure up to the high objectives its founders have set for it.—G. RAY HIGGINS, *director of student unions*.

UNIVERSITY HEALTH SERVICE

The amount of illness among the student body has been remarkably low during this biennium. No epidemics of acute respiratory infections or influenza have been present, a condition shared by the whole country. During the summer and fall of 1946 an epidemic of poliomyelitis occurred in the state. Five University students having the disease were hospitalized in the Health Service, one death occurring. Three other deaths occurred, two from lymphoblastoma and one from a mediastinal dermoid cyst.

Personnel and Space Problems—To care for the great increase in students during this biennium, a temporary building located north of the Health Service was obtained. Without these added facilities it would have been impossible to carry on the health program. The Health Service dental department, eye clinic, record rooms, and offices for sanitary inspectors were moved to the temporary building in the fall of 1946. This made possible the use of space vacated in the main Health Service building for expansion of the mental hygiene clinic and the periodic health department.

During the biennium, plans have been developed for a new University Health Service building to house the out-patient facilities of the Health Service. The building is to be built next to the Botany building opposite the out-patient entrance of the University Hospitals. Hospital beds in the old Health Service and hospital will be used for hospitalized cases. Approval has been obtained for federal funds under the Federal Hospital Construction Act for one third of the cost.

Three new full-time physicians and two full-time psychiatrists have been added to the staff. While it is still difficult to obtain qualified physicians on a full-time basis, the number of part-time medical help available is greater.

Health Problems of Veterans—During the biennium the number of veterans on the campus reached an all-time high. With few exceptions, however, the health problems of veteran students have differed little from those of nonveterans. A higher incidence of tuberculosis has been found among the veterans, but the number with malaria and other tropical diseases which were seen two years ago has decreased.

Close cooperation has continued with the Veterans Administration in the care of students attending the University under Public Law 16, as well as those under Public Law 346. Every effort has been made to assist veterans to obtain needed medical care to which they are entitled through the Veterans Administration with as little expense as possible to the students. While this adds many administrative and reporting responsibilities, it is a service appreciated by the students.

A physician from the Health Service has continued to determine the medical feasibility of those students counseled in the Veterans Counseling Service.

General Program—The program of health examinations, individual health instruction, medical and hospital care, and supervision of environmental sanitation has been continued. In January, 1947, a 70-millimeter photofluorographic unit for the use of the Health Service and the University Hospitals was installed. This has made it possible to obtain a photofluorographic X ray of the chest of every student entering the University and of every student having a health examination.

Health Examinations—Complete medical examinations were given to over 23,000 students during the biennium. Examinations given in 1946-47 totaled 13,813—the largest number in history.

TABLE I. NUMBER OF COMPLETE MEDICAL EXAMINATIONS GIVEN

Year	Entrance	Periodic	Total
1938-39	5,245	3,759	9,004
1939-40	5,369	4,171	9,540
1940-41	5,865	3,415	9,280
1941-42	5,865	2,973	8,838
1942-43	5,944	2,977	8,291
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

Medical Care—More than 158,000 visits were made by students to the dispensary on the Minneapolis Campus for medical care and advice during the biennium. This figure includes only those visits made on a voluntary basis by students and not those made for some required part of the medical examination. In spite of the large number of visits, however, the average number of visits per student registered was low. The amount of medical care sought by veterans for minor illnesses is lower than for nonveteran students. One factor is that many of the veterans are married and are cared for at home for minor infections, whereas students living in dormitories or rooming-houses would obtain this care in the Health Service.

TABLE II. VISITS TO THE HEALTH SERVICE (MINNEAPOLIS CAMPUS)
FOR MEDICAL ATTENTION

Year	Number of Visits	Average Number of Visits per Student
1938-39	58,260	3.85
1939-40	53,212	3.48
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

Hospital Care—Because of the low incidence of respiratory infections during the period and the fact that there are many married students on the campus, the incidence of hospitalization during the biennium was one of the lowest in history. The rate of hospitalization per 1,000 students was about one third of that for the last biennium.

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
1938-39	1,405	92.9	7,353	5.2	Moderate influenza epidemic
1939-40	1,225	80.0	6,134	5.0	No epidemic
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

Mental Hygiene—In order to meet the needs of the large number of students and the apparent more pressing emotional problems, the mental hygiene division has been expanded during this biennium. Additional psychiatric help has been procured. A total of 1,174 new students was seen by the mental hygiene service during the biennial period. One hundred and sixty-four students were carried over from previous years for continued treatment. About half of the students referred for mental hygiene aid were veterans. Half of the students seen in the mental hygiene unit were referred by physicians in the dispensary, and over 20 per cent came voluntarily. In selected cases, groups have been formed for group therapy to take care of more students. This has proved satisfactory and is being continued and expanded.

Tuberculosis Control—The tuberculosis case-finding program has been improved with the use of the 70-millimeter photofluorographic unit. In addition to a tuberculin

test, every student, regardless of reaction to tuberculin, is given a chest X ray. Eighty-one cases of tuberculosis were found in students during the biennium as a result of the case-finding program. Of this number, about half were active cases.

In the spring of 1947, the University participated in the city-wide X-ray program conducted by the City of Minneapolis. Students, faculty members, and Civil Service employees were urged to have photofluorographic X rays at the several X-ray units stationed on the campus. Through this survey and the pre-employment examinations of faculty and Civil Service staff, eight additional cases of active tuberculosis were found.

Consultation Dietetic Service—Consultation service with a graduate dietitian has been continued. Students having special dietary problems due to disease or to overweight or underweight may be referred to the dietitian for aid. This service has been very helpful, although it does not take the place of the special diet table formerly available. Space is being planned in the new Health Service building so that the special diet table can be renewed.

Special Services—The refraction service has been taxed to the utmost during this biennium. There still continues to be a shortage of ophthalmologists available. This has made it necessary in some cases for students to wait several weeks before obtaining an eye examination. It is expected that during the coming year more help will be available. Expansion has been necessary also in several of the special clinics, such as the allergy clinic and the dermatology clinic, to take care of the increased number of students.

St. Paul Campus—Tables IV and V show the number of students given medical attention and hospitalization at the St. Paul Campus Health Service. During this biennium additional services have been made available on the St. Paul Campus. Dental service is now provided in the Health Service there, as is consultation service in dermatology and nose and throat. A refraction service has also been established. It is hoped that further consultants can be added to the staff at the St. Paul Campus to make these special services more easily available to students residing on that campus. The addition of these special services, as well as the larger enrollment, increased considerably the number of students given medical attention at the St. Paul Campus Health Service. The amount of hospitalization, however, decreased as it did on the Minneapolis Campus.

TABLE IV. ST. PAUL CAMPUS HEALTH SERVICE: OUT-PATIENT DEPARTMENT

Year	Medical Attention	Total Immunizations	Total Services Rendered
1938-39	4,743	1,840	6,583
1939-40	5,150	1,567	6,717
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

TABLE V. STUDENT HOSPITAL CARE (ST. PAUL CAMPUS)

Year	Number of Patients	Number of Hospital Days	Average Stay in Days	Comments
1938-39	256	1,089	4.3	Mild influenza
1939-40	238	1,039	4.4	No epidemic
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

Faculty Examinations—The Health Service has continued to give the required physical examination for all new members of the academic staff and for those promoted to positions implying tenure. During the biennium, 432 faculty medical examinations were done—exactly double those of the previous biennium. There was one rejection because of physical disability.

Civil Service Examinations—A total of 1,442 individuals applying for positions on the regular payroll of the Civil Service staff were given medical examinations in the Health Service during the biennial period. This is almost 600 more than were examined during the previous biennium. Twenty were found to have physical disabilities which prohibited employment for the particular type of work for which they were applying.

Environmental Sanitation—The Health Service is the public health agency responsible for the supervision of campus sanitation. In addition, it has the responsibility for the inspection of all off-campus student rooming houses for health and safety factors. The inspection of rooming houses has been greatly increased during the biennial period. Two additional full-time sanitary inspectors and some part-time staff have been employed to take care of the load. Close cooperation is maintained with the City Fire and Health Departments in the inspection program. The cooperation of the householders has been excellent. Student rooming-houses are examined annually and new houses taking students are inspected before University approval is given to them.

All food handlers employed on the campus, both full-time and part-time student help, are given annual medical examinations, as well as periodic inspections. Sanitary inspectors made routine visits to all University kitchens, cafeterias, and other places storing or serving food. Each year a lecture in food-handling and sanitation is arranged for all food handlers. Invitations for this course are sent to all of the boarding houses and fraternities in the University district, so that their food handlers may participate. All of the University swimming pools are visited weekly, where samples of water for bacteriological examination are obtained and general supervision given to the chlorination and cleanliness of the water.

Research—In the fall of 1946 the cold prevention studies carried on prior to the war were resumed. Several drugs and vaccines were used but none was found to be effective in the prevention of the common cold. Research studies on hypertension in students were started in 1947. Certain encouraging leads on changes in the blood chemistry in young adults with hypertension have been found. These are being investigated further under a grant from the Medical Research Fund of the Graduate School. A survey of the incidence of tuberculosis and certain fungus infections of the lungs in veteran and nonveteran students began in April, 1948. This study is financed by a grant from the National Research Council and Veterans Administration.—RUTH E. BOYNTON, M.D., *director*.

THE UNIVERSITY OF MINNESOTA PRESS

The twentieth anniversary of the beginning of Press operations fell within the biennium, and was celebrated during March of 1947. Much local and national publicity culminated in a dinner to which members and friends of the book publishing industry, both local and national, were invited. Many at a distance responded with letters and telegrams of congratulation. Some of these tributes from competent critics are worthy of preserving in the record.

Frederic G. Melcher, president, *The Publishers' Weekly*, wrote:

The twenty years of growth of the University of Minnesota Press has coincided with a period of rising importance of the publishing programs of university presses in the field of education. With increased encouragement from the university leaders and increased competence in editorial direction and practical management, there has been a development which both American scholarship and American book publishing is proud of. The University of Minnesota Press from its start received recognition for its sound editorial discrimination, its useful regional flavor, and the sound enthusiasm with which it has been directed.

From Norman Cousins, editor, *Saturday Review of Literature*, came this statement:

SRL editors have observed with real admiration the development of the Press and applaud you not only for your regional pioneering, but for important contributions to general publishing.

From John T. Frederick, critic and commentator:

The University of Minnesota Press has set new standards of public service and social significance for the entire nation. For the Middle West it has made literary history, and all of us in the region who are interested in better books look to it with gratitude. It is the most potent constructive force in the whole field of publishing in the Middle West.

During the same month of March, 1947, the Press moved into new, more attractive, more convenient, but unfortunately smaller quarters in Nicholson Hall. For the first

time, shipping and warehousing departments are under the same roof with the sales and business office, but the production and editorial departments suffered serious curtailment of space. This was at least one important factor in the slowing down of output during the following year. Other factors may have been the director's absence during the year 1947-48 on sabbatical leave, Helen Clapesattle's absence because of illness and death in her family, and the very large amount of work which Jane E. McCarthy handled for other University departments.

Our curtailed production of books coincided with a marked falling-off of book sales in the whole field of publishing, continuing the trend reported for the preceding biennium. Our income from sales decreased markedly in the spring of 1948 and at the same time manufacturing costs and overhead reached an all-time high. The crisis was met by generous subsidies from the President, and commitments have been made for a much-expanded program, which should show results during the next biennium and beyond. The situation, however, points up clearly the necessity of larger working capital for the Press if it is to serve adequately the long-range publishing needs of the University and the area.

A study of the list of publications for the biennium shows that the proportion of "mandated" books and pamphlets is unduly high for a sound, creative book publishing enterprise. By mandated books is meant books, pamphlets, or series, control of which is outside the Press as to selection, editorial content, and distribution. These include the bulletins of the Dight and Hormel Institutes, the various education series, the Child Welfare monographs, the Geological Survey bulletins, the Red Wing series, and the publications of the Industrial Relations Center. To illustrate one effect: in 1946-47, sales of the new publications of that year were 39.3 per cent of the total; in 1947-48 this proportion had dropped to 21.7 per cent. This is the more striking because in 1944-45 the percentage was 46.5.

Although results from our regional writing program have been a little slow, two volumes were published during the biennium: Bruce Nelson's *Land of the Dakotahs*, which has already had a second printing; and John Drury's *Historic Midwest Houses*. Four additional manuscripts are scheduled for publication in 1949, and at least two more fellowship authors are making good progress. The Rockefeller Foundation has made a new grant of \$25,000 to extend the program to 1951, but this grant does not provide for publication.

The Rockefeller Foundation is also financing a survey of American university presses, sponsored by the American Association of University Presses and directed by Chester Kerr, a New York publisher. We have cooperated fully and hope to benefit from the report to be published in April, 1949.

Following is a list of publications for the biennium, July 1, 1946 to June 30, 1948:

- Your Own Story*. Marion L. Faegre. (Fifth printing.) Issued: July 2, 1946. Edition, 19,390.
- Biology and Social Problems* (Bulletin No. 4, The Dight Institute). Issued: July 26, 1946. Distributed by Dight Institute. 21 pages. Paper. 6 x 9. Edition, 1,400.
- Public Health and Medical Care in Red Wing and Goodhue County* (No. 10, Community Basis for Postwar Planning series). Phyllis P. Harris and Ruth E. Boynton. Published: August 15, 1946. Price: 50 cents. iii plus 23 pages. Paper. 6 x 9. Edition, 1,500.
- Red Wing and the Postwar Challenge* (No. 11, Community Basis for Postwar Planning series). Roland S. Vaile. Published: September 20, 1946. Price: 50 cents. vi plus 38 pages. 9 illustrations. Paper. 6 x 9. Edition, 2,043.
- Intellectual Status at Maturity as a Criterion for Selecting Items in Preschool Tests* (Child Welfare Monograph series, No. 21). Katharine M. Maurer. Published: September 4, 1946. Price: \$2.50. ix plus 166 pages. 23 illustrations. Cloth. 6 x 9. Edition, 810.
- Birds in the Garden and How to Attract Them*. Margaret McKenny. (Reprint.) Issued: September 14, 1946. Price: \$5.00. xviii plus 349 pages. 16 color plates and 86 halftones. Cloth. 7 x 9½. Edition, 4,700.
- On Second Thought*. James Gray. Published: October 19, 1946. Price: \$3.00. vi plus 264 pages. Cloth. 5½ x 8½. Edition, 5,000.
- The Relation of Parental Authority to Children's Behavior and Attitudes* (No. 22, Child Welfare Monograph series). Marian J. Radke. Published: October 25, 1946. Price: \$2.00. x plus 123 pages. 8 illustrations. Cloth. 6 x 9. Edition, 1,000.
- The Application of the Rorschach Test to Young Children* (No. 23, Child Welfare Monograph series). Mary Ford. Published: October 25, 1946. Price: \$2.00. xii plus 114 pages. 21 illustrations. Cloth. 6 x 9. Edition, 1,000.
- Better Than Laughter*. Mildred Louise Boie. Published: November 16, 1946. Price: \$1.50. vi plus 68 pages. Paper over board. 5½ x 8½. Edition, 1,000.
- Land of the Dakotahs*. Bruce Nelson. Published: November 23, 1946. Price: \$3.75. ix plus 354 pages. 34 illustrations and map. Cloth. 6 x 9. Edition, 4,938.
- Understanding Ourselves*. Marion L. Faegre. (Third printing.) Issued: November 26, 1946. Edition, 10,000.
- American Architectural Books*. A list of books, portfolios, and pamphlets on architecture and related subjects published in America before 1895. Published: December 27, 1946. Price: \$6.00. viii plus 130 pages. Board covers. Edition, 451.
- Unfinished Business: Minnesota's Needs in Higher Education*. Statewide Committee on Higher Education. Issued: January, 1947. Distributed by Committee on Higher Education. 16 pages. Paper. 7¾ x 10. Edition, 3,050.

- American-Australian Relations.* Werner Levi. Published: February 14, 1947. Price: \$2.75. iv plus 184 pages. Cloth. $5\frac{1}{2} \times 8\frac{1}{2}$. Edition, 2,077.
- Child Care and Training.* Marion L. Faegre and John E. Anderson. (Seventh revised edition.) Published: February 28, 1947. Price: \$3.25 trade; \$2.50 text. vi plus 310 pages. 31 illustrations. Cloth. $5\frac{1}{4} \times 8$. Edition, 9,964.
- Your Own Story.* Marion L. Faegre. (Sixth printing.) Issued: March, 1947. Edition, 21,600.
- Northern Fishes.* Samuel Eddy and Thaddeus Surber. (Second revised edition.) Published: March 28, 1947. Price: \$4.00 trade; \$3.00 text. xii plus 276 pages. 57 illustrations. Cloth. 6×9 . Edition, 4,820.
- The Hormel Institute Annual Report, 1945-46.* Issued: March 11, 1947. Distributed by the Hormel Institute. 43 pages. Paper. 6×9 . Edition, 1,500.
- Four Generations of Blindness* (Bulletin No. 5, The Dight Institute). Issued: May 2, 1947. Distributed by the Dight Institute. 25 pages. Paper. 6×9 . Edition, 1,400.
- Units in Personal Health and Human Relations.* Lillian L. Biester, William Griffiths, and N. O. Pearce. Published: May 23, 1947. Price: \$3.50. viii plus 267 pages. 15 illustrations. Cloth. 6×9 . Edition, 4,000.
- Hermon Carey Bumpus, Yankee Naturalist.* Hermon C. Bumpus, Jr. Published: June 4, 1947. Price: \$2.50. vi plus 142 pages. 15 illustrations. Cloth. $5\frac{1}{2} \times 8\frac{1}{2}$. Edition, 1,030.
- People of Alor.* Cora DuBois. (Second printing.) Issued: September 2, 1947. Edition, 1,000.
- Museum of Natural History postcards* (10 scenes). Issued: September 5, 1947. Price: 5 cents each; 50 cents for set of 10; albums, 25 cents. Edition, 2,200 each.
- The Crisis of Mankind* (Papers of the Conference Celebrating the Inauguration of James Lewis Morrill as Eighth President of the University of Minnesota). Published: September 15, 1947. Price: \$3.00. 121 pages. 18 pages of illustrations. Paper over board. $7\frac{3}{4} \times 10\frac{1}{4}$. Edition, 1,500.
- Canoe Country.* Florence Page Jaques. (Fourth printing.) Issued: September 19, 1947. Edition, 5,357.
- Let's Talk About Your Baby.* H. Kent Tenney, Jr. (Third edition revised.) Published: October 1, 1947. Price: \$1.50. xi plus 115 pages. Line illustrations. Cloth. Edition, 9,966.
- The Industrial Relations Five-Foot Shelf* (No. 5, Industrial Relations Center bulletins). Herbert G. Heneman, Jr. Published: October 6, 1947. Price: 75 cents each and quantity prices. 28 pages. Paper. 6×9 . Edition, 5,070.
- The Diver.* E. L. Mayo. Published: October 15, 1947. Price: \$1.75. 80 pages. Paper over board. $5\frac{1}{2} \times 8\frac{1}{2}$. Edition, 1,025.
- Freedom's Ferment.* Alice Felt Tyler. (Second printing.) Issued: October 16, 1947. Edition, 2,956.
- The Hormel Institute Annual Report, 1946-47.* Issued: November 7, 1947. Distributed by the Hormel Institute. 48 pages. Paper. 6×9 . Edition, 1,500.
- The Geology and Underground Waters of Northeastern Minnesota* (No. 32, Geological and Natural History Survey of Minnesota). George A. Thiel. Published: November 7, 1947. Price: \$1.00. xiv plus 250 pages. 45 illustrations. Paper. 6×9 . Edition, 750.
- Historic Midwest Houses.* John Drury. Published: November 15, 1947. Price: \$5.00. 256 pages. 141 illustrations. Cloth. $7\frac{3}{4} \times 10\frac{1}{4}$. Edition, 9,781.
- Grass Roots History.* Theodore C. Blengen. Published: December 10, 1947. Price: \$3.00. x plus 266 pages. Cloth. $5\frac{1}{2} \times 8\frac{1}{2}$. Edition, 4,038.
- The Crisis of Mankind.* (Second printing.) Issued: January, 1948. Edition, 2,000.
- A Critical Review of Research in Land Economics.* Leonard A. Salter, Jr. Published: February 16, 1948. Price: \$4.00. vi plus 258 pages. Cloth. 6×9 . Edition, 1,000.
- Land of the Dakotahs.* Bruce Nelson. (Second printing.) Issued: February 16, 1948. Edition, 5,070.
- Adapting Instruction in Reading to Individual Differences* (No. 5, Individualization of Instruction series). Guy L. Bond and Bertha Handlan. Published: February 26, 1948. Price: \$1.00. vii plus 82 pages. Paper. 6×9 . Edition, 1,530.
- Using Community Resources: Illustrative Experience Units for Grades One to Six* (No. 6, Individualization of Instruction series). University Elementary Demonstration School Faculty. Published: February 26, 1948. Price: \$1.00. 102 pages. 4 illustrations. 6×9 . Edition, 1,371.
- Industrial Relations Glossary* (No. 6, Industrial Relations Center bulletins). Research staff of the Industrial Relations Center. Published: April 20, 1948. Price: 75 cents each and quantity prices. 28 pages. Paper. 6×9 . Edition, 6,000.
- Training and Research in Industrial Relations (III):* Proceedings of a Conference Held May 22 and 23, 1947 (No. 7, Industrial Relations Center bulletins). Published: April 30, 1948. Price: \$1.50 each and quantity prices. viii plus 36 pages. Paper. 6×9 . Edition, 2,019.
- Training and Research in Industrial Relations:* Proceedings of a Conference Held May 25 and 26, 1945 (No. 1, Industrial Relations Center bulletins). (Second printing.) Issued: May 12, 1948. Price: \$1.50 and quantity prices. 60 pages. Paper. $5\frac{1}{2} \times 8\frac{1}{2}$. Edition, 975.
- Jobs in Industrial Relations: A Description of Some Principal Industrial Relations Jobs in Labor and Business Organizations* (No. 3, Industrial Relations Center bulletins). (Second printing.) Issued: May 13, 1948. Price: 75 cents each and quantity prices. 57 pages. Paper. $5\frac{1}{2} \times 8\frac{1}{2}$. Edition, 1,054.
- Training and Research in Industrial Relations (II):* Proceedings of a Conference Held May 9 and 10, 1946 (No. 4, Industrial Relations Center bulletins). (Second printing.) Issued: May 12, 1948. Price: \$1.50 and quantity prices. 83 pages. Paper. $5\frac{1}{2} \times 8\frac{1}{2}$. Edition, 1,025.
- Forms of Modern Fiction: Essays Collected in Honor of Joseph Warren Beach.* Edited by William Van O'Connor. Published: June 3, 1948. Price: \$4.50 trade; \$3.40 text. x plus 305 pages. Cloth. $5\frac{1}{2} \times 8\frac{1}{2}$. Edition, 3,060.
- The Press and the Constitution, 1931-1947.* J. Edward Gerald. Published: June 10, 1948. Price: \$3.50 trade; \$3.00 text. x plus 174 pages. Cloth. 6×9 . Edition, 2,065.
- The Agrarian Revolt in Western Canada: A Comparative Study Showing American Parallels.* Paul F. Sharp. Published: June 10, 1948. Price: \$3.00. x plus 204 pages. Cloth. 6×9 . Edition, 988.
- Local Labor Market Research.* Dale Yoder, Donald G. Paterson, et al. Published: June 21, 1948. Price: \$3.50. xvii plus 226 pages. 111 illustrations. Cloth. 6×9 . Edition, 1,500.

TESTS REPRINTED

- Minnesota Checklist for Food Preparation and Serving.* Clara M. Brown. 200 manuals, March, 1947; 5,000 tests, July, 1947; 5,000 tests, May, 1948.
- Rating Scale for Personal Qualities and Abilities.* Clara M. Brown. 100 manuals, July 30, 1948; 10,000 tests, August 2, 1948.

Minnesota Speed of Reading Test for College Students. Alvin C. Eurich. 500 manuals, November, 1946; 10,000 Form A tests, September 13, 1946; 25,000 Form A tests, February, 1947; 10,000 Form B tests, September 13, 1946; 25,000 Form B tests, February, 1947.

Minnesota Reading Examination for College Students. Melvin E. Haggerty and Alvin C. Eurich. 570 manuals, June, 1947; 15,000 Form A tests, February, 1947; 20,000 Form B tests, November, 1946.

The Hunt-Minnesota Test for Organic Brain Damage. Howard F. Hunt. 500 manuals, October 20, 1947; 5,000 record sheets, April, 1947; 20,000 record sheets, October 30, 1947; 500 each of accessory materials for the test.

—MARGARET S. HARDING, *director*

MINNESOTA MUSEUM OF NATURAL HISTORY

Staff Changes—One regrettable change in the personnel of the Museum staff was the retirement, on June 30, 1948, of William Kilgore from the position of assistant director. Mr. Kilgore's affable manner in meeting and entertaining Museum visitors will never be replaced. His discriminating criticisms of all Museum installations were always sought and will be greatly missed in the future. Additions to the Museum staff include Donald K. Lewis, audio-visual adviser, September 30, 1946; Dr. Dwain W. Warner, curator of ornithology, August 15, 1947; and Byron Harrell, research assistant, October 1, 1947.

Exhibits—Two major Museum exhibits were completed during this period: The American Elk Group was made possible through a gift from P. D. McMillan of Minneapolis; the Whistling Swan Group was financed largely by a group of friends of the Museum's former director, Dr. Thomas S. Roberts. The major part of the work has been completed on a third large exhibit of the hardwood forests in southern Minnesota. Ten panel displays have been constructed as temporary exhibits in a lobby alcove. Work is finally under way on the special cases to house the Jaques paintings which were provided for by the Citizen's Aid Fund donation in 1946. Shortage of materials delayed this undertaking so long that a change in the basic design of the cases was made in order to enable the University Shops to begin construction. One portable exhibit showing albinism was completed.

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 exhibit spaces of the building. Museum attendance totaled 51,968 for the year 1946-47 and 68,405 for 1947-48—a total of 120,373 for the biennium, compared with 88,820 for the previous biennium. During this period 458 organized groups, mainly school children, totaling 13,657, toured the halls under Museum guides.

Lectures—Museum lecture services reached 234 audiences totaling 47,429. The winter Sunday afternoon lectures continue to be popular. The 1946-47 series, November through March, brought 15,858 visitors, while the 1947-48 series, November through April 15, brought 12,384—a biennial total of 28,242 and a substantial increase over the previous biennium. In addition to this series, Museum staff lecturers spoke to 191 audiences, mainly outside the Museum, totaling 19,187.

Cooperation—The Museum has greatly extended its cooperation with other departments and institutions during the biennium. The appointment of Dr. Warner as curator of birds in the Museum and assistant professor of zoology assures coordination of the Museum's facilities with the teaching functions of the Zoology Department. The Museum staff has continued its courses, "Birds of Minnesota" and "Wild Game of Minnesota," in the curriculum of the General Extension Division. An almost total lack of natural history information available to visitors in the Minnesota State Parks has prompted the Museum to enter into one entirely new activity. Audio-visual Adviser Donald K. Lewis was assigned to cooperate with the State Parks Department in the capacity of park naturalist at Itasca State Park during the past two summers, while other staff members laid out several self-guiding nature trails in St. Croix State Park. A new informational motion picture is under way, in conjunction with the Fisheries Research Division of the Minnesota Department of Conservation, showing commercial fishing activities in Minnesota. Natural history books published by the University of Minnesota Press are now being sold in the lobby of the Museum.

Gifts—Constance Everett, Waseca, Minnesota, donated \$1,600 toward the completion of a hardwood forest exhibit. Regent James Ford Bell's monthly contributions of \$75, totaling \$1,800, for Museum special expenses have been continued and are deposited in the First National Bank in the name of W. J. Breckenridge, trustee. The Economic Zoology Department donated to the Museum's collections 252 mammal specimens. In addition to this, the following gifts have been received from 96 individuals: birds 97, mammals 15, reptiles 16, amphibians 7.

Loans—Materials loaned for educational purposes included 881 portable exhibit cases, most of which were displayed in Twin Cities schools; and 115 specimens largely to other

institutions for scientific study. The Museum film and slide loan service has been largely discontinued, and an arrangement is now being made with the General Extension Division's Community Service Department to duplicate and loan such materials from the Museum's collections.

Field Work—The director and F. L. Jaques, in the spring of 1947, visited the Waseca area securing data, photographs, and materials for the hardwood forest group now under construction. Two photographic trips along the North Shore of Lake Superior during the last two winters resulted in a new 1,600-foot colored motion picture on "The Natural History of the North Shore in Winter." Staff members made two collecting trips in the summer of 1947 and one in 1948 which resulted in adding to the Museum collections 196 mammals, 73 birds, 6 reptiles, and 35 amphibians. Local field collecting has further added 103 birds, 118 mammals, 23 reptiles, and 18 amphibians.

Photography—Staff members increased the Museum library of photographic materials by the addition of 3,000 feet of edited colored 16mm. motion picture film and 305 2 x 2 colored slides.

Publications—H. L. Gunderson has continued the Museum's quarterly reports to "Audubon Field Notes" throughout the biennium. In addition, 16 articles and three drawings by other staff members have appeared in various bulletins and journals. Reproductions of photographs of the Museum and ten of the major habitat exhibits have been printed and placed on sale in the Museum lobby.

Future—During the coming biennium, the major efforts of the Museum staff will be expended in completing additional permanent exhibits, the nature of which is dictated by the already established displays. Considerable effort will go into designing and executing the changing series of temporary panels in the lobby alcove. The Museum's recently established service in the state parks is to be expanded to include more self-guiding nature trails in additional state parks, and more school loan exhibits, normally in storage in summer, displayed in state parks during the tourist season. The Museum's expanded personnel is going to enable us to carry on more adequately our present services rendered to the public: conducting Museum tours; presenting free public lecture series; producing informational natural history motion pictures; giving outside lectures; and loaning exhibits and specimens. This will enable the staff to engage also in additional research work.—WALTER J. BRECKENRIDGE, *director*.

DEPARTMENT OF MILITARY SCIENCE AND TACTICS

General History—The Reserve Officers' Training Corps program at Minnesota is authorized by the National Defense Act of 1916, which provides for the establishment and maintenance in civil educational institutions, of military training leading to commissions in Army Reserve of qualified graduates. The 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—The conclusion of World War II saw a reactivated ROTC with a new curriculum and the usual postwar problems. Veterans with over 12 months' active service were given credit for the first two years of the program, and as a result, the Advanced Course began with a large enrollment. The normal postwar reaction on the part of the students, and a marked antipathy toward military training in the community in general, resulted in a very meager enrollment of nonveterans in the Basic Course. For example, out of 1,802 male nonveteran freshmen students registered in the University in the fall of 1947, only 51 enrolled in the first year Basic ROTC Course.

To correct this situation, a large amount of public relations work has been carried on during the biennium by the Military Department. Speakers appeared before graduating classes of all important high schools in the state to explain the program. In view of the pronounced feeling of apathy on the part of nonveterans and citizens of the state in general, particular emphasis was paid to the veteran students. As a result, the registration of veterans in the ROTC was the second highest of any university in the Fifth Army area. Our basic enrollment was the very lowest. This unhealthy situation will be corrected to a certain degree as long as the Selective Service Act is in effect, since the chance of deferment will encourage freshmen to enroll in ROTC. The real solution to the problem lies in making the program more attractive. The University could aid materially by increasing the academic credits offered from 6 to 18, thus putting Basic ROTC on a par with other courses in the University.

During the biennium, many new units were established at the University, as indicated by Table I.

TABLE I. ESTABLISHMENT OF UNIVERSITY OF MINNESOTA ROTC UNITS

	Date Established
Signal Corps	May 21, 1919
A. A. Artillery	September 23, 1919
Air Force	September 1, 1946
Medical Corps	September 1, 1946
Transportation Corps	October 1, 1946
Quartermaster Corps	October 1, 1946
Chemical Corps	July 1, 1947 (Withdrawn July 1, 1948)
Corps of Engineers	July 1, 1947
Ordnance	July 1, 1947
Dental Corps	July 1, 1948
Pharmacy Corps	July 1, 1948

Further expansion will be made in the fall of 1948 when the Duluth Branch inaugurates its Air ROTC unit. The tabulation shows that the University offers a very comprehensive ROTC program, complementing all of the diversified academic courses offered by the University.

Enrollment—Table II indicates the ROTC enrollment for the biennium. Inasmuch as the program was reactivated in the fall of 1946, no second year Advanced Course students are shown for that year. All those shown for the Advanced Course in both 1947 and 1948 were veterans.

TABLE II. ROTC STRENGTH BY QUARTERS

Quarter	Basic Course*		Advanced Course				Total
	1st yr.	2nd yr.	1st Year		2nd Year		
			Ground	Air	Ground	Air	
Fall, 1946	29	15	152	106	.....	.....	302
Winter, 1947	31	14	172	95	.....	.....	312
Spring, 1947	20	12	152	86	.....	.....	270
Fall, 1947	51	32	164	107	141	77	572
Winter, 1948	49	31	135	81	136	77	509
Spring, 1948	44	25	138	73	135	73	488

* Basic Course is common to both Ground and Air; to adequately support the Advanced Course for which it is a prerequisite, the enrollment in the Basic Course should be at least twice that of the Advanced Course.

Curriculum—The new ROTC program is an elective course which carries college credits applicable toward any degree offered by the University, as well as being prerequisite for a Reserve commission.

The Basic Course covers the first two years of the ROTC program and is prerequisite for the Advanced Course. The Basic Course comprises instruction in general military subjects applicable to all branches of the Army and Air Force. It includes such courses as Military Law; Hygiene and First Aid; Leadership, Drill, and Exercise of Command; Maps and Aerial Photographs; Evolution of Warfare; and Military Organization.

TABLE III. MEMBERS OF THE DEPARTMENT OF MILITARY SCIENCE AND TACTICS

Name	Grade and Branch		Reported	Relieved
John R. Weddle	Captain	Inf.	December 28, 1944	December 23, 1946
James Heatwole	Major	SC	April 17, 1946	
Richard A. Ericson	Colonel	CAC	June 3, 1946	
Lemuel B. Redd	Major	CAC	June 21, 1946	
Earl J. Brown	Lieutenant colonel	TC	September 4, 1946	
Hilbert Mark	Lieutenant colonel	MC	September 15, 1946	August 1, 1947
Gordon A. Yancey	Major	QMC	September 26, 1946	
Walter J. Gerzin	Lieutenant colonel	USAF	September 30, 1946	
Joseph W. Voellmeck	Major	USAF	October 31, 1946	July 4, 1947
John M. Beason	First lieutenant	USAF	December 7, 1946	
Ralph L. Duncel	Lieutenant colonel	Ord.	July 16, 1947	
Joseph L. Coleman	Major	QMC	July 17, 1947	
William A. Orr	Lieutenant colonel	CE	August 4, 1947	
Arthur B. Tarrow	Major	MC	August 12, 1947	
Everett T. Delaney	Major	USAF	August 19, 1947	
Robert B. Swatosh	Major	FA	August 19, 1947	
Harold W. Wheeler	Captain	Chm.C	September 1, 1947	

The Advanced Course covers the last two years of the program and consists of specialized study in one of the units mentioned in Table I. In addition to specialized subjects, such as the tactics and techniques of one of the Arms or Services, the cadets also receive instruction in general courses, such as leadership, psychology and personnel management, geographical foundations of national power, military teaching methods, psychological warfare, Command and Staff, military problems of the United States, and combat intelligence.

Faculty—Table III provides data concerning members of the Department who served during the biennium.

ROTC Graduation—The majority of students who complete the ROTC program and obtain their degrees from the University receive commissions as reserve officers in some branch of the Army. Every year, however, there are a few who may be designated as "distinguished military graduates." These are offered direct commissions as Second lieutenants in the Regular Army or Air Force. Eight students qualified for regular commissions in 1948.

Other ROTC graduates who may be interested in making the Army or Air Force a career may obtain permanent commissions in the regular services by applying for a two year probationary tour of active duty known as a "competitive tour." Five students were accepted for "competitive tours" in 1948.

Special Activities—In addition to the prescribed instruction, the Department of Military Science and Tactics engaged in many activities during the biennium which brought both prestige and favorable publicity to the University.

In the summer of 1947, a Regional ROTC Conference sponsored by the Military Department was held on the campus. This was attended by 300 academic and military leaders from all universities in the Fifth Army area. Pertinent problems involving military training in civilian institutions were discussed, and many constructive recommendations evolved.

The national convention of the Sons of the American Revolution, held in Minneapolis in May, 1948, was materially assisted by the ROTC. ROTC color guards were furnished for all of the ceremonies and meetings, and the Society attended the formal ROTC review at the University in a body, as well as being guests at the banquet which followed in Coffman Memorial Union.

One of the national honorary military organizations, Pershing Rifles, held its mid-western convention here in the spring of 1948. The University of Minnesota Chapter was an outstanding contestant in their competitions and reflected great credit on the University.

A sizable unit, composed entirely of volunteers of ROTC cadets and members of this department, participated in the Minneapolis Memorial Day and Freedom Train parades, making a very creditable showing and receiving favorable comment. In addition, the ROTC furnished burial squads for many war dead interred in the Twin Cities.

Members of the Cadet Corps function as color guards and ushers for all the various all-University functions, such as convocations and commencement exercises.

Ratings—As a result of the annual inspections conducted by representatives of the Fifth Army and the Tenth Air Force, the ROTC unit at this institution received a rating of "excellent" in 1947 and "superior" in 1948.

Recommendations—As the department increases in size, the amount of space made available to it decreases. The facilities available for instruction are extremely 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 storage space prohibits the use of much equipment, to the detriment of the caliber of instruction. A new Military Science Building is badly needed.

It is urged that the possibilities of establishing an outdoor rifle range be explored without delay. The great interest manifested in pistol and rifle shooting indicates that there is a tremendous need for actual training on a large bore range. Adequate and properly trained military personnel are available to manage such a range.

Attention is invited to that portion of this report where mention is made of particular courses being given as part of the ROTC curriculum. It is felt that general subjects, such as the World Military Situation and Geographical Foundations of National Power could much better be taught by the academic departments of the University. Perhaps some existing academic courses could be altered slightly in scope so as to satisfy the ROTC curriculum. This is already being done in some of the eastern universities.

Finally, it is believed pertinent to point out the fact that one of the greatest detriments to a successful voluntary ROTC unit on this campus lies in the discrimination by the University toward ROTC in the matter of academic credits for the Basic Course. The

University allows only *one* credit per quarter for a course of three hours per week. ROTC on a voluntary basis will never attract sufficient students as long as this condition exists. Basic ROTC courses should be put on the same level as other courses in the University by an allotment of three credits per quarter for a three-hour course, or a total of eighteen credits for two years of Basic ROTC. The present allotment of eighteen credits for the Advanced Course is believed to be adequate.—RICHARD A. ERICSON, *Colonel, Coast Artillery Corps, P.M.S.&T.*

DEPARTMENT OF NAVAL SCIENCE AND TACTICS

History—The Naval Reserve Officers' Training Corps was authorized by the Act of March 4, 1925, which provided for the establishment and maintenance in civil educational institutions of naval training, leading to commissions as naval reserve officers of qualified graduates. The Unit at this University was established in the summer of 1939 and instruction commenced in the fall quarter of the 1939-40 academic year.

New Program—On August 13, 1946, by Public Law 729, a new program, commonly called the Holloway Plan, was started. The students in this program receive compensation and benefits from the Navy Department as follows: (1) tuition, fees, and books paid; (2) retainer pay of \$600 per annum, and designation as regular students. In return, these students obligate themselves to attend class and drill, make three summer cruises, and accept a commission in the Regular Navy or Marine Corps to serve for a minimum of two years on active duty. The NROTC also provides for the training of contract NROTC students who have a civilian status and enter into a contract with the Navy. Contract students are in training for commissions in the U. S. Naval Reserve or Marine Corps Reserve. They must meet the same physical qualifications as required of the Regular NROTC student. Contract students are not given scholarships but receive the cash value amounting to one day's rations, which at present is \$0.90, during their junior and senior years in college.

Organization—The head of the Department of Naval Science is a captain in the Navy. He is assisted by officers and chief petty officers carefully selected by the Bureau of Naval Personnel. When possible, the officers selected must be approved by the University.

Mission—The mission of the NROTC is to provide by a permanent system of training and instruction in essential naval subjects at civil educational institutions a source from which qualified officers may be obtained for the Navy, Marine Corps, Naval Reserve, and Marine Corps Reserve. The NROTC will accomplish its mission as an agency for providing and maintaining naval officer strength by:

1. Qualification of students for appointment as ensigns in the Regular Navy and Naval Reserve or second lieutenants in the Marine Corps and the Marine Corps Reserve, thus assisting in meeting the needs for commissioned personnel;
2. Increased dissemination of knowledge concerning the Navy and Marine Corps, their purposes, ideals, achievements, and handicaps, thereby gaining and holding increased public interest in the maintenance of adequate naval preparedness.

Enrollment—Forty-eight regular students and 33 contract students enrolled under the Holloway Plan in September, 1946. In September, 1947 51 regular students and 6 contract students were enrolled. In September, 1948 the Unit enrolled 40 regular students and 57 contract students.

Naval Academy Appointments—Three regularly enrolled students of the Unit may be nominated each year to take the entrance examination for the United States Naval Academy.

Graduates—Nine men were commissioned in June, 1947, while 22 were commissioned in June, 1948. It is expected that 5 men will be commissioned in December, 1948. Nineteen will be commissioned in June, 1949. Because of the training received at this University, these men will be important to the future of the United States Navy.—WALTER C. HOLT, *Captain, U. S. Navy, P.N.S.&T.*

DEPARTMENT OF CONCERTS AND LECTURES

University Artists Course—During the biennium, the concerts sponsored by the University Artists Course played to capacity crowds in Northrop Memorial Auditorium. All of the permanent seats were sold on a season subscription basis and overflow crowds were accommodated by placing chairs in the orchestra pit and on the stage. During 1946-47, Yehudi Menuhin, Jussi Bjoerling, the Icelandic Singers, Marian Anderson, the Chicago Symphony Orchestra, Rudolf Serkin, and Luboshutz and Nemenoff, played to more than

34,875 patrons. Receipts totaled \$39,552.90. In addition, special concerts by the Don Cossacks and Lauritz Melchior attracted 6,633 patrons, producing receipts of \$11,672.71. During 1947-48, the six concerts presented by Florence Quartararo, the Philadelphia Orchestra, Rhythms of Spain, Zino Francescatti, Vladimir Horowitz, and John Charles Thomas were attended by 29,925 patrons paying \$39,643.10. Two special concerts by Jussi Bjoerling and the Norway Chorus drew 4,525 people and receipts totaled \$8,274.26.

Master Piano Series—During the fall of 1947-48, an entirely new series of concerts was sponsored by the department. This new series of five concerts, called the "Master Piano Series," featured Claudio Arrau, Rosalyn Tureck, Artur Schnabel, Bartlett and Robertson, and Robert Casadesu. The response to this series of piano concerts was instantaneous. Over 3,000 students, faculty, and the general public responded with the purchase of season tickets. Attendance for the five concerts was 17,778. Receipts totaled \$22,142.59. Following is the biennial summary of musical attractions sponsored by the Department of Concerts and Lectures:

	1946-47	1947-48	Total
Number of events	9	13	22
Attendance	41,508	52,227	93,735
Receipts	\$51,225.61	\$70,059.95	\$121,285.56

Metropolitan Opera Company—The Metropolitan Opera, jointly sponsored by the Department of Concerts and Lectures and the Minneapolis Orchestral Association, presented Marriage of Figaro, Lohengrin, Faust, and Madame Butterfly, in Northrop Memorial Auditorium in the spring of 1947, attracting 18,794 patrons. Cash receipts were \$101,454.80. In the spring of 1948, Der Rosenkavalier, Don Giovanni, Il Trovatore, and Tosca were presented. Attendance was 18,662. Receipts were \$99,859.60.

Convocations—During the past biennium, the Department scheduled a well-rounded series of convocations, presented in Northrop Auditorium every Thursday at 11:00 a.m. during the school year. Topics covered were discussions on international and world affairs, problems of maintaining peace, scientific trends, domestic problems, theater, music, and nature study. Attendance of students, faculty, and the general public averaged over 1,500 for each convocation period. During 1946-47, programs were presented by President J. L. Morrill, Student Convocation, J. O. Perine, Wayne Adams, Earl Spicer, Carey McWilliams, Lloyd Shaw, Leigh White, William Ogburn, Martin Bovey, Forum on Communication, Patrick C. Gordon-Walker, Ely Culbertson, Harry Gideons, Governor Luther W. Youngdahl, Captain Peter Freuchen, Robert Friars, Carl Carmer, University Chorus and Orchestra, "Faust," Hugh Stuntz, Alain Locke, Cap and Gown, and Nathaniel Peffer. In 1947-48, the following convocation programs were given:

- October 2: Opening Convocation—President James Lewis Morrill
- October 9: John Jacob Niles, ballad singer
- October 16: Stefan Osusky, diplomat
- October 23: George Freedley, drama critic
- October 30: Arthur H. Compton, chancellor, Washington University
- November 6: Bernard De Voto, author
- November 13: Edward Tomlinson, correspondent
- November 20: William B. Stout, inventor
- December 4: University Orchestra and University Chorus
- December 18: Fall Quarter Commencement—George D. Stoddard, president, University of Illinois
- January 8: Adelaide Stedman, lecturer
- January 15: Vela Montoya, individualist of the Spanish dance
- January 22: Melville J. Herskovits, anthropologist
- January 29: Men's Glee Club of the Duluth Branch
- February 5: Michael Fielding, lecturer, world traveler, commentator
- February 19: Paul G. Hoffman, industrialist
- February 26: Dr. Henry N. MacCracken, educator
- March 4: Jane and Joan Rosenfeld, duo-piano recital
- March 18: Winter Quarter Commencement—Ernest C. Colwell, president, University of Chicago
- April 1: Dr. Franz Polgar, entertainer, mental wizard
- April 8: The University Concert Band, Gerald Prescott, conductor
- April 15: Charles Perry Weimer, colored motion pictures
- April 22: Martin Hall, educator, lecturer, and author
- April 29: Charles Phelps Taft, lawyer, statesman
- May 6: Herbert Graf, stage director, Metropolitan Grand Opera
- May 13: Cap and Gown Day—Everett Fraser, dean, Law School
- June 6: Baccalaureate Service—Dr. John M. Phillips
- June 12: Spring Quarter Commencement—President James Lewis Morrill

Special Lectures—Requests by department heads for special lectures were submitted to the Department of Concerts and Lectures. Selection was based on an equitable allocation of speakers in various fields with the limited funds available. Topics discussed included medicine, music, history, foreign affairs, and domestic problems. Feature speakers in 1946-47 were: William Zorach, "Building of a Tire"; Waldemar Gurian, Dickinson

Miller, "Football Awards"; Marian Hall, Henry Goddard Leach, Alfred Tarski, R. G. Gustavson, Frank Taylor, "Coast Guard"; Tom A. B. Barth, P. Kodana Rao. In 1947-48, the special lectures included: George Grim, Borghild Dahl, Gladys Hannaford, Peter Mannicke, Gaston Berger, Jennie Lee, Howard Cleaves, Roger Sessions, Dr. Henry Bull, James Montgomery, Frank Asper, Dr. H. B. Spiegelman, Rosalyn Tureck, Dorothy Parrish, Professor Paul Erdos, Dr. Raymond Los Vergnas, Sigma Xi (three lectures), Sister Hilger, Thomas Frederick Peart, Professor Robley Williams, Philip Noble, Dr. Theo. Dobghansky, and Dr. Holger Hyden.

Summer Session Recreation Program—The Department of Concerts and Lectures, in cooperation with the Summer Session office, selected and presented on this campus one of the strongest Summer Session activities programs in the United States. All were available to students and faculty free of charge. Following is a summary of the programs presented:

	1946	1947	Total
Convocations	10	10	20
Attendance	12,000	13,000	25,000
Special lectures	32	29	61
Attendance	6,400	6,250	12,650
Musical attractions	12	15	27
Attendance	14,400	20,000	34,400

Convocations included programs on world affairs, music, the American Negro, nature study, atomic energy, and science. Special lectures covered foreign affairs, literature, music, education, American diplomacy, book reviews, social obligations, and domestic problems. Musical attractions included symphony concerts, piano recitals, string quartets, chorus music, vocalists, and violinists.

Community Program Service—This is the second full biennial report of the Community Program Service since the formation of the Department of Concerts and Lectures, July 1, 1944. This activity comes under the immediate direction of the Department of Concerts and Lectures, but the budgetary and final administrative responsibilities rest with the General Extension Division. This is also the first full biennial report since the budgetary and supervisory separation of School Assemblies and Concerts and Lecture Service. In the middle of the biennium, the audio-visual activities were separated from the Community Program Service. It is interesting to note that during the three years audio-visual was in that department, it became sufficiently self-supporting to take on a separate entity, with its own head devoting full time to its affairs.

There were several staff changes during the biennium. On July 1, 1947, Gilford W. Remington left the department to become head of the newly separated Audio-Visual Extension Service, which is now under the direct supervision of the General Extension Division. Shortly after August 1, 1947, David Simonds took the place of Milton Holst as assistant program adviser. The promotion of Mr. Remington and a separation from the Community Program Service resulted in the appointment of T. E. Stall as program adviser.

During the biennium, the title of the department handling "Talks of the Month" and "Community Artist Courses" became known as the University of Minnesota Concert and Lecture Service. This service had a phenomenal growth in the first half of the biennium over the previous year. It showed a further increase of approximately 12 per cent in the second half as against the first. More satisfactory yet was the quality of the artists and lecturers brought to the communities of this area. In fact, its growth was so substantial, the quality of its selections so high, and the service rendered so pleasing that for a time it brought on open warfare with the commercial agencies serving the same area. The service to college summer sessions has grown in the biennium to a point where nearly 95 per cent of such programs is furnished by the University of Minnesota.

In the fall of 1947, James Carlson, in charge of the Loan Play Library, was succeeded by Earl Mundt. Under Mr. Carlson, the number of plays in the library was reduced by 5 per cent, but the number of requests filled was increased from 203 to 463 and the number of copies of plays sent out, from 878 to 2,200. Under Mr. Mundt, the number of plays in the library was slightly increased, the number of requests filled was practically doubled, and the number of plays sent out was more than trebled. The growth of the Loan Play Library and its activities are revealed in the following table:

	1943-44	1944-45	1945-46	1946-47	1947-48
Number of plays in library	3,874	3,914	3,931	3,756	3,885
Requests filled	196	200	203	463	824
Copies sent out	1,004	893	878	2,200	6,592

While the actual figures would seem to indicate that the number of schools and organizations served and engagements filled by the School Assemblies section decreased in the first half of the biennium as compared with the previous year, they are misleading. The difference comes in the fact that the Concert and Lecture Service engagements are no longer listed in these figures. Actually, the number of schools served by School Assemblies and the number of school assembly engagements filled increased in 1946-47 over 1945-46, and increased still further in the last half of the biennium. The most startling figures, of course, are the total receipts of these two separated activities for the first half of the biennium against the total when they were together the previous year. The 1946-47 total of the two activities is \$129,668. The total for the previous year was \$76,758. For 1947-48, it was \$140,526.—JAMES S. LOMBARD, *director*.

DIVISIONS OF BUSINESS ADMINISTRATION

BUILDINGS AND GROUNDS

LAND

During 1946-48, additions for general University purposes were made to the Minneapolis Campus by the purchase of the following properties in Hennepin County:

- Lots 6 to 23, Block 1; Lots 12 to 20 inclusive, Block 2; Lots 12, 13 and 15, Block 3, Elm Street Addition—161,820 sq. ft.
- Part of $W\frac{1}{2}$ of $N\frac{1}{2}$ of $SE\frac{1}{4}$ of $NE\frac{1}{4}$, Sec. 19, Tp. 29 N., R. 23—12.40 acres.
- Part of $NE\frac{1}{4}$ of $NE\frac{1}{4}$, Sec. 19, Tp. 29, R. 23—2.124 acres.
- Southerly 35 ft. of Lots 9 and 10, Block 34, St. Anthony City—4,620 sq. ft.
- Northerly 40 ft. of the Southerly 75 ft. of Lots 9 and 10, Block 34, St. Anthony City—5,280 sq. ft.
- Southerly 40 ft. of the Northerly 90 ft. of Lots 9 and 10, Block 34, St. Anthony City—5,280 sq. ft.
- Southerly 40 ft. of the Northerly 50 ft. of Lots 9 and 10, Block 34, St. Anthony City—5,280 sq. ft.
- Northerly 10 ft. of Lots 9 and 10, and Southerly 65 ft. of Lots 1 and 2, Block 34, St. Anthony City—9,900 sq. ft.
- Lots 1 to 9, 28 and 29, Block 1, Lots 1 to 9, 28 and 29, Block 2; all in Cole and Week's Addition—107,826 sq. ft.
- Fringe property bordering the Mississippi; Lot 5, Block 48, St. Anthony City; Lots 4 and 5, Block "N," Tuttle's Addition, and other property.

Additions were made to the Minneapolis Campus also for the Department of Physical Education and Athletics by the purchase of the following properties in Hennepin County:

- Southwesterly 39 ft. of Lots 4, 5, and 6, Block 3, Mower's Addition—4,680 sq. ft.
- All of Blocks 9 and 10, Mower's Addition—81,397 sq. ft.
- Lot 2, Block 11, Mower's Addition—3,690 sq. ft.
- Lots 3, 4, and 5, Block 11, Mower's Addition—18,753 sq. ft.
- Lot 3, Block 5, Mower's addition—6,437 sq. ft.

Additions were made to the St. Paul Campus by the purchase of the following properties:

- Part of $NE\frac{1}{4}$ of $NE\frac{1}{4}$, Sec. 20, Tp. 29, R. 23—2.79 acres.
- Lots 2, 3, 4, 5, and 6, Auditor's Subdivision 63, St. Paul—73 acres.
- Lot 1, Auditor's Subdivision 63, St. Paul—15 acres.
- Northerly 110 ft. of Lot 2, Block 5, St. Anthony Park North, St. Paul—15 acres.
- North 130 ft. of East 68,455 ft. of Lot 21, Auditor's Subdivision 63, St. Paul—22 acres.
- North 95 ft. of Lot 1, Block 5, St. Anthony Park North and North 126.53 ft. of West 4.23 ft. of Lot 21, Auditor's Subdivision 63, St. Paul—14 acres.
- $W\frac{1}{2}$ of W 20 rods, $NE\frac{1}{4}$ of $NE\frac{1}{4}$, Sec. 20, Tp. 29, R. 23, except Intercampus Trolley Right of Way—4.87 acres.
- $E\frac{1}{2}$ of W 20 rods, $NE\frac{1}{4}$ of $NE\frac{1}{4}$, Sec. 20, Tp. 29, R. 23, except Intercampus Trolley Right of Way—4.87 acres.
- Certain areas in Auditor's Subdivision 63, St. Paul and in St. Anthony Park North.

Duluth Branch—All of the land formerly known as the Duluth State Teachers College was transferred to the Regents of the University of Minnesota by act of the State Legislature, 1947 Laws—approximately 11 acres. The University also acquired most of the so-called Nortondale Development in Duluth, first and second divisions, approximately 160 acres, upon which future buildings of the Duluth Branch will be located.

Rosemount Research Center—By Quit Claim Deed by the United States Government and from the War Assets Administration, the University acquired 3,320 acres in Dakota County. Also by Quit Claim Deed from the United States Government and the Federal Farm Mortgage Corporation, the University acquired 4,480 acres in Dakota County. These 7,800 acres were formerly a part of the Gopher Ordnance Works at Rosemount.

LAND IMPROVEMENTS

Minneapolis Campus—Several old houses located on the east side of Nineteenth Avenue Southeast, between Fourth and Fifth Streets, were disposed of and the area graded.

The area east of Seventeenth Avenue Southeast, bounded on the southeast by the Great Northern Railroad tracks and on the northeast by the Milwaukee Railroad tracks, was all carefully graded and established as an intramural play space as well as the location of the new baseball field.

A relatively large area south of Comstock Hall was filled in and made into a parking lot.

St. Paul Campus—The area east of University Grove and north of Hoyt Avenue was graded; water mains, sewer, and gas installed; and on this site was established a veterans' housing project.

BUILDINGS AND TUNNELS

Minneapolis Campus—The contract was awarded for the new Mechanical-Aeronautical Building and the building is well under construction. The west face of this building lines up with that of the Electrical Engineering Building and is attached to it. Thus the total frontage of the Mechanical-Aeronautical and Electrical combined is the same as that of Main Engineering. The north face of the building is 385 feet long. It has four stories and a basement. The east face, on Union Street, is 222 feet long.

Source of funds: State appropriation \$2,169,000

Contracts have been awarded for an Indoor or Winter Sports Building. This will be a large hangar type structure 200 feet wide and 400 feet long and 36 feet to the underside of the trusses. It is located just east of the Armory and the north side of the structure faces University Avenue and is on the line of the north wall of the Stadium.

The building is to be rough finish only with a dirt floor. Provision has been made to reach the training quarters in Cooke Hall through a tunnel and stairs.

Source of funds: Athletic Reserve \$675,879

Through the United States Federal Works Agency, the University was furnished 19 temporary structures, 16 of which are located on the Minneapolis Campus and three on the St. Paul Campus. Four of the buildings on the Minneapolis Campus are "H" shape. All of these are two stories high, with two wings each 100 by 28 feet, connected by a third wing, also 100 by 28 feet. The four are located south of Folwell Hall, north of the Library, south of Vincent Hall, and south of Main Engineering, respectively.

The 12 other structures on the Minneapolis Campus are rectangular and are 35 feet wide and vary in length from 100 to 168 feet. They are located west of Pattee Hall, north of Appleby Hall, south of Appleby Hall (3), south of the Institute of Anatomy, south of Botany, in the Hospitals Court, south of Powell Hall, south of the Oak Street Laboratory, and in the court between Main and Experimental Engineering (2), respectively.

The three temporaries on the St. Paul Campus are rectangular in shape, two stories high, and vary from 38 by 100 to 35 by 168 feet. They are located south of the Administration Building, south of Haecker Hall, and east of Haecker Hall, respectively. Most of these structures are being used to supplement classrooms and offices and will continue to serve that purpose until urgently-needed permanent structures are provided.

St. Paul Campus—The foundation, superstructure, and reinforced concrete floor of the Green House for the Department of Agronomy has been constructed. This building is 32½ by 76 feet.

Source of funds: State appropriation \$13,500

Southeast Experiment Station, Waseca—A new Hog Barn was constructed at this station. The building proper is 30 feet wide, 88 feet long and has 16-foot wide concrete aprons on each side of the building.

Source of funds: State appropriation \$ 5,000
 Waseca Station 8,000

\$13,000

Rosemount Research Center—A considerable portion of the former Gopher Ordnance Works was turned over to the University by the United States Government. Buildings were revamped for a Poliomyelitis Hospital, and research work in poliomyelitis, in aeronautics, and in agriculture; also the summer camp for civil engineering students was established there.

IMPROVEMENTS AND ALTERATIONS

Minneapolis Campus—A new aluminum roof was installed on the Field House, to replace the old roof which leaked badly. This involved removal of the old roof, and the application of a vapor seal coat, two inches of foam glass insulation, and, finally, the external application of aluminum. This new roof should be practically permanent.

Extensive alterations were made in the Administration Building to provide suitable quarters for the President, for each of the vice presidents, for the Business Offices, and for the Office of Admissions and Records.

Automatic sprinkler systems were installed in Nicholson Hall and in the Child Welfare Institute. Also the Child Welfare Institute structure was almost completely re-constructed. An improvement of special significance in this building was the installation of a totally-enclosed fireproof stairway.

Major remodeling for the College of Education was undertaken in Burton Hall and space for the first and second grades of the University Elementary School was provided in Pattee Hall.

One of the boilers at the Heating Plant was completely rebuilt, using water walls and underfeed type stokers. This unit should now serve satisfactorily for the next 20 years.

The upper three floors of Eddy Hall have been completely rearranged for the various branches of the Office of the Dean of Students.

Four classrooms with removable sides were built on the Armory floor, primarily for the Military and Naval departments.

Thirteen research laboratories were constructed in what was formerly the attic of the Medical Sciences Building. These laboratories were constructed for the College of Medical Sciences.

The top floor of Nicholson Hall was remodeled to provide offices and laboratories for the University Theatre.

Completely new gas-fired incinerators were constructed at Millard Hall and at the Anatomy Building. A great many plumbing replacements were made in the University Hospitals.

The front portion of Sanford Hall was completely glassed in and radiators installed. This not only improves the appearance of the building, but it makes a warm passageway between East and West Sanford. Also, all of the hot water lines in Sanford Hall were replaced with copper.

Motorized valves, controlled at the Heating Plant, were installed on the steam main in many of the buildings. A considerable saving of fuel should result.

Many of the buildings were painted inside and out. A partial list includes: Pillsbury Hall, Burton Hall, Institute of Anatomy, Mines Experiment Station, Law, Eddy Hall, University High School, and Folwell Hall.

St. Paul Campus—The offices and shops, on this campus, of the Physical Plant Department were remodeled.

The administrative offices in the Administration Building were completely remodeled, and, as a result, a much more effective use of the space has been achieved.

A substantial portion of the ground floor in the same building was remodeled for the Division of Entomology and Economic Zoology.

The following buildings were painted: Agricultural Engineering, Soils, and all of the Poultry buildings.

UNIVERSITY VILLAGE AND UNIVERSITY GROVE EAST

This biennium saw the completion of the installation of trailers, prefabricated houses, quonset huts, and metal barracks for the housing of married veterans. There are 214 trailer units, 48 prefabricated buildings, 50 quonset huts, and 250 metal barracks type. Each of the prefabricated buildings, quonset huts, and metal barracks is divided into two apartments. All dwellings, except the trailers, are modern.—WILLIAM F. HOLMAN, *supervising engineer*.

OFFICE OF CIVIL SERVICE PERSONNEL

Development of a Program—The 1946-48 biennium has seen the initiation and development of a well-defined personnel program by the Office of Civil Service Personnel. All parts of the program are not yet entirely in operation, but several of them are functioning and have worked toward improved personnel relations during the biennium.

The important characteristics of the program are emphasis on carrying to University-operating departments a variety of improved personnel services, and emphasis on communication with employees. These emphases, both directed toward taking personnel services to those who use them, label our plans as a "positive" personnel program. They discard the negative approach of waiting for personnel problems to arise before action is taken.

The improved position classification and salary plans adopted during the last biennium are the foundations of a new program. The classification plan provides a clearly defined system for grouping positions under common titles and descriptions. These titles and descriptions facilitate payroll handling and other record-keeping processes, improve the recruiting program, and provide information necessary for the development of training plans in other personnel services. The new salary plan, if properly administered, provides

ranges of pay which take into consideration intercomparisons of work difficulty, the cost of living, and salaries being paid by other universities, by private business establishments, and by governmental units in the area.

With the new classification and salary plans placed in effect during the biennium, several "positive" services have been set in action during the two years:

1. The Civil Service Rules have been completely revised and brought up to date.
2. An employee handbook entitled *Our Job at the U. of M.* is in the process of being written.
3. Memoranda giving careful explanations of personnel procedures have been duplicated and issued to departments.
4. Special classification surveys have been made to keep the classification plan up-to-date in terms of the tremendous growth of the University during the biennium.
5. Special salary studies have been made to keep the salary plan in usable shape.
6. Upon the request of departments, a few organizational and procedural studies have been made to help administrators improve the efficiency of their departments.

Changes in Civil Service Rules—Probably during no other biennium have more wide-reaching changes been made in Civil Service Rules than in the past period. The two most significant changes are probably those relating to work hours and collective bargaining.

Through approval of the 1947 Legislature, a 5-day, 40-hour week became effective for University employees in the Twin Cities area beginning July 1, 1947. Hours at the branch stations remained unchanged—41 and 44. But because classes continue on a 5½-day basis, a 5-day week is to be used where possible, but is *not imperative*. Closely related to this change in hours was the provision for payment of time-and-a-half for overtime.

Other changes in the Rules provided for employees' utilization of sick leave for absences occasioned by illness or death in the immediate family, and for granting July 1 merit increases to student employees on a basis similar to that for Civil Service employees. Some additional changes were made so that the Rules would be more complete and more easily understood by department heads and employees. Finally, changes were made in the form in which the Rules are set up. Printed in booklets, they have been distributed to departments where they are available to employees.

Classification Plan—The new job classification plan, set up by Public Administration Service during the 1944-46 biennium, is one of the keystones of our "positive" personnel program. It is a basic tool with which we are able to work on employment and recruitment problems, a training program, personnel records systematization, and improvement of the pay plan. Also, during this biennium, it has increasingly shown that through proper administration it can end much employee criticism. It has solved morale problems of long standing.

Any effective position classification plan must always undergo change. The exceptional growth of the University, the many new functions in research, in service to the state, and in teaching have brought about new jobs and changes in University department organizational structure and in assignment of duties. During the biennium, 75 classes were added to the classification plan and 26 were abolished. The plan had 438 classes of work at the beginning of this biennium and 487 as it closed. These 487 classifications represented a grouping of approximately 3,400 full-time and 2,000 part-time positions under standard titles and job descriptions.

During the biennium 962 new positions were created and classified. Correct classification of more than half of these required discussions with employees, supervisors, department heads, and administrators concerning job and organizational interrelationships, flow of work, and division of duties. Representatives of the Personnel Office carried these services to the departments establishing the positions in order to save departmental officials' time and effort. Requests for reclassification of positions were initiated by 420 employees or their supervisors during the biennium. Approximately 350 of these situations needed close investigation and interviews with employees, supervisors, and administrators. Approximately 4,000 vacancies occurred in University Civil Service positions during the biennium. Most of these jobs were reviewed at the time the vacancy occurred. Changes in job duties frequently required downward, upward, or other types of reclassification before the jobs were refilled.

As the first year of the biennium progressed, it became obvious from the increasing number of classification requests that many positions were growing with the expansion of the University and needed review. In the fall and winter of 1947, therefore, new classification questionnaires filled out by Civil Service employees, supervisors, and department heads were obtained for all positions in the scientific service. Most of the jobs were also reviewed by observing them at the place of work. During the first six months of 1948 the same process was completed for all positions in the clerical and fiscal service. Many adjustments were made, and recommendations for the budget of the next biennium were

formulated on the basis of the survey. The two surveys involved a review of 1,347 individual positions.

Salary Plan—The Civil Service Salary Plan, which sets ranges and rates of pay for all work classifications, is probably a feature of the personnel program which more than any other directly affects the thinking and attitudes of employees. Employee morale at the University has steadily improved since the revised classification and salary plans were set up in 1945. The cost-of-living feature of the salary plan, bringing salary "step" increases as the cost of living rose during 1946 and 1947, has helped greatly. In addition, because of the closer and closer attention being given to salary comparisons between classifications, criticism from employees that their rate of pay is not commensurate with salaries for related types of work has steadily declined.

In 1946, in preparation for the 1947-49 biennium, the salary plan was restudied. Another survey of salaries paid by private businesses in Minnesota was made. The recommendation was again made to the Legislature that salaries be adjusted upward on July 1, 1947, and that provision be made for possible further upward adjustments on July 1, 1948.

The Legislature provided that adjustments were to be made for every nine-point rise in the Consumers' Price Index. Instead of labeling the adjustment as one for "cost of living," the Legislature now termed it an "economic adjustment." In addition, the Legislature increased the "basic" ranges of pay, providing a higher floor than had been suggested. The size of the increment step was also increased for certain ranges of pay. The bill further said that no downward revision in rates would be made, regardless of changes in the cost of living during the 1947-49 biennium. This was to compensate employees for the lack of increases in the face of higher living costs during the previous biennium.

Employees were moved into the revised salary plan ranges on July 1, 1947. They were assigned to the step in the revised pay range which corresponded to the step they had held in the old pay range. Those employees who had not reached the maximum of the pay range for their class and who were employed on or before January 2, 1947, were eligible for a merit increase of one increment step.

Even the liberal plan provided by the Legislature, however, did not solve all salary problems for the 1947-49 biennium. The cost of living rose so fast, and the wages paid by industry continued to spiral so rapidly, that soon the University again found it difficult to recruit well-qualified personnel. Administrative action then was taken which permitted recruitment of staff at the second or third steps in the pay range for the class. This action particularly affected clerical positions, laboratory and animal attendant positions, and several sparsely populated classes.

Training—It has been apparent for many years that an in-service training program for University Civil Service employees would be valuable. During the first half of the biennium, therefore, a careful study of the training needs of the University was made. Training programs of industrial and governmental units in the Twin Cities area were carefully reviewed. An extensive report was compiled which outlined the programs now in use in this area and the needs of the University. It also set forth a plan for developing a training program.

The report pointed out that the greatest training need of the University is to give office supervisors and secretaries information concerning University business procedures. The training plan outlined in the report emphasized that such tangible problems as these business procedures should be treated first, but that this should be followed by training efforts which would improve supervisory techniques, office public relations, and office etiquette. It also pointed out that an orientation program for new employees is badly needed. The recommendations of the report have been adopted and are being followed.

At present almost all "on the job" training is being given to veterans as a result of the government assistance they receive. The University now has 31 veterans who are being trained in 13 occupations, mainly in the skilled trades. It pays each trainee the standard rate of pay for the job he is performing, regardless of the government subsistence he receives.

Regents' Scholarships continued to be a very effective means of providing specialized University training for Civil Service staff members. Because the number of staff members has increased, the Regents, on recommendation of the Civil Service Committee and the President, increased the number of Regents' Scholarships awarded each year to 60, effective July 1, 1947. Requests for the Scholarships nevertheless still exceed the number granted each quarter. During the year 1946-47, 60 employees applied for the 45 available scholarships. In 1947-48, 75 persons applied for the 60 scholarships.

Employee Relations—Our main objective in employee relations is setting up a two-way communication system with employees—getting information to them and also giving them the opportunity to give us information. The most important means of giving specific and interesting information to employees was the *Minnesotan*, our monthly staff magazine which first appeared during the last year of this biennium. The Department of University Relations very kindly reserved one page in each issue for messages to department heads and Civil Service employees.

Another important project is the preparation of an employee handbook. This booklet, entitled *Our Job at the U. of M.*, should acquaint Civil Service employees with their rights and duties at the University. It should help promote improved employee relations. Main emphasis in the handbook is placed on writing at a simple language level and on the use of illustrations and color to lead the reader into the text.

An effective measure of the success of any personnel program is the extent to which employees feel free to discuss their problems with members of a central personnel staff. Such contacts are made only when employees have confidence in management and realize that their reception will be cordial and that their interview will be conducted by persons interested in them. No statistics on these employee contacts have been kept, but more and more interviews are being held. Employees have come individually and in groups to discuss their problems, very often without making prior arrangements for appointments.

During this biennium, the number of formal grievances filed with the director has been unusually low. There may have been several reasons for this: first, because of our negotiations with unions, not as much time on their part was devoted to individual grievances; second, because employees have discussed their problems directly with this office, either through questionnaires or personal contacts; third, because the improving personnel policies and program at the University eliminated complaints.

The only formal grievances presented by labor organizations have again been through Public Building Service Employees Union, Local 113. Twelve individual grievances were presented, along with two having to do with policy. Of the twelve, positive action in remedying the problems involved was taken in four cases, while the other eight were turned down. Some of these cases, though, involved supplying information which in itself satisfied the employee.

During this biennium no appeals were made to the Civil Service Committee or to the Labor Committee of the Board of Regents. A number of appeals regarding classification was made to the Civil Service Committee, but these did not arise through labor organizations.

Labor Relations—During the past biennium the University formulated and announced a definite labor policy for the first time. Under its provisions, the University agrees to recognize unions as sole representatives in appropriate units depending on proper evidence (which in one case resulted in an election). Also included in the Civil Service Rules are provisions for collective bargaining and the use of arbitration in the final settlement of grievances.

To formulate this policy, it was necessary first of all to determine how far we could go in meeting labor demands without seriously affecting our relations with employees, other state departments, the Legislature, and the public. Once having defined the University's position, the problem was how to make it acceptable to the unions concerned, knowing that all of their demands could never be met.

Negotiations began with the University Employees' Trade Union Council. These soon reached a stalemate because the Council insisted on provisions wholly unacceptable to the University.

Simultaneously, the University was engaged in its perennial dispute with Public Building Service Employees Union, Local 113, over wages, hours, and working conditions. Local 113 threatened to strike because the Legislature did not provide funds for pay increases for Civil Service employees retroactive to January 1, 1947, based on the higher wages effective July 1, 1947. This action was taken even though the University had reduced working hours to 40 a week in the Twin Cities area, with a 5-day week permitted wherever possible, and provided wage increases beyond those agreed upon with the union. Following unsuccessful meetings with two separate subcommittees of the Minneapolis Central Labor Union, Local 113 took its dispute to the State Labor Conciliator under provisions of the no-strike hospital bill passed by the 1947 Legislature. While this restricted the dispute to the University Hospitals, any agreement reached would similarly affect all Civil Service employees. Eventually it was necessary to appoint a fact-finding commission. The University agreed to this plan, even though it questioned the legality of the commission.

This Commission consisted of Warren E. Burger, Chairman; Richard L. Felhaber, Industry; and Thomas O. Kachelmacher, Labor. Their definition of the issues and their findings were as follows:

1. Shall the terms of agreement covering wages, hours, and working conditions, when determined upon by the Union and the Regents, be reduced to writing and signed by the parties?

Unless and until the Attorney General of Minnesota or the Courts hold that the Regents have the legal power to do so, we do not believe that a Fact-Finding Commission such as this should take it upon itself to recommend that the Regents make a collective bargaining agreement. To interpret the Attorney General's opinion as in any way authorizing the Regents to make a collective bargaining agreement severely taxes the language of that opinion.

2. Shall the Regents alter the rules and procedures for handling grievances of employees?

It is the considered view of the Commission that a large part of the bad relations existing between the University of Minnesota and a large segment of its employees arises out of the absence of a workable grievance procedure which is simple, which is known and understood by all interested parties, which is stable, and which provides, among other things, for final appeal to an arbitrary tribunal consisting of an equal number of members designated by the Regents and the Union, and a neutral member selected by them or by the Governor of Minnesota if they fail to agree.

... the Regents should establish procedures and rules governing working conditions and grievance procedures, and particularly the latter, and then, as a matter of good faith and moral obligation, those procedures should not be subject to unilateral change during the biennium.

3. Shall there be any change in wage rates?

The evidence shows that the wage rates being paid to the employees affected by this dispute are within the range of those being paid to both public and private employees doing comparable work in the Twin Cities area.

However, when other State employees doing comparable work receive increases those involved here should receive the same treatment.

In job classifications?

The evidence submitted on this problem is wholly unsatisfactory and we recognize the difficulty in obtaining that kind of information from other sources. On the basis of the evidence submitted, we would not be warranted in making any finding.

In work week?

We recommend a forty-hour week with overtime rates after forty hours in any one week.

Unfortunately, the commission's findings did not end the dispute. With another strike threatened by Local 113, meetings were held again with the State Labor Conciliator. This meeting proved to be to the University's advantage, for the dispute was settled by requiring the Union to withdraw its demands.

The conciliator also assured the University that the University Employees' Trade Union Council would raise no objections if action were taken in adopting and announcing the new labor relations policy.

For the first time, then, the University has a definite labor relations policy and a grievance procedure presumably acceptable to the unions. Because this policy was adopted at the end of the biennium, it is too early to evaluate its effects.

STUDENT EMPLOYMENT BUREAU

The Student Employment Bureau continued its function of helping University students who need part-time jobs by placing them in 10,062 jobs during the biennium. Student earnings amounted to \$5,515,481.98. (Table I.)

A total of 29,396 interviews were conducted, 10,831 with new students who applied for work and 18,565 with those who had applied previously and who came in to reapply. New job vacancies received numbered 14,387 and referrals to jobs totaled 14,871.

TABLE I. STUDENT EMPLOYMENT ACTIVITIES—CAMPUS AND OFF CAMPUS

	1946-47	1947-48	Total
New vacancies received	7,422	6,965	14,387
Applicants interviewed			
New during the year	5,686	5,145	10,831
Reapplicants	9,040	9,525	18,565
Total applicant interviews	14,726	14,670	29,396
Job referrals made	7,743	7,128	14,871
Job placements made	5,323	4,739	10,062
Student earnings (academic and non-academic)			
On campus	\$2,200,520.26	\$2,811,514.92	\$5,012,035.18
Off campus (estimated)	219,784.03	283,662.77	503,446.80
Total earnings	\$2,420,304.29	\$3,095,177.69	\$5,515,481.98

These figures compare with 5,258 vacancies, 4,646 placements, and \$518,785.38 in student earnings for the 1944-46 biennium. One reason for the very large increase shown in earnings is that a different method has been used for computing them.

In 1944-46, earnings on both campus and off-campus jobs were estimated from each placement made, while in 1946-48 the student earnings on campus were taken directly from the University payroll records and added to the estimated off-campus earnings.

Naturally this would show a large amount of earnings not represented by corresponding vacancy, referral, and placement figures. Another reason for larger earnings is that increasingly higher salaries were paid, particularly in the last half of the biennium.

The types of work involved in student jobs remained much the same, with office work and custodial and food service jobs leading in popularity both on and off campus. Academic positions, however, accounted for a good proportion of campus earnings.

Perhaps the one outstanding development affecting student employment during the biennium was the great increase in enrollment. In the fall quarter of 1946 a total of 27,103 students were enrolled, as compared to 11,396 in the fall quarter of 1945—an increase of 138 per cent. The number of men students increased 367 per cent while that of women students increased only 3.5 per cent.

This great influx of students brought about approximately the same proportionate increases in the student employment load. This meant not only that many more part-time jobs were needed, but also that a different emphasis was required to meet the needs of an applicant load that had suddenly become predominantly male. (The ratio of men to women applicants was $3\frac{1}{2}$ men to 5 women in the fall quarter of 1945 and $9\frac{1}{3}$ men to 5 women in the fall quarter of 1946.)

This need was met to a surprising degree, as evidenced by the placement figure of 10,062 for 1946-48 compared with 4,646 for the preceding biennium. There were no longer enough campus jobs to take care of the demand for part-time work; students became more willing to take jobs which they had formerly considered unacceptable and an increasingly larger number of off-campus placements were made.

With the displacement of some part-time employees by the easing of the general labor market for full-time workers, more effort was put into recruitment of jobs for students. Letters were sent to former and prospective employers calling attention to the availability of students. For the first time newspaper "positions wanted" advertisements were used. University departments were urged to use students wherever possible.

Aside from certain types of work requiring special skills, such as stenography or typing, the supply of student jobs during the last biennium has remained short compared to demand. Counting each interview as an application for work, there were almost three applications for every placement made. However, a larger volume of business would hardly be possible without further additions to the Student Employment Bureau staff.—
HELDWIN C. ANDERSON, *director*

SERVICE ENTERPRISES

University-operated Student Housing—Throughout the biennium, veterans were given first priority for all University housing facilities for men and for families. At Pioneer Hall for men, occupancy was increased by double-decking from the normal of 536 to 940, and there was a waiting list of veterans, as well as non-veterans, at all times. At Sanford and Comstock Halls for girls, priorities for filling vacancies were given Minnesota residents, and occupancy was increased at Sanford Hall from 245 to 283, and at Comstock Hall from 276 to 378. Sanford Hall was extensively remodeled in this period, and it was necessary to close the dormitory during the entire summer of 1947.

The eight houses located on the property purchased for the site of the new men's dormitory were utilized for veteran housing, and accommodated 111 men. Two additional temporary housing units were established: Stadium Quarters, providing barracks facilities for 218 men, now discontinued; and the Old Home Dormitory on the St. Paul Campus, for 63 men.

The University, in cooperation with the Federal Government, has established, largely within the past two years, the following units of temporary housing: 164 standard trailers, 50 expandable trailers, 100 quonset units, and 498 metal barracks units. The total cost to the University for buildings and other permanent improvements, through June 30, 1948, was \$456,182.52. Waiting lists have been divided into four priority groups, as follows: first priority, Minnesota veterans with children; second priority, married Minnesota veterans without children; third priority, out-of-state veterans with children; fourth priority, married out-of-state veterans without children. This Village, located on two

sites, one on Como Avenue midway between the two campuses, and the other east of University Grove, has been consistently filled, and continues to have a reasonably long waiting list. Under terms of the contracts with the government for operation of this housing, it was necessary to remit all net income to the government annually.

Staff Housing—The Staff Housing Bureau was started July 1, 1946, in an effort to assist University staff members in their housing problems, by serving as a clearing house for rentals to University staff members, and supplying general information regarding the rental or purchase of housing units. The following table shows numbers of contacts of this Bureau during various periods:

	July 1, 1946- June 30, 1947	July 1, 1947- Dec. 31, 1947	Jan. 1, 1948- May 24, 1948	Total
Interviews	746	638	254	1,638
Purchase of homes by staff members, through partial or complete service of Bureau	54	13	16	83
Listings (rooms)	524	574	178	1,276
Listings (rentals)	85	150	147	382
Rental accommodations other than University owned arranged directly through the Bureau				
Families	12	24	14	50
Couples	25	39	22	86
Single men or women	52	66	9	127

The five-family apartment at 501 Washington Avenue S.E. was remodeled in 1946-47, and has been administered by the Staff Housing Bureau for University staff members with children. Thatcher Hall, formerly a graduate student apartment building for 37 families, was allocated to new full-time instructors and assistant professors, beginning with the academic year 1946-47, in an effort not to discourage prospective new academic personnel because of the housing problem. An additional 48 units of prefabricated housing were allotted to new half-time teaching assistants and instructors.

Graduate Student Housing—The balance of the prefabricated units was assigned as follows: 37 to graduate students, in place of the 37 units in Thatcher Hall; and 11 to foreign graduate students.

Eating Facilities—Eating facilities on the campus, formerly adequate at Coffman Union Food Service and Shevlin Cafeteria, were overcrowded to the extent that it was necessary in January, 1948, to open a cafeteria and commuters' lunch room in an Annex to Coffman Union Food Service, the temporary building South of Vincent.

Stadium Stands—The biennium marked the start of the construction of permanent refreshment stands in the Stadium. It is estimated that the total cost of enlarging and paving the concourse, and constructing the stands, will exceed \$50,000. This major capital improvement was undertaken primarily to expedite and facilitate the handling of crowds in the concourse.

Post Office—Because of the heavy increase in student enrollment, it was necessary to supplement the original 23,000 post-office boxes with an additional 5,000 in 1947, and to place an order for 4,212 more, the maximum permitted within space limitations. This last order has not yet been completed.

University Garages—Congested conditions in the three University garages within the last two years have made obvious the need for construction of new garages as soon as possible. Since each new building constructed reduces available parking space, the parking situation has become acute.

Inter-Campus Trolley—The cost of operation of the Inter-Campus Trolley has steadily risen totaling \$48,733.41 in 1946-47, and \$58,501.26 in 1947-48. A total of 959,064 passengers were carried during 1947-48.

Scientific Apparatus Repair Shop—The Scientific Apparatus Repair Shop, at the close of the 1947-48 year, was divided into Glassblowing, which remains in the basement of Physics, and Central Shops, located in Temporary No. 3 South of Mines. It is hoped that this expansion will prove adequate to meet the needs for these services.

Truck Service—Because it was impossible to replace University trucks and passenger cars during the war years, the University fleet, though constantly maintained, had become old, and it was necessary at the close of 1947-48 to replace eight passenger cars and ten trucks.

	1946-47	1947-48
Ada Comstock Hall	\$ 208,573.04	\$ 229,189.05
Sanford Hall	121,336.44	126,762.75
Pioneer Hall	532,010.12	548,408.17
Pioneer Hall Cottages	20,949.43	12,544.04
Cooperative Cottages (women)	18,262.46	17,253.86
Stadium Quarters	11,740.02	11,273.99
Home Building	5,609.80	5,666.42
Center for Continuation Study	28,619.98	29,665.61
Como Avenue Housing Project	90,755.62	250,968.57
Como Avenue Housing Project—Prefabs	30,029.45	39,427.86
Thatcher Hall	20,993.02	21,250.40
501 Washington Avenue S.E.—Staff Housing	1,446.00	3,306.86
Coffman Union Food Service	614,283.18	607,612.03
Shevlin Hall Cafeteria	35,005.11	39,827.61
Coffman Union Food Service Annex		35,878.55
University Recreation Field Lunch Room	6,893.26	6,977.65
Cold Storage Plant	609,462.95	605,277.42
Milk and Cream Department	178,949.26	177,277.73
Stadium Stands	54,420.49	52,832.75
Printing Department	202,844.81	255,255.28
Mimeograph Department	44,792.67	51,366.04
Mimeograph and Bulletins (St. Paul Campus)	18,777.39	22,334.88
Post Office	20,904.74	21,538.35
University Laundry	106,085.13	120,938.12
University Garages	35,354.49	39,713.00
Dormitory Dens:		
Pioneer Hall Den	37,785.78	32,780.86
Sanford Hall Candy Den	1,808.58	2,790.20
Ada Comstock Candy Counter	2,712.93	5,990.01
Men's Gym Towel Fund	8,730.21	8,955.89
Locker Rentals	9,109.43	9,667.83
Eidsmo Clinic Building	250.00	750.00
Inter-Campus Trolley	20,217.49	23,588.07
Scientific Apparatus Repair Shop	18,518.73	23,291.34
Truck Service	4,080.00	14,446.07
	<u>\$3,121,312.01</u>	<u>\$3,454,827.26</u>

The above table shows the departments of the University operated under the supervision of Service Enterprises. Comparative earnings for both years of the biennium are given.—J. C. POUCHER, *director*.

SUMMARY OF CASH GIFTS, 1946-47

Description	Number	Amount	Total
Loan funds			
New	7	\$ 27,262.17	
Additions to previous gifts	3	2,700.83	
		<u>29,963.00</u>	\$ 29,963.00
Scholarship funds			
New	21	36,276.00	
Additions to previous gifts	33	15,851.02	
		<u>52,127.02</u>	52,127.02
Fellowship funds			
New	20	49,642.00	
Additions to previous gifts	23	76,388.85	
		<u>126,030.85</u>	126,030.85
Prizes			
New	0		
Additions to previous gifts	19	4,648.00	
		<u>4,648.00</u>	4,648.00
Research funds			
New	49	891,934.50	
Additions to previous gifts	47	206,641.50	
		<u>1,098,576.00</u>	1,098,576.00
Miscellaneous funds			
New	20	781,806.76	
Additions to previous gifts	13	235,271.48	
		<u>1,017,078.24</u>	1,017,078.24
Totals	255		<u>\$2,328,423.11</u>

THE PRESIDENT'S REPORT

CASH GIFTS, 1946-47

		Year Established
LOAN FUNDS—NEW		
\$ 11,881.09	Bequest in will of Mrs. Frank J. Percival to establish a loan fund for students majoring in Romance languages	1946
11,881.08	Bequest in will of Mrs. Frank J. Percival to establish a loan fund for students pursuing courses in physical education	1946
1,000.00	From Mrs. Rebecca A. Schuck to establish a loan fund at the Northwest School of Agriculture, as a memorial to Harold B. Schuck	1946
1,000.00	From the Women's Auxiliary of the St. Paul District Dental Society to establish a loan fund for deserving and needy undergraduate students in the School of Dentistry	1947
800.00	From Public Administration Alumni to establish a student aid and loan fund	1946
500.00	From Dr. and Mrs. W. L. Tift to establish a loan fund for home economics students in the College of Agriculture, Forestry, and Home Economics, in memory of Alice M. Child	1947
200.00	From the Mortar Board to establish an emergency loan fund	1946
<u>\$ 27,262.17</u>		
LOAN FUNDS—ADDITIONS TO PREVIOUS GIFTS		
\$ 2,000.00	A. E. Adams Student Loan Fund	1942
400.83	All-University Council Foreign Students Aid Fund	1943
300.00	Dad's Association Student Loan Fund	1927
<u>\$ 2,700.83</u>		
SCHOLARSHIP FUNDS—NEW		
\$ 25,000.00	From Mrs. Maurice L. Rothschild, Mrs. S. R. Pfau, Julius E. Lackner, and Mrs. Ira Frank, to establish scholarships in the School of Business Administration in honor of Mr. Maurice L. Rothschild	1947
2,500.00	From the membership of Local 1145, United Electrical Workers of America, CIO, to establish the Hubert H. Humphrey Scholarship Fund for research in infantile paralysis	1947
2,025.00	To establish a fellowship for the measurement of skills and training among household employees	1946
	\$1,500.00 The Grant Foundation, Incorporated	
	400.00 The Young Women's Christian Associations of Minneapolis and St. Paul	
	125.00 The Young Women's Christian Association of St. Paul	
1,500.00	From American Cyanamid Company to establish a predoctoral scholarship in chemical engineering	1947
1,250.00	Bequest in will of John L. Robbins to establish a scholarship in courses having to do with artificial incubation	1946
525.00	From Land O'Lakes Creameries, Incorporated, to provide for seven scholarship awards in the Agricultural Schools	1946
500.00	From Douglas Aircraft Company, Incorporated, to establish a scholarship in aeronautical or mechanical engineering	1946
400.00	From Messrs. Arthur and Louis Melamed to establish a scholarship fund in honor of their brother, Maurice L. Melamed	1946
348.00	From Encyclopaedia Britannica Films to establish a scholarship fund	1947
300.00	From Mrs. Elsie Z. Moyer for a scholarship for a graduate student interested in some phase of animal or plant physiology, as a memorial to her husband, Laurence S. Moyer	1946
300.00	From F. H. Peavey and Company, Van Dusen-Harrington Company for an undergraduate scholarship in the College of Agriculture, Forestry, and Home Economics	1947
265.00	From classes of the School of Agriculture on their silver anniversaries to establish one or more scholarships in the College of Agriculture, Forestry, and Home Economics	1947
	\$209.00 Class of 1921	
	56.00 Class of 1920	
235.00	From seven donors to establish the School of Social Work Scholarship Fund (for Whitney Young, Negro)	1947
200.00	From Daughters of the American Revolution of Minnesota (annually) for two scholarships—one in home economics and one in nursing	1947
200.00	From Chi Psi Fraternity (annually) to establish a scholarship or award	1946
200.00	From Alpha Mu Chapter of Phi Mu Alpha Sinfonia to establish a scholarship fund	1946
178.00	To establish the William A. O'Brien Scholarship Fund for undergraduate students in medical technology, the William A. O'Brien Loan Fund to be discontinued and the balance transferred to the new fund	1947
	\$100.00 Orb Society	
	28.00 Staff of medical technology (in memory of Mrs. Frances Evans)	
	25.00 Dr. John M. Brandel	
	10.00 Genevieve A. Arneson	
	10.00 Marguerite L. Fawcett	
	5.00 Irma Zarrow	
100.00	From Sanford Hall House Council (annually) to establish the Grace C. Nelson Scholarship Fund	1946
100.00	From Mariane L. McPheeters to establish a scholarship in home economics in memory of Alice M. Child	1947

		Year Established
100.00	From the Freshman Cabinet (annually) to establish a scholarship for an entering freshman	1947
50.00	From Sigma Sigma Alumnae Group of Sigma Alpha Iota of the Twin Cities (annually) to establish a scholarship in music	1947
\$ 36,276.00		
SCHOLARSHIP FUNDS—ADDITIONS TO PREVIOUS GIFTS		
\$ 2,750.00	Watumull Foundation Scholarship Fund	1945
	\$2,250.00 for Mr. Hingorani	
	500.00 for Mr. Gattani	
2,000.00	Flour City Architectural Education Fund (George B. Melcher Prize)	1945
1,735.00	Law Faculty Scholarship Fund	1925
	\$1,000.00 Anonymous	
	700.00 Anonymous	
	35.00 Professor Maynard E. Pirsig	
1,000.00	WNAX Agricultural Scholarship Fund	1943
979.31	"B" Scholarship and Loan Fund	1944
600.00	RCA Scholarship Fund	1945
600.00	Grace Ellis Ford Scholarship Fund	1941
524.16	Dean E. E. Nicholson Scholarship Fund for Returning Military Service Students	1942
500.00	The Flox Company, Incorporated, Fund	1945
500.00	Northern States Power Rural Electrification Awards	1944
461.55	Bertha Weiskopf Memorial Fund (changed to scholarship in 1946)	1935
450.00	Medical Social Work Fund	1929
450.00	Sears Roebuck Foundation Scholarship (for Gloria Fessler)	1937
400.00	Baruch Blum Fund (custody only)	1946
336.00	Methodist Church Scholarships	1944
	\$150.00 for Mr. Nishida	
	100.00 for Miss Torii	
	86.00 for Mr. Semba	
300.00	National Hillel Commission Scholarship	1944
250.00	Presser Foundation Scholarship Fund	1930
250.00	All-University Scholarship Fund	1945
225.00	Minnesota State Pharmaceutical Association Scholarship Fund	1917
200.00	American Society of Civil Engineers Scholarship (Northwestern Section)	1946
200.00	Mary Farrell Coffman Scholarship Fund	1945
200.00	Leora E. Cassidy Scholarship Fund (increased from \$75 to \$100)	1944
150.00	Agricultural Faculty Women's Club Scholarship Fund	1923
100.00	Evangelical and Reformed Church Scholarship Fund	1945
100.00	Twin City Panhellenic Association Scholarship Fund	1937
100.00	Marion L. Vannier Scholarship Fund	1930
100.00	Northwest Daily Press Association Scholarship Fund	1935
100.00	Minneapolis Women's Advertising Club Scholarship	1931
90.00	Caleb Dorr Fund	1920
50.00	Alpha Zeta Freshman Scholarship	1922
50.00	Home Economics Association Scholarship Fund	1924
50.00	Phi Upsilon Omicron Scholarship	1926
50.00	Theta Sigma Phi Scholarship Fund	1939
\$ 15,851.02		
FELLOWSHIP FUNDS—NEW		
\$ 15,050.00	From Charles J. Brand to establish a research fund in botany in honor of Professor Conway MacMillan	1946
	\$15,000.00 Charles J. Brand	
	50.00 Carolyn Crosby	
4,500.00	From the Minnesota Mining and Manufacturing Company to establish fellowships in chemistry and chemical engineering	1946
3,700.00	From the Commercial Solvents Corporation to establish a fellowship in chemotherapy under the direction of Dr. Wesley Spink	1947
3,600.00	From General Mills, Incorporated, to establish a post-doctoral research fellowship under the direction of Dr. Lee I. Smith	1946
2,800.00	From the United States Rubber Company to establish a predoctoral fellowship	1947
2,400.00	From the Lilly Research Laboratories for a fellowship in pharmaceutical organic chemistry	1947
1,800.00	From Alpha Phi Sorority Alumnae Association to establish a fellowship in research and training in heart disease	1947
1,800.00	From the Procter and Gamble Company to establish a predoctoral fellowship in physical chemistry for 1947-48	1947
1,500.00	From the Shell Fellowship Committee (plus tuition and fees) to establish a graduate fellowship in chemistry leading to a Master's or a Doctorate degree	1947
1,500.00	From the Shell Fellowship Committee (plus tuition and fees) to establish a graduate fellowship in geology leading to a Master's or a Doctorate degree	1947
1,500.00	From the E. G. Cort Memorial Fund, Incorporated, to establish a one-year fellowship to a graduate student writing a Doctor's thesis on the history and development of the Midland Cooperative Wholesale	1947
1,500.00	From the Kimberly-Clark Corporation to establish a fellowship in the field of physical chemistry	1946
1,467.00	From the American Foundation for Pharmaceutical Education to establish a fellowship in the Graduate School for a student majoring in pharmacognosy	1946
1,200.00	From an anonymous donor to establish the John F. Briggs Fellowship in Pathology	1947

		Year Established
1,200.00	From the Eastman Kodak Company to establish a fellowship for doctorate work in organic chemistry	1946
1,125.00	From the American Veterinary Medical Association to establish a graduate fellowship in zoology	1946
1,000.00	From Reynal and Hitchcock, Incorporated, to establish a fellowship to encourage writing in fiction, poetry, criticism, or American Studies	1946
1,000.00	From the National Academy of Sciences for laboratory expenses in connection with the fellowship in senior virus diseases of Dr. John R. Neefe (supported directly by the National Research Council)	1947
500.00	From the California Company (\$1,000 plus tuition if to a non-serviceman) to establish a graduate fellowship in geology	1947
500.00	From the Maico Company, Incorporated, for a fellowship in the field of hearing	1947
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\$ 49,642.00		

FELLOWSHIP FUNDS—ADDITIONS TO PREVIOUS GIFTS

\$ 27,390.00	Minneapolis General Hospital Fund	1935
16,702.00	Fellowships under the Hospital Affiliation Plan	
	\$3,000.00 Quain and Ramstad Clinic—radiology	1946
	2,400.00 St. Barnabas Hospital—medicine	1946
	2,400.00 St. Barnabas Hospital—surgery	1946
	2,200.00 St. Barnabas Hospital—pediatrics	1946
	1,302.00 Northwestern Hospital—medicine	1946
	1,200.00 Charles T. Miller Hospital—obstetrics and gynecology	1946
	1,200.00 Charles T. Miller Hospital—Amherst H. Wilder Dispensary—radiology	1946
	600.00 Charles T. Miller Hospital—surgery	1947
	1,200.00 Northwestern Hospital—surgery	1946
	1,200.00 Charles T. Miller Hospital—medicine	1946
4,500.00	Du Pont Postdoctoral Fellowship in Chemistry	1946
2,800.00	Du Pont Postgraduate Fellowship in Chemistry	1946
2,800.00	Du Pont Postgraduate Fellowship in Chemical Engineering	1946
2,778.90	Allied Chemical and Dye Corporation Fellowships	1941
2,500.00	American Dry Milk Institute Fellowship Fund	1925
2,400.00	St. Paul Children's Hospital Fellowship in Pediatrics and Research	1945
	\$1,200.00 The Children's Hospital	
	1,000.00 The Helping Hand Club of <i>The Farmer</i>	
	200.00 Webb Publishing Company	
2,296.00	Miller Hospital Fellowship Fund	1941
	\$1,200.00 Miller Hospital	
	1,096.00 Dr. E. P. Burch	
1,750.00	American Association of University Women, Minnesota State Division, Fellowship Fund	1943
1,400.00	Standard Oil Company (Indiana) Fellowship in Chemical Engineering	1946
1,400.00	Washburn Home Fellowship Fund	1939
1,350.00	Firestone Fund	1934
1,200.00	Superior Metal Products Company Fellowship Fund	1940
1,000.00	St. Paul Dispatch Fellowship Fund	1943
750.00	E. J. Longyear Company Graduate Fellowship in Economic Geology	1946
750.00	American Potash Institute, Incorporated, Fellowship	1940
717.00	Norwegian-American Graduate Fellowship Fund	1945
600.00	Swift and Company Nutrition Fellowship Fund	1945
500.00	Minnesota State Pharmaceutical Association Graduate Fellowship Fund	1931
500.00	McConnon and Company Industrial Fellowship Fund	1943
299.95	Gulf Oil Corporation Fellowship Fund	1943
5.00	Harriet Walker Hospital Association Fellowship	1939
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\$ 76,388.85		

PRIZES—ADDITIONS TO PREVIOUS GIFTS

\$ 3,485.00	4-H Club Fund	1931
	\$1,305.00 Standard Oil Company (Indiana)	
	1,000.00 Federal Cartridge Corporation	
	580.00 Northern States Power Company	
	300.00 Twin City Seed Company	
	200.00 J. R. Watkins Company	
	100.00 Pioneer Hi-Bred Corn Company	
500.00	Northern States Power Company Rural Electrification Award	1944
175.00	John S. Pillsbury Prize	1888
100.00	Southern Minnesota Medical Association Prize	1930
75.00	Louise M. Powell Prize	1928
75.00	American Society of Mechanical Engineers, Twin Cities Section, Prize	1931
75.00	Lambda Alpha Psi Prize	1929
54.00	American Society of Civil Engineers, Northwestern Section, Prize	1924
50.00	Gargoyle Club Prize in Architecture	1931
25.00	Chi Omega Prize (Pi Beta Chapter)	1927
20.00	Institute of Aeronautical Science, University of Minnesota Student Branch, Prize	1938
7.00	Eta Kappa Nu Prize (handbook)	1931

		Year Established
7.00	Pi Tau Sigma Prize (handbook)	1913
	Philip W. Pillsbury Home Economics Award (shelf of books)	1945
	Sigma Delta Chi Scholarship Award (certificate)	1945
	University Business Women's Club Scholarship Key	1939
	Alpha Kappa Psi Junior Scholarship Medallion	1937
	Delta Sigma Pi Scholarship Key	1935
	Phi Delta Junior Scholarship Award (bracelet)	1939
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\$	4,648.00	
RESEARCH FUNDS—NEW		
\$285,800.00	From the National Foundation for Infantile Paralysis, Incorporated (medicine)	
	\$210,800.00 For research on the fundamental pathogenesis of infantile paralysis	1946
	50,000.00 For research in physical therapy	1947
	25,000.00 To cover building changes in the Medical Sciences Building for the conduct of poliomyelitis research	1946
95,150.00	From the American Cancer Society	
	\$75,000.00 For the construction of a Cancer Research Institute in the Medical School (medicine)	1947
	17,000.00 For research on carbon separation, under the direction of Dr. A. O. C. Nier (physics)	1946
	3,150.00 For research under the direction of Dr. R. A. Huseby on electron microscopic visualization of the milk agent (medicine)	1947
130,000.00	From Carnegie Corporation for a Scandinavian Area program in the College of Science, Literature, and the Arts and the Graduate School (Graduate School)	1947
93,648.00	From the United States Public Health Service (medicine)	
	\$25,355.00 For research on chemotherapy of schistosomiasis and filariasis—Dr. R. N. Bieter	1947
	24,068.00 For research on human caloric balance	1946
	10,000.00 For epidemiological studies	1946
	8,900.00 For research on gastric cancer—Dr. O. H. Wangensteen	1947
	8,775.00 For research on sclerotic nerve cell	1946
	6,500.00 For membrane research	1946
	3,950.00 For research on histochemical studies on the stomach in relation to cancer—Dr. David Glick	1946
	2,500.00 For research on the etiology of rheumatic endocarditis	1946
	2,100.00 For research on the relation of gastritis to cancer of the stomach—Dr. Robert Hebbel	1946
	1,500.00 For research on bacterial lipoxidases	1946
75,000.00	For the Minnesota Technical Research Fund under the direction of Dr. John T. Tate (technology)	1946
	\$15,000.00 General Mills, Incorporated	
	15,000.00 Minneapolis Star Journal and Tribune	
	15,000.00 Northern States Power Company	
	15,000.00 Minneapolis-Honeywell Regulator Company	
	15,000.00 Minnesota Mining and Manufacturing Company	
35,585.00	For the establishment of a malignant disease research fund for research on cancer and allied diseases, under the direction of Dr. Owen H. Wangensteen (medicine)	1946
	\$25,000.00 From an anonymous donor to establish the fund	
	10,000.00 Mary Andersen through the Bayport Foundation	
	400.00 C. O. Diessner	
	100.00 Fred Harris	
	50.00 Mr. and Mrs. Jerome Hirsch	
	10.00 Anonymous	
	10.00 Union Home Mission Club of Renville County	
	5.00 Carmen E. Benson	
	5.00 C. E. Wood	
	5.00 Bluebird 4-H Club	
30,000.00	From the Herman Frasch Foundation (\$6,000 a year for five years) for research on frost resistance in plants under the direction of the Division of Agricultural Biochemistry (agriculture)	1947
20,000.00	From the International Association of Ice Cream Manufacturers through the National Dairy Council for research on ice cream, under the direction of Dr. Ancel Keys (medicine)	1947
20,000.00	From Silas McClure for research on the diseases of metabolism and nutrition in children (\$5,000 to equip and install a permanent metabolic research unit in the pediatric section of the Mayo Memorial or University Hospitals; \$15,000 for employment of especially qualified personnel (medicine)	1947
11,600.00	From Dr. William L. McKnight for research in reconstructive surgery under the direction of Dr. Logan Leven (medicine)	1947
10,000.00	From the American Dairy Association, through the National Dairy Council, for research on cholesterol metabolism, under the direction of Dr. Ancel Keys (medicine)	1947
10,000.00	From friends of the late Dr. Max Hoffman for a memorial fund for support of endocrinological research under the direction of Dr. C. J. Watson (medicine)	1947
7,000.00	From the Donner Foundation to establish a research on the effect of urethane and related chemicals on myelogenous leukemia of the mouse, under the direction of Dr. Arthur Kirschbaum (medicine)	1947

	Year Established
7,000.00 For the Pharmacology Research Fund for research on evaluation of new drugs and pharmaceutical preparations (pharmacy)	1946
\$1,750.00 Ciba Pharmaceutical Products	
1,500.00 Winthrop Chemical Company	
750.00 Eli Lilly and Company	
750.00 Parke, Davis and Company	
750.00 Abbott Laboratories	
750.00 G. D. Searle and Company	
750.00 American Cyanamid Company	
6,000.00 From the John and Mary R. Markle Foundation to establish a brain research under the direction of Dr. A. B. Baker (medicine)	1946
5,000.00 From Carnegie Corporation of New York for research on the teaching of English under the direction of Dr. Dora V. Smith (education)	1947
4,740.00 From Kraft Foods Company to establish a research on the properties of dry and sweet cream buttermilk (agriculture)	1947
4,390.00 From Soy Flour Association to establish a research on thermophilic bacteria (medicine)	1946
3,000.00 From the National Research Council for research on sterid metabolism under the direction of Dr. Saul L. Cohen (medicine)	1947
3,000.00 From the Midwest Barley Improvement Association to establish a research on barley for development of a suitable variety of malting barley for Minnesota (agriculture)	1947
3,000.00 From the American Dry Milk Institute, Incorporated, to establish a research on lactose, sucrose, glucose, and starch as they may affect the utilization of protein by the growing rat (medicine)	1947
2,600.00 From the Nutrition Foundation, Incorporated, to establish a research on the metabolic functions of vitamin E, under the direction of Dr. Paul D. Boyer (agriculture)	1946
2,500.00 From the Research Corporation to establish The Frederick Gardner Cottrell Transverse Acoustic Waves Research under the direction of Professor Henry E. Hartig (technology)	1946
2,400.00 From Battelle Memorial Institute to establish a research on the importance of copper in the diet of swine under the direction of Dr. Walter O. Lundberg (agriculture)	1946
2,000.00 From Smith, Kline, and French Laboratories to establish a research on antibiotics under the direction of Dr. Milward Bayliss and Dr. David Glick (medicine)	1946
2,000.00 From Minneapolis-Honeywell Regulator Company for research on heating systems under the direction of Dr. A. B. Algren (technology)	1947
2,000.00 From B. F. Nelson through the Minnesota Medical Foundation to establish a research on diabetes under the direction of Dr. C. J. Watson (medicine)	1947
1,900.00 From the Minnesota Cancer Society, Incorporated, to establish a research on tumors under the direction of Dr. J. L. McKelvey (medicine)	1946
1,800.00 From the John and Mary R. Markle Foundation to establish a research on radioactive isotopes as tracers of metabolic processes in calcified tissues under the direction of Dr. W. D. Armstrong (medicine)	1946
1,725.00 From the Quaker Oats Company to establish a cooperative research on improvement in oats (agriculture)	1947
1,550.00 From the John and Mary R. Markle Foundation to establish a research on kidneys under the direction of Dr. Lemen J. Wells (medicine)	1946
1,400.00 From W. Atlee Burpee Company to establish a research on breeding and improvement of vegetable crops (agriculture)	1946
1,200.00 From the American Cyanamid Company to establish a research on the use of cyanamid in the control of potato disease (agriculture)	1946
1,000.00 From Josiah Macy, Jr., Foundation to supplement salary of Dr. F. W. Hoffbauer while working on investigations of techniques in experimental liver pathology during his sabbatical year (medicine)	1947
1,000.00 From Henry H. Wiecek to establish a fund for cancer research in memory of Mrs. Alvina D. Wiecek (medicine)	1947
1,000.00 From the National Research Council for laboratory expenses in connection with research work carried on by Dr. Edward P. Crump (medicine)	1946
1,000.00 From Harry J. Reicher to establish the Harry and Anne Reicher Fund for Surgical Research under the direction of Dr. O. H. Wangenstein (medicine)	1947
750.00 From Sherwin-Williams Company to establish a research on the effect of various formulations of 2,4-dichlorophenoxyacetic acid on the flax plant (agriculture)	1947
600.00 From the Agricultural Supply Company for research on control of potato insects and diseases (agriculture)	1946
567.50 From Mr. and Mrs. Raymond E. Opstad to establish a fund for poliomyelitis research in memory of Raymond E. Opstad, Jr. (medicine)	1947
540.00 From Mrs. Gertrude Patterson Priest to establish a research on cancer (medicine)	1946
500.00 From the American Society of Refrigerating Engineers for research in the field of refrigeration (technology)	1946
500.00 From the American Medical Association to establish a research on renal gluconeogenesis under the direction of Dr. R. M. Reinecke (medicine)	1947
500.00 From Dr. Macnider Wetherby to establish a research in the Department of Medicine (medicine)	1946
500.00 From the Engineering Foundation, through American Society of Civil Engineers, to establish a research on sedimentation along stream beds (technology)	1946
200.00 From Frank A. Nelson to establish a fund as a memorial to Mrs. Tillie Nelson for surgical research in cancer (medicine)	1947

	Year Established
125.00 Consultation fees of Dr. Wesley W. Spink and his associates from Swift and Company in connection with cases of human brucellosis at the Swift and Company plant, to be used for costs involved in traveling to see brucellosis cases (Brucellosis Research and Travel Fund) (medicine)	1946
100.00 From Charles L. Parsons for the Radiology and Physical Therapy Special Research Fund (medicine)	1946
64.00 For the physiology budget for poliomyelitis research (medicine)	1946
\$25.00 Martin K. Mueller	
25.00 Minnesota District of the Evangelical Lutheran Synod of Missouri, Ohio, and other states	
14.00 Friends of Margie Seim	
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\$891,934.50	
RESEARCH FUNDS—ADDITIONS TO PREVIOUS GIFTS	
\$ 49,200.00 Frank E. Burch Research Fund in Ophthalmology (medicine)	1943
\$40,950.00 Anonymous	
4,000.00 Mrs. Theodore W. Griggs	
1,000.00 Mr. and Mrs. S. M. Archer	
1,000.00 Dr. Edward P. Burch	
1,000.00 Alice M. O'Brien	
500.00 Arthur F. Williams	
200.00 Julian B. Baird	
200.00 Carl T. Schuneman	
100.00 G. H. Spencer	
100.00 Mr. and Mrs. David Winton	
100.00 Dr. Meyer Wiener	
50.00 Mrs. William Henry	
41,885.00 From the American Cancer Society, Incorporated	
\$12,810.00 American Cancer Society, Incorporated, Research Fund (mass spectrometer development) (physics)	1946
10,500.00 American Cancer Society, Incorporated, research on mammary tumor milk agent (medicine)	1946
6,825.00 American Cancer Society, Incorporated, research on mammary milk agent in mice (medicine)	1946
6,500.00 American Cancer Society, Incorporated, research on cancer in rabbits (medicine)	1946
5,250.00 American Cancer Society, Incorporated, research on the genesis of mammary cancer in mice (medicine)	1946
18,775.00 Life Insurance Medical Research Fund on Hypertension (medicine)	1946
8,950.00 Minnesota and Ontario Paper Company Research (technology)	1940
7,000.00 Rock Analysis laboratory (geology)	1929
6,342.50 Minnesota Medical Foundation Research on diuretic effects of organic acids (medicine)	1945
6,000.00 Land O'Lakes Creameries, Incorporated, milk dryer research (agriculture)	1945
5,000.00 The Insulation Board Institute Research (technology)	1941
5,000.00 Jane Coffin Childs Memorial Fund for Medical Research (medicine)	1943
5,000.00 Jane Coffin Childs Memorial Fund for Medical Research—gastric carcinoma (medicine)	1945
4,500.00 Lederle Laboratories Research in Animal Diseases (agriculture)	1944
4,427.50 Soy Flour in Bakery Products Research Fund (agriculture)	1945
4,800.00 American Dairy Association Research Fund (agriculture)	1943
3,000.00 Federation of Paint and Varnish Production Clubs Research Fund (technology)	1946
2,500.00 Flora Rosenblatt Fund for Cancer Research (medicine)	1944
2,500.00 American Dry Milk Institute Research (agriculture)	1942
2,000.00 Minnesota Valley Canning Company Research Fund (agriculture)	1946
2,000.00 Augustus L. Searle Fund for Surgical Research (medicine)	1940
2,000.00 The Borden Company Soy Bean Research Fund (medicine)	1944
2,000.00 United States Public Health Service Cancer Research Fund (medicine)	1946
2,000.00 Virus Disease and Cancer Research Fund (medicine)	1926
1,600.00 Central Fibre Corporation Research to Improve the Quality of Flax Straw (agriculture)	1937
1,450.00 Minnesota and Ontario Paper Company Research (agriculture)	1935
1,350.00 Firestone Fund (agriculture)	1934
1,250.00 American Dairy Association Research on Fats (medicine)	1946
1,200.00 Parke, Davis and Company Research (agriculture)	1946
1,000.00 Central Fibre Corporation Research Fund (agriculture)	1937
1,000.00 American Philosophical Society Fund (astronomy)	1940
1,000.00 Tennessee Corporation Plant Nutrition Research Fund (agriculture)	1943
1,000.00 Tennessee Corporation Fungicide Research Fund (agriculture)	1944
1,000.00 The Borden Company Soy Bean Research (agriculture)	1944
1,000.00 Berenice Moriarity Fund for Surgical Research (medicine)	1945
1,000.00 Dr. Donald P. Ordway and Mrs. Marian Sherman Ordway Fund for Surgical Research (medicine)	1946
1,000.00 Sivertsen Foundation for Cancer Research from the Minnesota Medical Foundation (medicine)	1939
1,000.00 Experimental Medical Research Fund from the Dietene Company (medicine)	1942
1,000.00 Milk Distributors Research Fund (agriculture)	1936
750.00 American Potash Institute, Incorporated, Research on the Functions of Boron (agriculture)	1940
600.00 Middle West Soil Improvement Committee Research Fund (agriculture)	1940
600.00 Minnesota and Ontario Paper Company Insulation Board Research Fund (Technology)	1944
500.00 Acme White Lead and Color Works Research Fund (agriculture)	1945

THE PRESIDENT'S REPORT

		Year Established
500.00	The Flox Company, Incorporated, Fund (agriculture).....	1945
500.00	Robert A. Cooper Fund for Surgical Research (medicine).....	1945
500.00	Owen H. Wangenstein Fund for Surgical Research (medicine).....	1938
	\$300.00 Mr. and Mrs. B. P. Keys	
	100.00 Dr. Owen H. Wangenstein	
	100.00 Charles J. Upin	
331.50	Rheumatic Fever Research Fund (medicine).....	1945
	\$300.00 Harry Doust	
	17.50 Friends of Reuben Palmer	
	5.00 Mr. and Mrs. Bernard F. Olson and family	
	5.00 American Legion Auxiliary of Sanborn, Minnesota	
	4.00 Camp Fire Girls, Room 109, Bryant Junior High School	
275.00	Dight Institute (medicine).....	1938
240.00	Economics Laboratory, Incorporated, Germicidal Detergents Research Fund (medicine).....	1945
115.00	Floyd B. Olson Cancer Memorial Foundation Research Fund (medicine).....	1937
	\$79.00 Mrs. Philip A. Smith	
	36.00 Conrad J. Hansen	
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\$206,641.50		

MISCELLANEOUS FUNDS—NEW

\$275,075.00	Variety Heart Hospital Fund.....	1946
	\$218,000.00 Variety Club of the Northwest	
	51,923.55 Variety Club of the Northwest	
	3,701.45 American Legion of Minnesota	
	1,000.00 Jefferson Transportation Company	
	200.00 Eleanor Doust	
	100.00 Mrs. Harry Doust	
	50.00 Frank H. Lorge	
	50.00 Atkinson Milling Company	
	25.00 Co-Efficients' Club	
	10.00 Dean Theodore C. Blegen	
	10.00 Dr. Ben Sommers and family, in memory of Mrs. Harry Parks Ritchie	
	5.00 Ruth A. Schain (Mrs. George A.)	
130,000.00	From Carnegie Corporation of New York for a study of modern Scandinavian	1947
95,975.00	From W. K. Kellogg Foundation to give financial assistance over a three-year period in extending and strengthening the program of postgraduate dental edu- cation.....	1946
87,750.00	From W. K. Kellogg Foundation for support over a three-year period of nurs- ing education.....	1946
64,750.00	Naval Science Building Fund.....	1946
60,000.00	From W. K. Kellogg Foundation for support over a three-year period of the program for the training of hospital administrators.....	1946
45,000.00	From The Rockefeller Foundation to be applied toward the expenses of the Industrial Relations Center.....	1947
15,000.00	From Minnesota Association for Crippled Children and Disabled Adults to provide a mobile speech clinic for a survey of school children with respect to hearing difficulties and speech adjustments.....	1946
5,000.00	From Carnegie Corporation of New York to support a summer institute for extension workers under the auspices of the National University Extension Association.....	1947
1,335.82	From friends of the late Professor Forrest R. Immer to establish a library fund in his honor.....	1947
400.00	From the College Entrance Examination Board for assistance in the Carnegie Corporation Veterans Study under the direction of Dr. Ruth E. Eckert.....	1947
300.00	From the Watumull Foundation for the purchase of books on India for the Library.....	1947
271.94	From the Class of 1947, School of Agriculture, for the purchase of an ampli- fying and loud speaker system for the St. Paul Campus Gymnasium.....	1947
200.00	From Koochiching County Farm Bureau to apply on purchase price of a Peirce Wire Recorder for the Agricultural Extension Service.....	1947
200.00	From the Newspaper Guild of the Twin Cities (annually) to establish an annual lectureship in journalism.....	1947
200.00	From Elizabeth McGregor to establish a fund for the purchase of books and magazines for the School of Nursing.....	1947
125.00	From the University Hospitals Auxiliary of the Faculty Women's Club for the purchase of radios for patients' use.....	1947
100.00	From the Division of Neurology to establish a fund for neurology publications	1947
100.00	From Dr. H. H. Berg to establish a Pathological Museum in honor of Dr. E. T. Bell.....	1947
24.00	From the Quiz of the Twin Cities for designing and making a wall flag.....	1947
	For an Honorarium for lecture in the University of Minnesota Medical School from the Phi Delta Epsilon Club.....	1947
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\$781,806.76		

MISCELLANEOUS FUNDS—ADDITIONS TO PREVIOUS GIFTS

	Year Established
\$137,302.00 United States Public Health Service Nurse Cadets Fund.....	1944
90,000.00 Mayo Memorial Fund.....	1946
1,950.00 Minneapolis General Hospital Pediatrics Directorship.....	1935
1,600.00 Minnesota Museum of Natural History Special Collections Fund.....	1943
1,200.00 Minnesota Jewish Council 4-H Club Fund.....	1942
1,000.00 Booth Memorial Hospital Fund.....	1940
800.00 Rockefeller Foundation Study of Northwestern History.....	1943
612.25 Friends of the University Library Fund.....	1944
271.61 School of Agriculture Electric Organ Fund.....	1940
\$146.11 Class of 1939	
25.00 Class of 1897	
20.00 Mr. and Mrs. Orville Kuhnau and Calvin Kuhnau, Mr. and Mrs. Theodore Kuhnau and Quentin Kuhnau	
15.00 Meeker County Farm Bureau	
11.00 Mr. and Mrs. William Boss	
10.00 Mr. and Mrs. F. E. Cutting	
10.00 Charles A. Worcester	
5.00 Mr. and Mrs. W. H. Peters	
5.00 Virginia Barwise	
5.00 Mrs. LeRoy Cady	
5.00 W. R. Young	
5.00 Gladys Jacobson	
5.00 Aeryl Leslie	
2.50 District No. 4, Aggie Reunion Association	
2.00 Lester Crawshaw	
233.00 Endowment Fund of the School of Nursing.....	1936
130.00 Robert Meyer Clinical Associate Professorship Fund.....	1940
\$80.00 Anonymous	
50.00 Felix Moses	
125.00 William Harvey Emmons Fund.....	1944
\$100.00 C. C. Allen	
25.00 Charles E. Erdman	
47.62 Frederic King Butters Memorial Fund.....	1945
\$35.00 Dr. A. Orville Dahl	
12.62 (and future royalties on Dr. Butters' books) Dr. Lee I. Smith	
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\$235,271.48	

BOOK GIFTS, 1946-47

For the Law Library:

- Philippine Executive Orders and official material from the University of the Philippines, School of Law
- 12 numbers of the *Lawyers Guild Review* from Mr. Max K. Kampelman
- Directives of the Supreme Commander for Allied Powers from Carl E. Erickson, St. Cloud, Minnesota
- Nos. 5 to 17 of the *Riksdokumentens Meddelelsesblad* from E. Bjerkelund, Oslo, Norway
- Volumes 69 and 70 of the Minneapolis City Council *Proceedings* from the City Council of the City of Minneapolis
- Over 600 volumes of court reports from Harvey S. Hoshour, St. Paul, Minnesota
- 469 volumes of periodicals, laws, bar proceedings, commission reports, texts, and bar directories from the firm of Dorsey, Colman, Barker, Scott, and Barber, Minneapolis, Minnesota
- Briefs and records in the case of Aetna Portland Cement Company et al. V. Federal Trade Commission from the firm of Donovan, Leisure, Newton, Lumbard, and Irvine, New York, New York
- 208 Legislative Manuals from various states from Minnesota Historical Society, St. Paul, Minnesota
- 95 volumes of miscellaneous commission reports from Minnesota State Library, St. Paul, Minnesota
- Two sets of the *Minnesota Statutes Annotated* to the Law School from West Publishing Company, St. Paul, Minnesota
- Copy of *Constitution of the Philippine Republic* from His Excellency Manuel Roxas, President of the Philippine Republic
- Bound volume of the *Federal Register* (September 11, 1946) from the West Publishing Company, St. Paul, Minnesota
- Autographed copy of the *Constitution of the Republic of China* by His Excellency President Chiang Kai-shek
- Autographed copy of the *Constitution of the United States of Brazil* from His Excellency Enrico Gaspar Dutra, President of the United States of Brazil
- Set of the *Reorganization Proceedings* of the Chicago, Milwaukee, St. Paul and Pacific Railroad Company from Arthur C. Erdall
- Copy of the new *Japanese Constitution* autographed by the Honorable Shigeru Yoshida from General Douglas A. MacArthur through Brigadier General Courtney Whitney
- Books, periodicals, and reprints from William L. Prosser
- 62 volumes of session laws, statutes, and digests from Messrs. Stinchfield, Mackall, Crouse, and Moore
- 71 volumes of texts and session laws and some 50 numbers of legal periodicals and pamphlets from Messrs. Carleton, Cherry, and Norton
- 162 numbers of the *Minnesota Law Review* from Ernest W. Erickson
- 22 volumes of *O.P.A. Regulations* from R. W. Norton

MISCELLANEOUS GIFTS, 1946-47

For the University Gallery:

Collection of photographs of the late Georgia May Rees from Mr. and Mrs. Charles W. Rees, Van Nuys, California
 Copy of Rosa Bonheur's painting entitled "Horse Fair" from Mrs. Simon Kruse
 Valuable old art magazines and clippings from C. E. Tupper

For the University Theatre:

Costumes and ornaments from Alfred Pillsbury
 Designs for "The Iceman Cometh" from Robert Edmond Jones

For the University Hospitals:

One Emerson adult respirator, value \$1,425.10, from the Crippled Child Relief, Minneapolis
 One adult respirator, value \$800, from the Waterman-Waterbury Company
 Toys, value \$300, from the Traffic Club, Minneapolis
 Toys, value \$100, from the Crippled Child Relief, Minneapolis
 Books, value \$59.50, from the Civil Service employees, Department of Agriculture, University of Minnesota
 Toys, value \$10, from friends of Warren Carlson (deceased) in his memory

One framed picture of a B-26 from the Glenn L. Martin Company for the Department of Aeronautical Engineering

One stereoscopic wide-field microscope from the Telex Company to the Department of Zoology
 Equipment and material from General Mills, Incorporated, to the Department of Physiology
 Medicine kit of historic interest from the J. F. Jordan Pharmacy, St. Paul, for the College of Pharmacy
 Photo recording device from Paul G. Pretegaard to the Division of Agricultural Engineering
 Portrait of the Honorable John S. Pillsbury to be hung in the President's residence, from the Pillsbury heirs

One electroencephalograph from the Burton Manufacturing Company for the Division of Neurology of the Medical School

129 colored slides for the Hayden Slide Collection, Department of Geology and Mineralogy, from Junior F. Hayden, Minneapolis

13,733 plant specimens to the University Herbarium from ten donors

12,283 plant specimens to the Botany Herbarium from six donors

6 plant specimens from Dr. C. O. Rosendahl, Department of Botany, and 262 specimens from Olga Lakela, State Teachers College, Duluth, to the Department of Botany Herbarium

40-unit electric Kjeldahl digestion apparatus and a 24-unit gas-heated Kjeldahl distillation apparatus from anonymous donors to the Division of Agricultural Biochemistry

One laboratory sample of the first coaxial telephone cable from James F. Bell, Minneapolis, to the Department of Electrical Engineering

ASSIGNMENTS OF PATENT APPLICATIONS, 1946-47

Serial Nos. 687,652, 687,653, and 687,654, Thermistor, Cases Nos. 2, 5, and 6, Professor Otto H. Schmitt

Serial No. 719,931, Method of Extracting, Professor Ole Gisvold

Serial Nos. 685,349, 685,350, 685,351, 685,352, 685,353, 685,354, Thermistor, Professor Otto H. Schmitt

PATENTS RECEIVED, 1946-47

No. 2,407,726, Methods of Preparing Chemical Products, Application Serial No. 405,796, Smith and Renfrow, Jr.

No. 2,411,942, Chemical Processes, Serial No. 425,324, Dr. Lee Irvin Smith and Herbert E. Ungnade

Argentine No. 56,939, corresponding to United States Serial No. 529,426 and Argentine Application No. 77,075, Process of Preparing Fibers and Yarns, Professor Lloyd H. Reyerson and Elias J. Amdur

SUMMARY OF CASH GIFTS, 1947-48

Description	Number	Amount	Total
Loan funds			
New	2	\$ 3,900.00	
Additions to previous gifts	5	1,226.53	\$ 5,126.53
Scholarship funds			
New	12	18,356.43	
Additions to previous gifts	32	28,217.67	46,574.10
Fellowship funds			
New	11	20,070.00	
Additions to previous gifts	48	119,452.67	139,522.67
Prizes			
New	2	240.00	
Additions to previous gifts	19	982.00	1,222.00
Research funds			
New	49	393,852.12	
Additions to previous gifts	70	379,656.10	773,508.22
Miscellaneous funds			
New	13	242,303.00	
Additions to previous gifts	18	176,243.35	418,546.35
Totals	281		\$1,384,499.87

CASH GIFTS, 1947-48

		Year Established
LOAN FUNDS—NEW		
\$ 2,000.00	From Mr. and Mrs. Ben S. Richards to establish a loan fund in the School of Nursing in memory of their daughter, Frances May Richards	1948
1,900.00	From the Advertising Club of Minneapolis to establish a loan fund for students specializing in the study of advertising in the School of Journalism, School of Business Administration, or University College	1947
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\$ 3,900.00		

LOAN FUNDS—ADDITIONS TO PREVIOUS GIFTS

\$ 500.00	Class of 1902 Student Loan Fund	1928
500.00	Public Administration Alumni Student Aid and Loan Fund	1946
161.53	Edward E. Nicholson Student Loan Fund	1942
40.00	Mortar Board Emergency Loan Fund	1946
25.00	Householders Loan Fund	1942
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\$ 1,226.53		

SCHOLARSHIP FUNDS—NEW

\$ 4,212.56	From the Campus Chest to establish a scholarship fund	1947
2,500.00	From the Class of 1916 in honor of their classmate, Professor Bernard W. Bierman, to establish a scholarship to aid needy and worthy students	1948
2,400.00	From Tozer Foundation, Incorporated, to establish a scholarship fund at the University of Minnesota for worthy and needy high school graduates, with preference given to students from Kanabec, Pine, and Washington counties	1947
2,000.00	From an anonymous donor to establish a general scholarship fund for any student in the University to be called the Frank H. Jacobson Scholarship Fund	1948
1,700.00	Isaak Wal Scholarship Fund (custody only)	1947
1,200.00	To establish a scholarship in the Department of Music to be known as the Creative Music Scholarship Fund	1947
	\$1,000.00 from C. O. Kalman	
	200.00 from Dr. Frederic E. B. Foley	
1,126.42	To establish a scholarship in honor of the late Professor Robert V. Cram	1948
	\$1,011.42 from friends of Professor Cram	
	100.00 from Mrs. Robert V. Cram	
	10.00 from John L. Heller	
	5.00 from Elizabeth Jackson	
1,000.00	From Cowin and Company, Incorporated, to establish a graduate scholarship in the Department of Civil Engineering	1948
717.45	From Minnesota Masquers to establish a scholarship for junior, senior, and graduate students majoring in any field of speech	1948
500.00	From the Douglas Aircraft Company to establish a scholarship in aeronautical or mechanical engineering	1947
500.00	From the National Farmhouse Fraternity to establish a scholarship fund in honor of the late Florence M. (Mrs. H. K.) Wilson	1947
500.00	From Artists Course income from ticket resales to establish a music scholarship	1948
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\$ 18,356.43		

SCHOLARSHIP FUNDS—ADDITIONS TO PREVIOUS GIFTS

\$ 4,176.00	From Mrs. Eunice P. Arnold (proceeds of insurance policy) for the Alice Pomeroy Scholarship Fund	1940
4,176.00	From Mrs. Eunice P. Arnold (proceeds of insurance policy) for the Ray V. Arnold Scholarship Fund	1940
3,201.67	All-University Scholarship Fund	1945
	\$1,500.00 Walter H. Nyberg, attorney-in-fact for Adelia L. Eggenstein (for Dr. Arthur Djang)	
	900.00 Lazarus S. You (for Miss Y. C. Puh)	
	225.00 Westminster Presbyterian Church	
	167.50 P. W. Skozmo Charitable Trust	
	167.50 B. C. Gamble Charitable Trust	
	166.67 Improved Benevolent and Protective Order of Elks of the World (for Shirley Terrell)	
	75.00 Women's Association of Westminster Church (for Ih-Chi Fan)	
2,115.00	Sears-Roebuck Agricultural Scholarship Fund (college)	1947
1,500.00	Borden Home Economics Scholarship Fund	1945
1,500.00	American Cyanamid Company Graduate Scholarship Fund	1947
1,125.00	WNAX Agricultural Scholarship Fund	1943
1,000.00	George T. Slade Scholarship Fund	1942
1,000.00	Douglas Scholarship Fund	1946
1,000.00	From an anonymous donor for the Law Faculty Scholarship Fund	1925
1,000.00	Baruch Blum Scholarship Fund (custody only)	1946
975.00	"B" Scholarship and Loan Fund	1944
950.00	Sears-Roebuck Agricultural Scholarships (schools)	1937
900.00	Mando Graduate Scholarship Fund	1946
600.00	RCA Scholarship Fund	1945
525.00	Land O'Lakes Creameries, Incorporated, Scholarship Fund	1946
300.00	National Hillel Commission Scholarship Fund	1944

	Year Established
300.00 F. H. Peavey and Company, Van Dusen-Harrington Company Undergraduate Scholarship Fund	1947
250.00 Presser Foundation Scholarship Fund	1945
225.00 Minnesota State Pharmaceutical Association Scholarship Fund	1917
200.00 Chi Psi Fraternity Scholarship Fund	1946
200.00 Mary Farrell Coffman Scholarship Fund	1945
200.00 Rite-Way Milker Scholarship Fund	1945
150.00 Twin City Panhellenic Association Scholarship Fund	1937
139.00 William A. O'Brien Scholarship Fund	1947
\$75.00 Alpha Delta Theta Medical Technology Alumnae	
20.00 Alpha Delta Theta	
20.00 L. Jane Weber	
19.00 Minnesota Department of Health (thirteen donors)	
5.00 Helen A. Hauser	
100.00 Grace C. Nelson Scholarship Fund	1946
100.00 Burpee Award in Horticulture	1946
100.00 Northwest Daily Press Association Scholarship Fund	1935
60.00 Sigma Alpha Iota Alumnae Group Scholarship Fund	1947
50.00 Alpha Zeta Scholarship Fund	1922
50.00 Home Economics Association Scholarship Fund	1924
50.00 Phi Upsilon Omicron Scholarship Fund	1926
\$ 28,217.67	

FELLOWSHIP FUNDS—NEW

\$ 3,500.00 From the Rockefeller Foundation to establish a fellowship in American Studies for Tremaine McDowell	1947
3,300.00 From the American Foundation for Pharmaceutical Education	
\$1,700.00 For a fellowship for Olav Johan Braenden of Norway	1947
1,000.00 For a graduate fellowship for G. G. Krishnamurty in the field of pharmaceutical chemistry	1947
600.00 For a fellowship in the Graduate School for Virgil L. Magnu- son	1947
3,000.00 From International Nickel Company, Incorporated (\$1,500 annually for two years, plus tuition) to establish a fellowship to stimulate work in the fields of nickel, copper, and the platinum metals	1948
3,000.00 From Associated Women of the American Farm Bureau Federation to establish a fellowship for research for the causes and control of poliomyelitis, to be known as the Mrs. Charles W. Sewell Memorial Fellowship Fund	1948
2,400.00 From Procter and Gamble Company (\$1,800 if a single student) to establish a graduate fellowship in the Department of Chemical Engineering	1948
2,400.00 From Eli Lilly and Company to establish two fellowships in pharmaceutical organic chemistry	1947
1,720.00 From John Morrell and Company to establish a graduate fellowship in the Department of Bacteriology	1947
750.00 From the Woman's Club of Minneapolis to establish a graduate fellowship (every second year)	1948
\$ 20,070.00	

FELLOWSHIP FUNDS—ADDITIONS TO PREVIOUS GIFTS

\$ 33,833.00 Minneapolis General Hospital Fellowships for 1947-48	1935
30,371.00 Affiliated Hospital Fellowships	
\$11,730.00 Charles T. Miller Hospital	
\$2,760.00—obstetrics and gynecology	1946
2,760.00—radiology	1946
2,760.00—medicine	1946
1,380.00—surgery	1947
1,380.00—pathology	1947
690.00—ophthalmology	1948
8,280.00 St. Barnabas Hospital	
\$2,760.00—surgery	1946
2,760.00—pediatrics	1946
2,760.00—medicine	1946
6,731.00 Northwestern Hospital	
\$2,160.00—medicine	1946
2,121.00—pediatrics	1946
1,070.00—surgery	1946
1,380.00—pathology	1947
3,630.00 Quain and Ramstad Fellowship Fund—radiology	1946
10,100.00 From E. I. du Pont de Nemours and Company	
\$4,500.00 Post-doctoral Fellowship in Chemistry	1940
2,800.00 Postgraduate Fellowship in Chemistry (\$2,200 if single man)	1946
2,800.00 Postgraduate Fellowship in Chemical Engineering (\$2,200 if single man)	1946
10,000.00 Minneapolis-Honeywell Research Fellowship Fund	1946
3,750.00 Quaker Oats Fellowship Fund	1946
3,100.00 Swift and Company Nutrition Fellowship Fund	1945
3,000.00 Minnesota Mining and Manufacturing Company Fellowship Fund	1946
2,800.00 United States Rubber Company Postgraduate Fellowship in Chemistry (\$2,200 if single man)	1947

		Year Established
2,080.00	Miller Hospital Fellowship Fund	1941
	\$1,390.00 Charles T. Miller Hospital	
	600.00 Dr. Edward P. Burch	
	90.00 Charles T. Miller Hospital	
2,000.00	Midland Cooperative Wholesale Graduate Fellowship Fund	1946
1,928.00	Carbide and Carbon Chemicals Corporation Fellowship in Organic Chemistry	1946
1,800.00	General Mills Postdoctoral Fellowship Fund	1946
1,500.00	Shell Fellowship in Chemistry (and tuition)	1947
1,470.00	St. Paul Children's Hospital Fellowship in Pediatrics and Research	1945
1,400.00	Washburn Home Fellowship Fund	1939
1,380.00	John F. Briggs Fellowship in Pathology	1947
1,350.00	Firestone Fund	1934
1,200.00	Allied Chemical and Dye Corporation Fellowship in Chemical Engineering (and tuition)	1946
1,200.00	Allied Chemical and Dye Corporation Fellowship in Chemistry (and tuition)	1941
1,200.00	Abbott Laboratories Fellowship in Chemistry	1945
1,024.00	Norwegian-American Graduate Fellowship Fund	1945
	\$340.00 J. P. Arms, Incorporated	
	100.00 Franklin Creamery	
	100.00 Einar Hoidale	
	47.00 John L. Akslen	
	40.00 C. M. Jorgensen	
	25.00 L. H. Reverson	
	25.00 T. A. Eide	
	25.00 Edwin Pearson	
	25.00 Harry W. Mattison	
	25.00 K. R. Andresen	
	25.00 Carl W. Jones	
	25.00 Gunnar H. Nordbye	
	25.00 Gerhard Sonnesyn	
	22.00 Norwegian Luncheon Club (<i>Torske Klubben</i>)	
	20.00 H. J. Nelson	
	20.00 L. O. Hauge	
	15.00 Roy Gisme	
	10.00 Mr. and Mrs. Lief R. Larson	
	10.00 Karl R. Erickson	
	10.00 A. M. Narum	
	10.00 A. I. Raugland	
	10.00 Walter Eng	
	10.00 Rasmus Gjerde	
	10.00 A. Bernhoff Johnson	
	10.00 Carsten Jacobsen	
	10.00 Jacob Steferrud	
	10.00 Richard Larson	
	5.00 B. R. Eggen	
	5.00 Marion C. Bjornson	
	5.00 Erling Hansen	
	5.00 L. P. Gisvold	
750.00	Eastman Kodak Company Fellowship	1940
616.67	Commercial Solvents Corporation Fellowship in Chemotherapy	1947
600.00	American Foundation for Pharmaceutical Education—Pharmacognosy Fellow- ship Fund	1946
500.00	Abbott Laboratories Postwar Fellowship Fund	1945
400.00	McConnon and Company Industrial Fellowship—entomology and economic zoology	1945
100.00	From Buford B. Curtis for the Harriet Walker Hospital Association Fellow- ship Fund	1939

\$119,452.67

PRIZES—NEW

\$ 200.00	From Magney, Tusler, and Setter (annually) to establish a prize or prizes for work in architectural design	1948
40.00	From Harry Gerrish to provide a cup or plaque to be used as an award at the University Golf Course	1948
\$ 240.00		

PRIZES—ADDITIONS TO PREVIOUS GIFTS

\$ 400.00	C. H. Johnston Prize in Architecture	1945
230.00	Frederick J. Wulling Trust Fund	1945
	\$150.00 Mrs. F. J. Wulling	
	60.00 Eight donors	
	10.00 Mrs. L. J. Bardwell	
	10.00 George L. Lang	
100.00	Southern Minnesota Medical Association Prize	1930
75.00	American Society of Mechanical Engineers, Twin Cities' Section Prize	1924
67.00	American Society of Civil Engineers, Northwestern Section Prize	1924
50.00	Gargoyle Club Prize in Architecture (books)	1931
50.00	Louise M. Powell Prize	1928

	Year Established
10.00 Kappa Epsilon Award	1937
Alpha Kappa Psi Junior Scholarship Medallion (key)	1937
Delta Sigma Pi Scholarship Key	1935
Eta Kappa Nu Prize (handbook)	1931
Forensic Medal	
Lehn and Fink Medal	1923
Phi Delta Junior Scholarship Award	1939
Rho Chi Award	1939
Sigma Delta Chi Scholarship Award (certificate)	1945
Theta Sigma Phi Leadership Award (certificate)	1945
University Business Women's Club Scholarship Key	1939
Dean E. M. Freeman Medal for Student Leadership	1930

\$ 982.00

RESEARCH FUNDS—NEW

\$219,933.00	From the United States Public Health Service	
\$26,946.00	For research on fluorescein dyes under the direction of Dr. George E. Moore (medicine)	1948
25,887.00	For research on porphyrin metabolism under the direction of Drs. C. J. Watson and Donald H. Hastings (medicine)	1947
25,812.00	For research on the genesis of spontaneous mammary cancer in mice under the direction of Dr. John J. Bittner (medicine)	1947
25,000.00	For cancer teaching and clinical cancer research (medicine)	1948
17,022.00	For research on host cell virus interaction under the direction of Dr. William F. McLimans (medicine)	1947
16,753.00	For research on aging in relation to diet under the direction of Dr. Joseph T. King (medicine)	1947
12,095.00	For research on the etiology of acid-peptic ulcer under the direction of Dr. O. H. Wangenstein (medicine)	1947
12,000.00	For research on "tracer elements" under the direction of Dr. W. M. Lauer (technology)	1948
11,217.00	For research on the development of a pump-oxygenator under the direction of Dr. Clarence Dennis (medicine)	1947
9,180.00	For research on epidemiology and epizootiology of anthropod-borne virus encephalitis under the direction of Dr. A. L. Burroughs (medicine)	1947
8,623.00	For research on the metabolism and composition of the skeleton under the direction of Dr. W. D. Armstrong (medicine)	1947
8,225.00	For research on toxic substances in water under the direction of Dr. Theodore A. Olson (medicine)	1947
6,800.00	For research on the role of cockroaches in transmission of bacterial food poisoning under the direction of Dr. Theodore A. Olson (medicine)	1947
5,782.00	For research on the inhibition of hyaluronidase in health and disease under the direction of Dr. David Glick (medicine)	1947
3,488.00	For research on intersections of proteins under the direction of Dr. Paul D. Boyer and Dr. D. R. Briggs (medicine)	1947
2,700.00	For research on leukemia in mice under the direction of Dr. Arthur Kirschbaum (medicine)	1947
1,863.00	For research on mammary tumor development in mice under the direction of Dr. Elizabeth Cranston (medicine)	1947
540.00	For research on blood glucose in rats under the direction of Dr. David Molander (medicine)	1948
39,687.00	From the American Cancer Society, Incorporated	
\$11,602.00	For research on the therapy of human breast cancer under the direction of Dr. R. A. Huseby (medicine)	1948
11,030.00	For research on the synthesis and maintenance of intracellular enzymes under the direction of Dr. M. B. Visscher (medicine)	1948
10,130.00	For research on the synthesis and maintenance of intracellular enzymes under the direction of Drs. J. J. Bittner and H. D. Steinbach (medicine)	1948
6,925.00	For research on the genetics of human breast cancer under the direction of Dr. S. C. Reed (medicine)	1948
36,750.12	To establish a Cancer Detection Clinic (medicine)	1947
\$21,250.12	United States Public Health Service	
15,000.00	Minnesota State Board of Health	
500.00	Mrs. F. B. Atwood	
20,000.00	For preparation of exhibits and demonstrations to visualize important steps in production of high quality milk (agriculture)	1948
\$10,000.00	Minnesota Dairy Industry Committee	
10,000.00	Federal Funds (Research and Marketing Act)	
18,000.00	From the Life Insurance Medical Research Fund to establish a research on the physical factors in cardiovascular function under the direction of Dr. M. B. Visscher (medicine)	1948
15,967.00	From Wyeth, Incorporated, to establish a research in the Department of Pediatrics on the causes and pathogenetic mechanism of megaloblastic anemia of infants (medicine)	1948
5,680.00	From Research Corporation to transfer the work of Dr. Charles D. May from the Harvard Medical School to the University of Minnesota (medicine)	1947
4,500.00	From Corn Products Refining Company to establish a research on the application of the products of corn refining in the treatment of iron ore (technology)	1948
3,700.00	From the Rockefeller Foundation to establish a research on gene expression during development of maize under the direction of Dr. E. C. Abbe (botany)	1948

		Year Established
3,600.00	From American Potash Institute, Incorporated, to establish a research on the effectiveness of different legumes in the maintenance of soil organic matter (agriculture)	1947
3,600.00	From Dr. W. T. Peyton for research in neurosurgery (medicine)	1947
3,000.00	From General Mills, Incorporated, for research on ethylene treatment of wheat enclosures (agriculture)	1948
3,000.00	From Leo Pritzker for surgical research under the direction of Dr. O. H. Wangenstein (medicine)	1947
2,500.00	From Brown Cooperative Extension Committee to establish an investigation to map and classify the soils of Brown county (agriculture)	1948
2,000.00	From Erie Mining Company to establish a research on methods for establishing vegetation on taconite tailing dumps (agriculture)	1948
2,000.00	From Northwest Feed Manufacturers Association for research on nutrient requirements of poultry (agriculture)	1948
2,000.00	From Swift and Company for research on the bio-synthesis of vitamin C (agriculture)	1947
1,400.00	From the American Philosophical Society for research on endocrine glands of the fetus under the direction of Dr. L. J. Wells (medicine)	1947
1,000.00	From St. Barnabas Hospital to establish a research on coronary blood flow under the direction of Dr. A. C. Kerkhof and Dr. Nathan K. Jensen (medicine)	1947
1,000.00	From Austen S. Cargill for surgical research under the direction of Dr. O. H. Wangenstein (medicine)	1948
1,000.00	From George E. Durkee for surgical research under the direction of Dr. Clarence Dennis (medicine)	1947
600.00	From Winthrop Chemical Company for support of investigations on the study of Vitamin D under the direction of Dr. Henry E. Michelson (medicine)	1947
500.00	From William Hecht to be used by Dr. Henry E. Michelson at his discretion in the Dermatology Clinic (medicine)	1948
500.00	From Louis M. Cohen to establish a fund for surgical research (medicine)	1947
500.00	From C. W. Mattson to establish a fund for surgical research under the direction of Dr. Clarence Dennis (medicine)	1947
500.00	From the Minnesota Dental Foundation to establish a research on the study of transient bacteria as a result of periodontal treatment and oral surgery (medicine)	1948
400.00	From the American Society of Agricultural Engineers for research on the spacing of grain drills (agriculture)	1948
200.00	From Mr. and Mrs. Jerome Hirsh to establish a fund for surgical research (medicine)	1947
185.00	From an anonymous donor for a graduate research project under the direction of Professors E. D. Monachesi and Starke Hathaway (graduate school)	1948
150.00	From Winthrop Stearns, Incorporated, for research in anesthesia (medicine)	1948
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\$393,852.12		

RESEARCH FUNDS—ADDITIONS TO PREVIOUS GIFTS

\$ 95,404.36	From the United States Public Health Service	
29,192.00	For research on diet, activity, and hypertension (medicine)	1947
16,734.84	For research on gastric cancer (medicine)	1947
15,662.00	For research on chemotherapy of schistosomiasis and filariasis (medicine)	1947
14,642.00	For epidemiological studies (medicine)	1946
8,669.00	For research on the sclerotic nerve cell (medicine)	1946
5,987.52	For histochemical studies of the stomach (medicine)	1946
2,268.00	For research on the relation of gastritis to the carcinoma of the stomach (medicine)	1946
2,249.00	For research on the etiology of rheumatic endocarditis (medicine)	1946
75,000.00	From the Minnesota Cancer Society, Incorporated, for the Cancer Research Fund (medicine)	1947
39,673.58	Frank E. Burch Research Fund in Ophthalmology (medicine)	1943
25,000.00	Anonymous	
4,850.00	Dr. Frank E. Burch (100 shares of Pullman, Incorporated, stock)	
3,636.08	Estate of F. R. Bigelow	
2,387.50	Dr. Frank E. Burch (75 shares of Archer-Daniels-Midland Company stock)	
2,000.00	Mrs. Glen S. Taylor	
500.00	Dr. Erling W. Hansen	
500.00	Arthur F. Williams	
200.00	Henry L. Mason, Jr.	
100.00	Frederick Brewster	
100.00	Dr. Jay Davis	
100.00	Dr. Hendrie W. Grant	
100.00	Dr. Charles Hymes	
38,850.00	From the American Cancer Society, Incorporated	
10,100.00	For carbon separation research (technology)	1946
10,000.00	For research on the milk agent in mammary cancer in mice (medicine)	1946
7,000.00	For research on the mammary tumor milk agent in mice (medicine)	1947
6,500.00	For rabbit cancer research (medicine)	1946
5,250.00	For research on the mammary cancer in mice (medicine)	1946

THE PRESIDENT'S REPORT

		Year Established
16,000.00	From the American Dairy Association through the National Dairy Council	
	\$10,000.00 For research on cholesterol metabolism (agriculture)	1947
	6,000.00 For research on fats and oils (agriculture)	1941
7,500.00	Minnesota and Ontario Paper Company Research Fund (technology)	1940
7,206.00	From the Minnesota Cancer Society, Incorporated	
	\$5,000.00 For the Minnesota Cancer Society, Incorporated, Research Fund (medicine)	1946
	2,206.00 For the Minnesota Cancer Society, Incorporated, Tumor Research Fund (medicine)	1946
7,085.46	Star and Tribune Newspaper Studies Fund (journalism)	1944
7,000.00	National Foundation for Infantile Paralysis, Incorporated (medicine)	1940
6,600.00	Nutrition Foundation, Incorporated, Vitamin E Research (agriculture)	1946
6,390.00	Pharmacology Research Fund (medicine)	1946
	\$2,000.00 Winthrop-Stearns, Incorporated	
	1,000.00 Parke, Davis and Company	
	1,000.00 Eli Lilly and Company	
	750.00 Abbott Laboratories	
	750.00 American Cyanamid Company	
	500.00 Ciba Pharmaceutical Products, Incorporated	
	390.00 G. D. Searle and Company	
4,500.00	American Crosoting Company Research on Wood Preservation (agriculture)	1941
4,500.00	Lederle Laboratories Research on Animal Diseases (agriculture)	1944
4,400.00	From the Research Corporation (technology)	
	\$2,500.00 For the Frederick Gardner Cottrell Research on Isotopes	1946
	1,900.00 For the Frederick Gardner Cottrell Research on Gases and Vapors	1946
4,400.00	Battelle Memorial Institute Research Fund (agriculture)	1946
4,262.40	Soy Flour Association Research Fund (agriculture)	1946
4,018.00	Malignant Disease Research Fund (medicine)	1946
	\$1,000.00 Mrs. Benjamin Katz	
	1,000.00 E. W. Wylie	
	1,000.00 Harry J. Davis	
	500.00 Charles J. Upin	
	200.00 Mrs. Agnes Ajax	
	56.00 Mrs. F. Stuart Chapin (in memory of Mrs. Martha W. Allin)	
	25.00 John Diesch and family	
	25.00 Connecticut Mutual Life Insurance Company (in memory of Mrs. Martha W. Allin)	
	20.00 Country Club of Bristol, South Dakota	
	17.00 Fred W. Putnam	
	15.00 Minnesota Department of the Daughters of Union Veterans of the Civil War	
	10.00 W. E. Kamprath	
	10.00 Robert Adler	
	10.00 Rollo H. Wells	
	10.00 Victoria M. Olmsted	
	10.00 Barbara Knight	
	5.00 Mrs. H. H. Barber and family	
	5.00 Faculty Women's Club	
	5.00 Mildred L. Hillhouse	
	5.00 W. H. Olmsted	
4,000.00	John and Mary R. Markle Foundation Brain Research Fund (medicine)	1946
3,600.00	American Potash Institute, Incorporated, Fund (\$1,200 a year for three years) (agriculture)	1940
3,000.00	American Dry Milk Institute, Incorporated, Nutrition Studies Fund (agriculture)	1946
2,600.00	From Central Fibre Corporation	
	\$1,600.00 For research on flax straw (agriculture)	1940
	1,000.00 For research (agriculture)	1937
2,500.00	From D. B. Rosenblatt, Incorporated, for the Flora Rosenblatt Fund for Cancer Research (medicine)	1944
2,405.15	American Dry Milk Institute Research (agriculture)	1942
2,050.00	Minnesota Valley Canning Company Research (agriculture)	1945
2,000.00	Insulation Board Institute Research (agriculture)	1944
2,000.00	Augustus L. Searle Fund for Surgical Research (medicine)	1938
2,000.00	B. F. Nelson Research Fund (medicine)	1947
1,725.00	Quaker Oats Company Research in Improvement in Oats (agriculture)	1947
1,500.00	Mrs. Tillie Nelson Fund for Surgical Research in Cancer (medicine)	1947
	\$1,000.00 Frank A. Nelson	
	500.00 Frank A. Nelson	
1,500.00	Federation of Paint and Varnish Production Clubs Research (technology)	1946
1,400.00	From Quality Control Committee for Milk Distributor's Research Fund (agriculture)	1936
1,350.00	Owen H. Wangenstein Fund for Surgical Research (medicine)	1945
	\$350.00 Harry E. Blumenthal	
	250.00 Maurice L. Halpern	
	200.00 Fred W. Webber	
	200.00 Harold S. Kolstad	
	200.00 Dr. Arnold G. Schwyzer	
	100.00 Mrs. Harold N. Eloffson	
	50.00 Mrs. Robert N. Jeffrey	
1,300.00	Experimental Medical Research Fund (medicine)	1942
	\$1,000.00 Dietene Company	
	300.00 A. C. Randall	

		Year Established
1,200.00	American Cyanamid Company Research Fund (agriculture).....	1946
1,000.00	Parents' Institute Child Welfare Research (child welfare).....	1944
1,000.00	American Philosophical Society Research in Astronomy (astronomy).....	1940
1,000.00	Ophthalmology and Otolaryngology Special Research Fund (medicine).....	1943
1,000.00	Merck and Company Enterohepatitis Fund (agriculture).....	1946
1,000.00	Berenice Moriarty Fund for Surgical Research (medicine).....	1945
750.00	Sherwin-Williams Company Research Fund (agriculture).....	1947
600.00	Middle West Soil Improvement Committee Research (agriculture).....	1940
562.50	Samuel Hirschfeld Fund for Surgical Research (Malignant Disease Research Fund) (medicine).....	1946
	\$560.00 Mr. and Mrs. Jerome Hirsh	
	2.50 Mrs. Ruth F. Guthmann	
500.00	Abbott Laboratories Postwar Fellowship in Biochemistry (Graduate School)	1945
500.00	Ciba Pharmaceutical Products, Incorporated, Research on Hormonal Factors in Undescended Testis (medicine).....	1945
500.00	National Academy of Sciences (Gould Fund) Astronomical Research Fund (astronomy).....	1934
500.00	Tennessee Corporation Fungicide Fund (agriculture).....	1944
450.00	Minnesota Valley Canning Company Research (agriculture).....	1931
364.67	Rheumatic Fever Research Fund (medicine).....	1945
	\$302.67 Alpha Phi Alumnae Association	
	50.00 Mrs. Jennie Molinaar	
	12.00 Fremont Woodcock Post 216, American Legion	
300.00	From Freeport Sulphur Company for the Sulphur Research Fund (agriculture)	1942
221.98	Minnesota Medical Foundation Research on Diuretic Effects of Organic Acids (medicine).....	1945
200.00	Junior F. Hayden Botany Research (botany).....	1945
100.00	From C. M. Goethe for the Dight Institute (medicine).....	1938
100.00	Sigma Xi Research Fund (Graduate School).....	1936
50.00	From E. J. Willow for the Psychiatric Research Fund (medicine).....	1945
37.00	For research in kidney diseases as a memorial to Bob Rundle (from ten donors, through Mr. and Mrs. Earl Rundle) (medicine).....	1943
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\$379,656.10		

MISCELLANEOUS FUNDS—NEW

\$120,650.00	From the United States Public Health Service	
	\$75,000.00 For the construction of facilities for cancer research in connection with the proposed Mayo Memorial Building.....	1948
	23,936.00 For an advanced mental hygiene program under the direction of Dr. Gaylord Anderson.....	1947
	21,714.00 For staff and supplies for training in clinical psychology under the direction of Dr. R. M. Elliott.....	1947
60,000.00	From Miller's National Foundation (\$10,000 a year for six years) for a curriculum in milling engineering.....	1948
50,000.00	From the American Legion for a memorial heart professorship.....	1948
4,000.00	To apply on the purchase of the Nortondale Tract in Duluth, Minnesota	1948
	\$3,000 Duluth Citizens Committee	
	1,000 Minnesota Power and Light Company	
3,178.00	For the support of a coordinator of religious activities.....	1947
	\$1,500.00 Hennepin Avenue Methodist Church	
	1,000.00 Algot Johnson Construction Company, Westminster Presbyterian Church, and Hennepin Avenue Methodist Church	
	500.00 Archdiocese of St. Paul	
	25.00 B'nai B'rith Hillel Foundation	
	25.00 Westminster Foundation	
	25.00 Twin City Lutheran Student Foundation	
	25.00 Newman Foundation	
	20.00 University Baptist Church	
	15.00 St. Timothy's House	
	13.00 YMCA, University Branch	
	10.00 Wesley Foundation at the University of Minnesota	
	10.00 Pilgrim Foundation-Congregational Students Fellowship	
	10.00 Christian Science Organization	
2,500.00	From Rockefeller Foundation to support studies of Professor J. W. Beach on twentieth-century poetry.....	1948
1,307.00	From associates, friends, and former students of Dr. Frank F. Grout to provide funds for Dr. Grout to attend the International Geological Congress in England during August, 1948.....	1948
285.00	From the Minnesota Heart Association for the construction of a darkroom for the electrocardiograph laboratory in pediatrics.....	1948
200.00	From Malcolm R. McBride for the Theatre Building Fund.....	1948
150.00	From the Minnesota Society for Crippled Children for books for patients in the Rosemount Hospitals.....	1948
33.00	From graduate students in the School of Public Health for the purchase of public health books for the departmental library.....	1947
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\$242,303.00		

MISCELLANEOUS FUNDS—ADDITIONS TO PREVIOUS GIFTS

		Year Established
\$113,063.00	From the United States Public Health Service	
	\$40,241.00 For training of psychiatric nurses	1947
	35,720.00 For nurse cadets	1944
	22,786.00 For training of psychiatric social workers	1947
	11,916.00 For training in clinical psychology	
	2,400.00 For psychiatric training	1947
30,474.00	Variety Heart Hospital Fund	1946
	\$25,000.00 Eliza A. Drew Memorial Fund	
	5,000.00 Junior League of Minneapolis	
	300.00 Mrs. Lydia Pritchard	
	63.00 Anonymous	
	27.00 Friends of the late John M. Grathwohl	
	25.00 Rainbow Division of the Veterans Auxiliary	
	15.00 Eleanor Schultz	
	13.50 Range Conference of Social Workers	
	10.00 Barbara Knight	
	5.00 National Veterans Association, Incorporated, Chapter No. 4, Minneapolis	
	5.00 Friends and relatives of the late John Walser	
	5.00 Mrs. George A. Schain (Ruth A.)	
	5.00 American Legion Auxiliary of Lucan, Minnesota	
	.50 Cassius Wainwright Currier	
27,064.00	Minnesota Association for Crippled Children and Disabled Adults	1946
1,350.00	Minnesota Jewish Council 4-H Club Fund	1942
1,160.00	Booth Memorial Hospital Fund	1940
	\$1,000.00 Salvation Army Booth Memorial Hospital	
	160.00 Anonymus	
610.00	4-H Club Fund	1931
	\$200.00 J. R. Watkins Company	
	160.00 Portland Cement Association	
	150.00 Twin City Seed Company	
	100.00 Pioneer Hi-Bred Corn Company	
600.00	Twin Cities Jewish-American Lectureship Fund	1933
	\$100.00 Distillers Distributing Company	
	50.00 Jacob G. Cohen	
	50.00 Jules Gurstel	
	50.00 Samuel H. Maslon	
	50.00 Samuel Salkin	
	50.00 Leo Harris	
	50.00 B. W. Harris	
	50.00 Juster Brothers, Incorporated	
	50.00 Joseph L. Linoff	
	50.00 Edmond R. Ruben	
	50.00 Josiah E. Brill	
500.00	Duluth Clinic Foundation Lectureship Fund	1946
335.00	Hospital Budget	
	\$125.00 University Hospitals Auxiliary of the Faculty Women's Club	
	100.00 Minnesota Society for Crippled Children and Disabled Adults	
	100.00 Minnesota Association for Crippled Children and Disabled Adults	
	5.00 Minnie Kraemer	
	5.00 Mort Taylor	
225.00	William Harvey Emmons Fund	1944
	\$100.00 Charles P. Berkey	
	100.00 Duncan McConnell	
	25.00 Dr. G. M. Schwartz	
212.35	From the Class of 1947 for the School of Agriculture Electric Organ Fund	1940
200.00	Guild Memorial Lectureship Fund	1947
200.00	Judd Lectureship in medicine and surgery	1933
125.00	College Entrance Examination Board Veterans Studies Fund	1947
125.00	From Junior F. Hayden for the geology budget	
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\$176,243.35		

BOOK GIFTS, 1947-48

To the Law Library:

- Some 700 volumes of texts, court reports, digests, and session laws from Horace W. Roberts, Mankato, Minnesota
- Volumes 1, 2, and 3 of transcript of proceedings before the Emergency Board in the 1946 Wage-Rules case with the Brotherhood of Locomotive Engineers and Railroad Trainmen from J. M. Fitzgerald, New York
- Copy of the *Constitution of Ireland*, autographed and received from the Honorable Eamon DeValera, Dublin, Ireland
- 190 numbers of legal periodicals, pamphlets, and reports from William Prosser, Minneapolis, Minnesota
- 88 numbers of the *Minnesota Law Review* from Messrs. Stinchfield, Mackall, Crouse, and Moore, Minneapolis, Minnesota
- 31 volumes of session laws, texts, and legal pamphlets from Messrs. Carleton, Cherry, and Norton
- 15 cartons of back files of *The Brief*, official publication of the Phi Delta Phi legal fraternity, from Albert Chandler, St. Louis, Missouri

- Navy Order of December 12, 1945, with respect to the United States Naval Military Government in the Pacific Ocean Areas; United States Army and Naval Manual of Military Government and Civil Affairs of December 22, 1943; and six books of the Army Service Forces Manual M353-3F, Civil Affairs Handbook for Italy—the Italian Civil Code, from Honorable George E. MacKinnon, House of Representatives, Washington, D. C.
- 52 volumes of legal texts, statutes, and session laws from John M. Edlund, executor of the estate of Jerome Jackman
- Copy of new *Constitution of the Republic of Italy* from and autographed by The Honorable Enrico de Nicola, President of the Republic of Italy, Rome, Italy
- 12 copies of 1947 *Minnesota Legislative Manual* from The Honorable Carl O. Wegner, Minneapolis, Minnesota
- 6 volumes from Johnston B. Campbell, Spokane, Washington, which contain his decisions and dissents while a member of the Interstate Commerce Commission
- 59 volumes of session laws and statutes from James L. Hetland
- Volume 71 of the Council *Proceedings* of the City of Minneapolis from the City Council of the City of Minneapolis, through Charles Swanson
- To the University Library:
- Some 50 books costing \$218 presented to Gortner Memorial Library as a memorial in honor of Professor L. S. Palmer from Professor Palmer's former students and associates
- Complete set of 36 bound volumes of the *Journal of Nutrition* as a memorial in honor of Professor L. S. Palmer from Cornelia Kennedy
- Professional library of Dr. Roy G. Blakey, professor of economics
- Volumes I, II, and III of *Genera and Species Plantarum Argentinarum* to the Department of Botany, the University Library, and the Graduate School from the University of Tucuman, Argentina
- From Judge Hugo O. Hanft, through Regent Fred B. Snyder, a personally signed copy of his decision in the Second Judicial District on "State of Minnesota on Relation of the University of Minnesota and the Board of Regents of the University of Minnesota versus Ray P. Chase, State Auditor" to the University Archives
- From the Carnegie Institution of Washington, records on human heredity from the Eugenics Records Office, Cold Spring Harbor, New York, for the Dight Institute
- Collection of books on welding design and science, from the James F. Lincoln Arc Welding Foundation, to the Engineering Library

MISCELLANEOUS GIFTS, 1947-48

- Equipment from the Bell Telephone Laboratories, New York, to the Department of Electrical Engineering
- Two large reels containing coaxial cable from Long Lines Department of the American Telephone and Telegraph Company to the Department of Electrical Engineering
- Costumes worth \$500 from Mrs. G. A. Heinrich, Minneapolis, Minnesota, to the University Theatre
- Radio-phonograph from the Traffic Club of Minneapolis for the University of Minnesota Hospitals
- Carved war club from Malaita, Solomon Islands, South Seas, to the Department of Anthropology
- Pakaway Freezer from Schaefer, Incorporated, to the Frozen Food Laboratory of the Division of Horticulture
- 14 x 17-inch, all-metal Lysholm secondary diaphragm for use in certain special X-ray procedures, from the George Schonander Company of Stockholm, Sweden, through Dr. Nils Westermark of Stockholm, to the Department of Radiology
- Coolerator freezer from the Coolerator Company of Duluth, Minnesota, to the Division of Horticulture
- Tools to be used for the maintenance of the Allison engine powering the low speed wind tunnel in Oak Street Laboratories from the Allison Division of General Motors Corporation to the Department of Aeronautical Engineering
- Single-phase, 180-ampere, farm-type welder from H. S. Strouse, vice-president and treasurer of the Harnischfeger Corporation, to the Division of Agricultural Engineering
- German Jumo 004 Jet engine from Marvin A. Northrop Aeroplane Company, Incorporated, Minneapolis, to the Department of Aeronautical Engineering
- Portable welder from the Harnischfeger Corporation, Milwaukee, Wisconsin, to the Department of Electrical Engineering
- One 418-10 Oven Blodgett, one 824-1 Dessicator Dehydrate Blood, and one 824-2 Dessicator Dehydrate Blood, from the National Guard, Camp Ripley, Little Falls, Minnesota, to the University Hospitals
- Two sets of Carillon Bells to be installed in Northrop Memorial Auditorium given by Harry Rowatt Brown of Minneapolis in memory of his wife
- Four boxes of coal balls from Frederick O. Thompson to the Department of Botany
- Single cylinder test engine from the Wright Aeronautical Corporation, Dayton, Ohio, to the Mechanical Engineering Department
- Allis laboratory mill for use in connection with the milling engineering curriculum from the Dunwoody Institute of Minneapolis
- Electric scoreboard for the school gym, Northwest School and Station, Crookston, from the "A" Club, a group of Northwest School students, in cooperation with the graduating class of 1946
- Three desk model radios to be placed in Robertson Hall, Stephens Hall, and the New Girls' Dormitory, from the "A" Club, Northwest School and Station, Crookston
- Aluminum Tractorkab from the Automatic Equipment Manufacturing Company of Pender, Nebraska, to the Division of Agricultural Engineering
- Equipment valued at \$1,564.31, from Fromm Brothers, to the Department of Bacteriology
- 1,500 Minnesota Cambrian fossils (collected by W. A. Finkelnburg) from his son, E. H. Finkelnburg, Winona, Minnesota
- Abstract of Title to the Nortondale Development at Duluth from the Consolidated Abstract Company of Duluth, through the courtesy of A. F. Kimball, Vice President
- Framed colored photograph of four generations of the Snyder family from Fred B. Snyder to the University Gallery
- Two oil paintings, portrait of Professor John Corrin Hutchinson, former Greek professor, and of the late Dean John F. Downey from Miss Emily McMillan to the University Gallery
- 152 35-mm. natural-color colored slides from Junior F. Hayden to the Department of Geology

The following colored lantern slides of native vegetation to the Department of Botany:
 326 slides with accompanying volume, *Mushrooms and Toadstools*, from Junior F. Hayden
 129 slides from John De Q. Briggs
 3 slides from Walter J. Breckenridge
 Group of ten photographic enlargements of architectural subjects from the Museum of Modern Art, New York, to the University Gallery
 Framed facsimile copy of the Declaration of Independence from Meyer Herman, Martin Baking Company, St. Paul, Minnesota
 Fleet-Arc Jr. farm welder from the Lincoln Electric Company to the Division of Agricultural Engineering
 650 plants of Itasca County, Minnesota, from J. P. Emanuel, Keewatin, Minnesota, and 101 ferns from R. D. Wood, Department of Botany, Northwestern University, Evanston, Illinois
 The following gifts to the Department of Botany Herbarium:
 356 plants of Arkansas, Minnesota, and the Mohave Desert from Dr. J. B. Moyle, Bureau of Fisheries Research, Minnesota Department of Conservation, St. Paul, Minnesota
 18 mosses of Minnesota from Dr. V. Conway, Department of Botany, the University of Sheffield, England
 1 Wyoming plant from Mildred Erickson, National Park Service, Yellowstone Park
 3 Magdalen Island plants from Dr. H. E. Stork, Department of Botany, Carleton College
 191 plants of Cook County, Minnesota, from Dr. A. O. Dahl, Department of Botany
 130 plants of Cook County, Minnesota, from John De Q. Briggs, St. Paul
 437 plant specimens of Minnesota from Dr. Olga Lakela, Department of Botany, University of Minnesota, Duluth Branch
 Number of portable farm buildings from the Minnesota and Ontario Paper Company for use at the Rosemount Research Center (agriculture)
 Costumes and other materials from Mrs. L. B. Hessler, Minneapolis, and materials from Mrs. David Swenson, Minneapolis, to the University Theatre
 Jersey heifer calf from Dr. D. A. Furgason of Dundas, Minnesota, to the Division of Dairy Husbandry

ASSIGNMENTS OF PATENT APPLICATIONS, 1947-48

Serial No. 750,136, Method and Apparatus for Heating Solids, Professor Edward W. Davis
 Serial No. 750,137, Furnace, Professor Edward W. Davis
 Serial No. 748,860, Card Sorting Device, Professor Clifford Kirkpatrick
 Serial No. 769,030, Method and Apparatus for Drying, Professors Samuel T. Coulter, Ralph E. Montonna, and Arnold S. Kitzes
 Serial No. 783,434, Case No. 1, Mass Spectrometer Apparatus, Dr. A. O. C. Nier
 Serial No. 783,431, Case No. 2, Non-fractionating Gas Sampling System, Dr. A. O. C. Nier
 Serial No. 783,433, Case No. 3, Mass Spectrometer Tube Ion Source Assembly, Dr. A. O. C. Nier
 Nier
 Serial No. 783,432, Case No. 4, Filament Plate Voltage System, Dr. A. O. C. Nier

PATENTS RECEIVED, 1947-48

No. 2,417,220, Manufacture of 2,6-Dimethylheptanoic Acid, Dr. Lee Irvin Smith
 No. 2,421,109, corresponding to United States Serial No. 541,660, Method of Producing Crystals of Nordihydroguaiaretic Acid, Joseph Adams
 No. 2,421,090, granted on application No. 453,281, filed August 1, 1942, Long Chain Aliphatic Halides and Methods of Preparing Same, Dr. Lee I. Smith
 Cuban No. 13,019, corresponding to United States Serial No. 479,132, Improvements in or Relating to Processes of Producing Plant Extracts and the Products Resulting Therefrom, Dr. Walter M. Lauer

SUMMARY OF FINANCIAL OPERATIONS, 1947-48

The data which follow constitute a brief summary of the financial report for the year ended June 30, 1948. 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

<i>The Legislative Maintenance Appropriation</i>	\$ 8,087,248.00
For the general support of instructional, research, and administrative departments, and maintenance of buildings and grounds, including the Department of Agriculture and the agricultural schools and experiment stations.	
<i>The 23/100 Mill Tax</i>	246,916.17
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>	454,000.00
<i>The Duluth Branch, Legislative Maintenance Appropriation</i>	266,169.00
<i>The Special Projects administered and carried on by the University for the general benefit of the people of the state</i>	728,000.00
These special projects include Agricultural Extension, County Agents, Beneficitation 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, State Game and Fish Department, Agricultural Research—Rosemount, Hybrid Corn Maturity Tests.	
<i>The Physical Plant Extensions</i>	1,280,000.00
1943-45 Building Fund—Mechanical-Aeronautical Engineering Building, \$1,175,000.00; 1947 Building Fund—Agricultural Branch Stations, \$105,000.00	

From the Federal Government	
<i>Instruction, Research, and Extension</i>	1,038,796.21
This income is divided: for instruction, \$132,738.74; for agricultural research, \$212,630.09; for agricultural extension, \$693,427.38.	
From the Permanent University Fund	515,616.42
The principal of the fund, amounting to \$21,776,641.14 on June 30, 1948 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	76,386.99
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	9,087,773.59
This income is divided: student tuition fees, \$5,414,653.06; counties' share of indigent hospital patients, \$574,100.49; other hospital receipts, \$1,089,558.14; dental infirmary receipts, \$83,535.79; other departmental receipts such as laboratory fees, sales of livestock and agricultural products, \$1,924,587.11; miscellaneous receipts for plant extension, \$1,339.00.	
From Service Enterprises and Revolving Funds	17,490,433.44
The University operates dormitories and dining halls, cafeterias, a printing department, a laundry, garages, bookstores, cold storage plant, and other service enterprises and revolving funds, for the purpose of rendering service to the student body and of reducing the cost of general university operations. Of this amount \$916.50 was used for plant extension.	
From Trust Funds	3,670,502.40
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 \$277,481.33 was used for plant extension.	
From Intercollegiate Athletics	725,746.83
Total Receipts	\$43,667,589.05
<i>Free Unencumbered Balance, July 1, 1947</i>	8,643.45
Grand Total	\$43,676,232.50

EXPENDITURES FOR UNIVERSITY OPERATION

For Administration of the University	\$ 1,068,802.25
The expenses of the offices of the President, the Vice Presidents, the Comptroller, the Dean of Students, the Dean of Women, the Dean of Admissions and Records, Office of Civil Service Personnel, and other general administrative offices.	
For the General University	1,637,803.95
The expenses of the library, general bulletins and publications, lectures and convocations, the storerooms, truck service, inter-campus trolley, and other services of an all-university character.	
For Instruction and Research	14,874,223.24
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 Fund, \$10,640,870.00, Federal Funds, \$1,012,914.54 exclusive of \$8,727.10 Federal Funds included in General University total; Special State Appropriations and Income, \$3,220,438.70).	
For Physical Plant Operations	2,262,446.48
The expenses of maintaining and operating the buildings and other improvements on the land of the Minneapolis Campus and the St. Paul Campus. (Special State Appropriations, \$50,687.23).	
For Physical Plant Extension	1,247,399.96
Agricultural Branch Station Buildings, \$168,573.41; Mechanical-Aeronautical Engineering Building, \$488,839.52; Mayo Memorial Building, \$70,493.44; temporary classroom and office buildings, \$69,969.00; alterations to Torrance Hall—Duluth, \$73,580.99; veterans housing, \$84,109.63; purchase of land and real estate, \$79,332.97; athletic field expansion, \$30,101.84; addition to Veterinary Building, \$25,743.43. Research Laboratories—Medical Sciences Building, \$61,934.69; miscellaneous, \$94,721.04.	
For Service Enterprises and Revolving Funds	16,138,622.06
The operating and capital expenditures for dormitories and dining halls, cafeterias, printing department, and other service enterprises and revolving funds.	
For Trust Fund Purposes	3,629,887.02
Scholarships, fellowships, prizes, and trust fund expenditures for teaching and research, care of the sick and other trust purposes.	
For Intercollegiate Athletics	690,897.89
The operating expenses of intercollegiate athletics and that part of the physical education expense paid from receipts of intercollegiate athletics.	
Transfers and Adjustments	2,123,796.77
Flour and Corn Exchange building depreciation, \$45,000.00; trust fund endowment decrease, \$145,183.46; outstanding obligations and allotments increase, \$2,285,298.15; and decrease in other reserves, \$61,317.92.	
Total Expenditures, Transfers and Adjustments	\$43,673,879.62
<i>Free Unencumbered Balance, June 30, 1948</i>	2,352.88
Grand Total	\$43,676,232.50

A FEW INTERESTING FACTS ABOUT THE UNIVERSITY

Student Enrollment	1944-45	1945-46	1946-47	1947-48
Collegiate	13,273	25,484	36,578	34,131
Fall Quarter—2nd week	(8,917)	(11,396)	(27,103)	(26,880)
Non-Collegiate	17,871	12,096	15,915	17,276
Extension	18,584	21,706	19,086	18,015

Staff—All Funds				
Academic*	2,035	2,154	2,733	3,084
Civil Service*	2,144	2,436	2,777	3,315

Colleges	Departments	Schools of Dentistry, Law, Pharmacy, Business Administration, and Library Instruction, University and General Colleges—each	Departments
Science, Literature, and the Arts	28		
Institute of Technology	13		
Department of Agriculture	32		
Medical Sciences	18		
College of Education	12		
Graduate School	13		
		Duluth Branch	1
			10

Land—June 30, 1948	Acres	Value
Minneapolis Campus	193.62	\$4,566,885.65
St. Paul Campus—Agriculture	702.81	696,137.26
University of Minnesota—Duluth Branch		14,645.17
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	3,582.09	63,381.83
Excelsior	229.89	41,271.22
Rosemount Research Center	8,000.00	1,617.04
Total	15,782.76	\$5,733,975.17

Buildings—June 30, 1948	Major		Minor†	
	Number	Value	Number	Value
Minneapolis Campus	64	\$21,836,528.14	51	\$ 343,688.17
St. Paul Campus—Agriculture	29	3,253,795.20	53	308,090.25
Off-Campus Buildings				462,743.15
University of Minnesota—Duluth Branch	5	731,437.00	5	40,799.19
Branch Stations				
Crookston	10	724,296.12	43	160,337.55
Morris	10	644,283.23	23	147,160.22
Duluth	1	29,974.14	22	57,027.50
Grand Rapids	2	157,416.62	32	124,013.26
Itasca			42	52,304.72
Waseca			34	72,337.66
Excelsior			28	74,598.46
Cloquet			30	46,163.83
Rosemount Research Center	1	53,863.93	65	127,814.39
Total	122	\$27,431,594.38	428	\$2,017,078.35

Equipment—June 30, 1948	Total	Livestock	Books and Museum Collections	Other
Minneapolis Campus	\$10,527,316.08		\$5,787,493.09	\$4,739,822.99
Department of Agriculture	1,943,960.40	\$177,673.20	376,208.86	1,390,078.34
Duluth Branch	204,260.11		103,022.75	101,237.36
Service Enterprises	1,957,471.21			1,957,471.21
Trust Funds	496,010.95		2,781.29	493,229.66
Total	\$15,129,018.75	\$177,673.20	\$6,269,505.99	\$8,681,839.56

Endowment—June 30, 1948	Value
For general purposes	\$21,776,641.14
Unassigned funds operating temporarily as an endowment	480,892.02
For student aid—scholarships, prizes, and loans	851,275.94
For educational purposes	6,159,177.65
For other purposes	2,110,421.54
Endowment—subject to annuity	575,011.11
Total	\$31,953,419.40

Loan Funds—June 30, 1948	\$514,963.88
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* 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 1946-47 is published as Volume L, No. 53, and for 1947-48 as Volume LI, No. 52, of the University of Minnesota Bulletin Series.

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