

University of Minnesota

BIENNIAL REPORT

of the President and of the Board of Regents

1956 - 1958

to the

Legislature of the State of Minnesota

Approved and Adopted by the Board of Regents

June 30, 1958

THE BOARD OF REGENTS

	Term Expires
JAMES F. BELL, Minneapolis - - - - -	1963
EDWARD B. COSGROVE, Le Sueur - - - - -	1961
DANIEL C. GAINNEY, Owatonna - - - - -	1961
RICHARD L. GRIGGS, Duluth - - - - -	1963
MARJORIE J. HOWARD, Excelsior - - - - -	1959
GEORGE W. LAWSON, St. Paul - - - - -	1963
LESTER A. MALKERSON, Minneapolis - - - - -	1959
CHARLES W. MAYO, Rochester - - - - -	1959
KARL G. NEUMEIER, Stillwater - - - - -	1959
A. J. OLSON, Renville - - - - -	1961
RAY J. QUINLIVAN, St. Cloud - - - - -	1963
HERMAN F. SKYBERG, Fisher - - - - -	1961

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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 operations of the University of Minnesota for the biennium ended June 30, 1958.

It is a summary of the activities of a vast and significant enterprise, and of our stewardship of the responsibilities entrusted to the University by the people of the state, through their elected representatives. It is the condensed story of the conduct of the affairs of the fourth largest community in Minnesota, during two years fraught with important trends and events.

The period was one of political, scientific, and social significance, nationally and internationally. The Suez crisis and its aftermath, the Hungarian revolt, and the turbulence of French governmental affairs were typical. The problems of desegregation and education, codes of conduct in government, and controversial Congressional activities filled the headlines, as did unemployment and the recession. Across the Atlantic the World's Fair opened in Brussels, and in this country President Eisenhower signed the bill to admit Alaska as the 49th state.

It was a period of notable scientific advancement. The world—and the University—cooperated in the International Geophysical Year. The tenth anniversary convention of the United Nations World Health Organization was held here in Minneapolis. The general public became more widely acquainted with man-made satellites, guided missiles and anti-missile missiles, the DEW line and the SAC. There was increased research in the development of atomic power for industrial use; there were experiments with greater varieties of nuclear weapons; and inquiries into the problems and dangers of radioactivity and fallout.

Nearly all of these have had significant educational implications and repercussions, of which in one way or another the University has had to take account.

The year 1958 marked the one hundredth anniversary of Minnesota's admission to the Union as the 32nd state. The celebrations of the Centennial included a Centennial Train, the University's Showboat, a Statehood Day Ceremony on the campus at which Secretary Dulles spoke. There was the University's Centennial Convocation, at which we had the honor of entertaining Princess Astrid of Norway, Prince Bertil of Sweden, and a host of other dignitaries from lands across the seas.

For the University it was a period of progress and achievement. And for all education, it was a period of attack and self-defense, with the salutary result of searching self-reassessment. The launching of Sputnik I in October, 1957 seemed to be the signal for critics of all kinds to let loose barrages of attacks on American education, beginning with the charge that American scientific education was inferior to that in the Soviet Union. There were a great many unwarranted and uninformed

attacks on American public education. There was extended controversy over the aims and methods of education. Some sound charges made, but many more false accusations were hurled by those with little knowledge or understanding of education and its contribution to democracy.

No nation in the world has had our faith in education. No other country has provided unregimented educational opportunity in the climate of freedom, from the first grade to the graduate school, in a measure to compare with ours. In higher education the American partnership of all levels and all types of public and private institutions presents today a pattern and yields a product which are the foundation of our society and the marvel of the world.

American education offers a range of opportunity to youth found nowhere else on the globe. It is continually replenishing our social, economic, cultural and moral strength. Its varied and specialized skills are the wellsprings of American advance and effectiveness in every direction.

Each year there are more young people of college age in this country, and each year a larger percentage of these seeks admission to our colleges and universities. If the needed opportunities in higher education for these increasing numbers of young people are to be provided, an increasing proportion of that opportunity must be made available through publicly supported colleges and universities. The University of Minnesota, located at the three major population centers of the state, now teaches more than half of the state's total collegiate enrollment. Its range of curricular offerings and its graduate and professional training responsibilities exceed those of all the other Minnesota institutions combined.

This gives the University no sense of separation or independent destiny, however. Minnesota needs all of its educational facilities and institutions and every part of this enterprise needs the other, each carrying its respective responsibilities in a spirit of partnership and complementation, not competition, with the others. The discovery and uses of knowledge transcend institutional origins and sponsorship; the education of youth is the responsibility of a society which requires instruments both private and public for all of its larger ends.

The University continues to function vigorously as an arena for the balanced appraisal of values and ideals, of knowledge and its uses, of ideas and opinions. It performs a continuously evolving role in a constantly changing society. As the quantity and diversity of knowledge increase, and the degrees and kinds of specialization, the University's faculties are well aware that persistence in old patterns is never sufficient. At the same time, in absorbing and transmitting new discoveries and new ideas, they do not lose sight of the old; the sound background of a liberal education is still the fundamental basis of higher education.

The University of Minnesota was founded in the enduring faith that men are ennobled by understanding. It is dedicated to the advancement of learning, and learning is advanced by the search for truth, by discovery and invention, and by teaching. Research is the key to knowledge. It is a special responsibility of the University, and it requires freedom of thought. Freedom is the issue of our time, and intellectual freedom is the business of a university. Free enterprise in ideas is the key to economic and humane advance.

No one person could possibly comprehend all of the manifold operations and achievements of an institution so large as the University of Minnesota. The detailed reports which follow are made possible only through the help and cooperation of the administrators, faculty members, and civil service staff, and I want to express my gratitude to them for invaluable assistance in the preparation of this report.

Those who read of the significant events and activities of the biennium will get a feel of the scope of the University's commitment. The regular work of the University is spelled out in some detail so there may be better understanding of what has been accomplished during the biennium. The section dealing with University personnel reports the new appointments and promotions, retirements and terminations, as well as awards and honors earned by members of our faculties. The section on faculty publications reflects the faculty's widespread interests and achievements. The sum total of the report presents an impressive picture of the entire institution in all its many dimensions.

In the brief space for these remarks, I may sketch only a few of the items of general interest:

Academic Achievements—March 1958, marked the celebration of the 50th anniversary of the Department of Mortuary Science. This division of the University is emblematic of the philosophy of the land-grant institution, through which education and training needed for a public service are made available and enabled to achieve academic integrity.

In April 1958, there occurred one of the most significant meetings of recent years, the Centennial Conference on College Teaching. In the realization that the heart of the educational process is the dedicated teacher, the University and the Association of Minnesota Colleges, with financial assistance from the State Centennial Commission and the Hill Family Foundation, cooperated in bringing together carefully selected administrators, supervisors, but most of all classroom teachers from the state's colleges and universities. This conference made important contributions to teaching competence through practical discussion of teaching theory and techniques, and the solutions proposed for the practical problems brought about by ever-expanding enrollments. The proceedings of the conference are to be published by the University of Minnesota Press.

In the General Extension Division the department of radio was expanded to include television production. The Twin Cities area educational television station, KTCA-TV, Channel 2, was dedicated in September 1957, and during its first season of operation the University scheduled five hours per week.

Academic and Other Changes—During these two years, several important modifications were made in academic or administrative structure, as a result of changing needs and increased enrollments. The School of Veterinary Medicine became the full-fledged College of Veterinary Medicine. The Department of Physical Education for Women and the Institute of Child Development and Welfare became parts of the College of Education.

In the School of Business Administration, departments of Economics and of Business Administration were established, and there were important departmental changes in the Institute of Technology. In the

College of Science, Literature, and the Arts the faculty moved toward dissolution of the Department of Interdisciplinary Studies, in the midst of extensive discussions on the future of General Education. With careful consultation and planning, the Department of Physics was transferred from the College of Science, Literature, and the Arts to the Institute of Technology.

As permitted by new federal and state legislation, the University members of both the University faculty retirement program and of the State Employees Retirement Association (SERA) voted to be included under the Old Age and Survivors Insurance (OASI) provisions of the federal Social Security Act.

To underscore the significance of the "Builder of the Name" award in the founding and early years of the University, the Board of Regents voted to change the name of its highest honor to the "Regents Medal."

Science and Technology—During these two years a new artificial lung was developed by the College of Medical Sciences; experiments were made with the effects of radioactive fluorides, and a cobalt therapy apparatus was installed in the University Hospitals. The cornerstone was laid for a new Masonic hospital for cancer, and a research center to adjoin it was planned by the Minnesota Veterans of Foreign Wars.

In the field of advanced technology, the University acquired—with substantial gift assistance—a nuclear reactor, a gamma irradiation facility, and a new Univac high speed computing center, all of which facilities are available to any department of the University.

Student Affairs—The biennium was characterized by many notable advances in several areas of student affairs. Increased educational opportunities were made possible for worthy students, through changes in the regulations concerning student loans. The amount that can be borrowed by a student was increased, the repayment period extended, and the interest rate reduced during the time the student is attending the University.

All-University Congress, the student governing body, was reorganized. The newly-established All-University Judiciary Council began its functions, and the judiciary councils in the men's residence halls were strengthened. These groups fill the vital need of providing an orderly way for students to settle disputes, conflicts, and breaches of discipline, as well as providing channels of communication with University officials.

There was further progress in student concern for University problems. A number of student organizations, led by the Senate Committee on Student Affairs, All-University Congress, and the various fraternities, began to study the implications for students of the University's future prospects. These studies considered the effects of the expanded enrollment and enlarged campus on student life and participation, examining the probable repercussions in student affairs, mobility, and morale.

A needed clarification of University policy concerning the use of University facilities by students, especially those available for student affairs and meetings, was accomplished.

Student groups demonstrated their sense of community responsibility in many ways. During "Greek Week" of 1957 the fraternities and sororities collected more than \$11,000, and contributed this sum to the Minne-

sota Society for Crippled Children and Adults. The money was used to construct an Arts and Crafts Cabin at Camp Courage, the Society's facility for handicapped children near Maple Lake and Annandale. In 1958, these groups collected \$23,000 for the crippled children. The Campus Chest and the Campus Carnival and the student fund drives supported additional projects. These and other such achievements were entirely the result of individual and group effort of students.

Further evidence of good citizenship is seen in the continued reduction of the number of fraternities and sororities whose membership requirements include bias clauses. There are now only eight groups on the campus whose constitutions retain such a clause.

Opportunities for foreign students on the campus were increased and improved. The National Student Association, assisted by Ford Foundation funds, conducted the Foreign Student Leadership Project (FSLP) which enabled two students from Japan, one from Thailand, and one from India to attend the University and to study student government and the conduct of student affairs.

The Student Council of Religion and the International Relations Club joined to conduct a food and clothing drive for Hungarians, and the Regents approved an emergency scholarship program for Hungarian refugee students. A new Foreign Student Council was established; this group instituted an annual international festival on the Minneapolis Campus and arranged for good-will trips by foreign students to various communities in the state.

Opportunities for religious participation by students were further increased. New Episcopal and Presbyterian student centers were constructed by these denominations, in the area adjoining the campus which has been exempted from University acquisition by the Regents to help insure availability for use by the various religious foundations. There is now a center of student religious activity for virtually every religious persuasion near the Minneapolis campus.

New Building—The most noticeable achievements of the two years were the changes in the University's skyline, the additions to the campuses. Two wings were added to the law library. The main lounge of Coffman Union was remodeled, and plans were made for expanding the Campus Club. An addition to the University Health Service was begun, and the School of Mines building was virtually completed. Comstock Hall, a residence hall for women, was remodeled and expanded. Burton Hall remodeling also was started—to increase the usable space of which was, many years ago, the University Library. Construction was started on Frontier Hall, east of Pioneer Hall and Territorial Hall, east of Centennial Hall, was completed. These four buildings are men's dormitories. On the St. Paul campus, new housing for married students was constructed, and a new student center was started.

Outside the Twin Cities, the Cedar Creek Forest Laboratory, a gift of the Max Fleischmann Foundation, was dedicated. This forest provides more than 3,800 acres of wildlife preserve for study and experimentation. The Minnesota State Horticulture Society presented the University with a new landscape arboretum. These 160 acres of woodland and meadow have for their main purpose the development of ornamental trees and shrubbery adaptable to Minnesota landscaping.

University Expansion—The inescapable fact that college enrollments are continually increasing, and that facilities must be expanded to accommodate them, provided the basis for the most significant achievements of the biennium.

What received the widest public attention was the long-range plan for the University's expansion, the result of an intensive study conducted by the University staff under the leadership of Business Vice President W. T. Middlebrook. This unprecedented project was an extended and exhaustive examination of the long-range building needs of the University. It set new "benchmarks" for the direction and the future planning of the University's growth.

In brief, its conclusions were that by 1970 there would be 47,000 students enrolled on the University's three major campuses, with over 38,000 on the Minneapolis campus. It proposed, among other things, that general purpose classrooms be used 50 per cent more hours a week, with 25 per cent better filling of these rooms—an over-all betterment of 87.5 per cent—within the next decade. Setting 1970 as the goal, it estimated costs for rehabilitation and remodeling at the three campuses and the branch stations at \$10,742,000. Additional land needs (including land for agriculture research, but not including land for hospitals, athletics, parking, residence halls, etc.) required by this "target date" would cost an estimated \$7,166,888, and new buildings an estimated \$80,065,460.

The total cost of providing facilities for instruction, research, and related functions, in addition to those for which appropriations had already been made, was estimated to be \$97,974,348, at current prices. This would amount to an annual program of approximately \$7,000,000, in the average, over a period of fourteen years beginning in 1957. In that year the Minnesota Legislature appropriated \$1,500,000 to buy land in the area immediately west of the Minneapolis campus, across the Mississippi River. About seven and one-half blocks (17 acres) are now being purchased as the nucleus of this growth area.

The New West Campus—The decision to expand the Minneapolis campus by moving across the river was based on studies showing that this was the closest and least expensive land available. A 12-year plan to prepare the Minneapolis, St. Paul and Duluth campuses for the educational demands of 1970 is to be presented to the Legislature in 1959.

Participants in the Minneapolis campus expansion planning included many of the University's ablest administrators, who formed the West Side Advisory Committee under the chairmanship of Academic Vice President Malcolm M. Willey. The expansion plan, founded on the earlier study of needs made by the group under the direction of Vice President Middlebrook, was first released to the public on the last day of 1957. Many members of the University staff participated in the far-flung study; serving on the Advisory Committee with Vice President Willey were

Vernon L. Ausen, supervisor of room assignments and scheduling
 Theodore C. Blegen, dean of the Graduate School
 Winston A. Close, University advisory architect and professor
 Walter W. Cook, dean of the College of Education
 R. L. Kozelka, dean of the School of Business Administration
 Roy V. Lund, supervising engineer
 E. W. McDiarmid, dean of the College of Science, Literature, and the Arts
 Charles H. McLaughlin, professor of political science

W. T. Middlebrook, Business Vice President of the University
H. T. Morse, dean of the General College
William G. Shepherd, professor of electrical engineering
Lloyd M. Short, professor of political science
Athelstan Spilhaus, dean of the Institute of Technology
E. B. Stanford, director of the University Libraries
R. E. Summers, dean of Admissions and Records
E. G. Williamson, dean of Students
C. Gilbert Wrenn, chairman of the Senate Committee on Education

The plans for the new campus are not final, nor have all the details been settled. It is expected, however, that there will be approximately the same number of students on each side of the river. The State Highway Department meanwhile has announced plans for construction of a new Washington Avenue bridge and has indicated to the University it will wish to cooperate with the University on executing its plans.

The largest division of the University, the College of Science, Literature, and the Arts, is to be concentrated at the two ends of the bridge, with the sciences largely on the east side, and the humanities essentially on the west. The skyline of the new campus will be dominated by "towers" containing faculty offices and other facilities. These will rise from four-story classroom buildings, in which some of the rooms will accommodate as many as 100 students.

A survey of the building and land requirements was also conducted by the Department of Physical Education and Athletics. The most significant conclusion was that either the University stadium should be improved to create better seating conditions and expanded to accommodate a growing population, or that a new stadium should be erected. The survey also proposed that a new sports building be erected, largely for intra-mural athletics. The results (the stadium portion) of this survey, designed to satisfy the basic needs for physical education and athletics through 1970, were submitted to a committee named by the President to study the proposals; the committee's report was to be made shortly after the completion of the 1956-1958 biennium.

It might be said that these long-range plans epitomize the on-going of the University, which perforce operates in three different dimensions: it preserves the heritage of the past, it deals with the current problems of education for Minnesota youth, and it looks always to the future.

Future Prospects—The foregoing items, mentioned briefly, suggest the dimensions of the University's activities during the 1956-1958 biennium: they also suggest some of the continuing problems whose seriousness will be increased in the years ahead.

Many solutions have been suggested for meeting the demands of the ever-increasing numbers of students. In 1957, Governor Orville Freeman recommended that the five state colleges be transferred to the administrative control of the University, in the same way that the Duluth Branch was some years ago. The University has stated its willingness to accept this new responsibility, provided that the colleges and their communities seek and wish such a transfer, and provided the Minnesota Legislature wishes to make the transfer.

There have been many proposals for additional junior colleges, to be established at various locations in the state. Whatever the solutions, it is obvious that enrollments are going to increase at all levels of educa-

tion, including higher education with its more specialized responsibilities and its inescapably greater costs.

The problems of financing will be great, for both public and private institutions. Equally difficult will be the task of securing adequate, well-trained faculties. One solution, presently under consideration, may be the part-time employment of retired faculty members.

There will be problems of administrative organization, of student housing, of transportation and parking—these last complicated by the as yet uncompleted plans for the freeways linking the national highway system. There will need to be new teaching techniques, developed to utilize more efficiently the classroom space and the time and abilities of the instructors. We shall need to define more sharply our role in educational television. There will be problems of curriculum reorganization.

But, to the University, this all adds up to the challenge of a larger opportunity. The underlying philosophy of the land-grant institution, of serving the youth of our state by providing them with practical as well as academic education, is as vital a challenge as it was almost a hundred years ago when the Morrill Act became law. The University will continue with undiminished vigor to function in the fields of instruction, research, and public service, determined to deserve the confidence of its constituency and to justify the generous support of the citizen-taxpayers of Minnesota.

Demise of Former Regent—In recounting some of the milestones of the past two years, it is saddening to report the death, in December of 1956, of George B. Leonard, who was a member of the Board of Regents from 1937 to 1939. An 1896 graduate of the Law School, with selfless advocacy and unimpeachable integrity he won respect, and often affection, even of those who differed with him in principle. His service to the University in a time of crisis will be long remembered.

Conclusion—Indeed, the high-minded concern and devotion of the Regents, the loyalty and diligence of the Faculty, the indispensable service of the administrators and non-academic staff of the University together constitute a heartening example of productive cooperation in service to the people of Minnesota.

To all of these I would express my gratitude and appreciation for their partnership and for my own privilege of participation in an inspiring and ever-challenging enterprise—the upbuilding and ongoing of one of the nation's most distinguished institutions of higher learning.


President

Minneapolis, Minnesota
June 30, 1958

THE PRESIDENT'S REPORT

SIGNIFICANT EVENTS, ACTIVITIES, AND ACTIONS, 1956-58

Awards and Citations—The Functions Committee of the University Senate makes its report on awards, citations, and degrees granted during the biennium. (Members of this committee are William L. Nunn, chairman; Isaac J. Armstrong, Colonel Dean M. Benson, John W. Clark, Edwin L. Haislet, James S. Lombard, Gerald R. McKay, Paul Oberg, Raymond G. Price, Robert P. Provost, Louise A. Stedman, Stewart C. Thomson, E. G. Williamson, and E. W. Ziebarth.)

Outstanding Achievement Medals Conferred—Outstanding Achievement medals and citations, authorized by the Regents on December 11, 1947, have been conferred on 257 individuals through June 30, 1958. By bienniums:

1946-48	2
1948-50	3
1950-52	129
1952-54	41
1954-56	50
1956-58	32
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The 32 honors conferred during 1956-58 were presented at various events, dinners, luncheons, meetings, banquets, and anniversaries, both on and off the campus. The names of the distinguished alumni who received these awards during the biennium and the colleges in which they studied at the University are as follows:

Grace Armstrong, Ed.	Nolan C. Kearney, Ed.
Clara Brown Army, Ed.	Phillip L. Merritt, I.T.
Stuart L. Bailey, I.T.	Albert H. Moseman, Ag.
James Dennis Boyle, S.L.A.	Clarence L. Munn, Ed.
Joseph A. A. Burnquist, Law	William H. Oppenheimer, Law
Marchette Gaylord Chute, S.L.A.	James W. Papez, Med.
Ira H. Cram, I.T.	David Wield Robertson, Ag.
William Dawson, S.L.A.	Louis H. Roddis, Med.
Kenneth J. Duncan, I.T.	Gordon H. Scott, Med.
Elmer E. Engelbert, Bus.	Glenn E. Seidel, I.T.
Benjamin Charles Gruenberg, Med.	Helen Clapesattle Shugg, S.L.A.
Lloyd Hale, Bus.	George Baxter Smith, Ed.
Cecilia H. Hauge, Med.	John Paul Stapp, Med.
Gustav Yngve Hildebrand, Dent.	Frank H. Stodola, I.T.
Hibbert M. Hill, I.T.	Jack L. Van Volkenburg, S.L.A.
Erling O. Johnson, Ed.	Henry W. Woltman, Med.

Honorary Degree Conferred—Dean A. F. Spilhaus presented Dr. Walter H. Brattain to President Morrill for the honorary degree, Doctor of Science, on June 15, 1957. The text of the citation is as follows:

WALTER H. BRATTAIN

BORN in China of American parents; graduate of Whitman College and the University of Oregon, and recipient of a Doctor of Philosophy Degree from the University of Minnesota; already a physicist of distinction at the beginning of World War II, he became a member of the National Defense Research Project at Columbia University and there made notable contributions to the study of the magnetic detection of submarines; now a leading international physicist who can look back on 26 years as a productive and inspiring member of the staff of the Bell Telephone Laboratories; acclaimed by the world of science and scholarship when he received in 1956, with Dr. John Bardeen and Dr. William Shockley, the Nobel Prize in Physics

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in recognition of his part in the development of the basic principles from which resulted the invention of the transistor, a revolutionary component of electronic circuits—

BECAUSE your scientific achievements have added in ways that are fundamental and epochal to an understanding of electron-physics, and thereby have strengthened our ability to maintain the national security; and because what you have done in your brilliant career enhances the well-being of men wherever scientific knowledge has impact on human lives, the Regents of the University of Minnesota, upon recommendation of the faculties, confer upon you, Walter H. Brattain, the degree of Doctor of Science, *honoris causa*, with all the rights and privileges pertaining to that degree.

Gerald T. Mullin Given Regents Award—On December 12, 1957, the newly created Regents Award of the University of Minnesota was awarded for the first time to Gerald T. Mullin by President Morrill. The award may be conferred on those who have contributed to the development and building of the University through significant benefactions, or who have performed exceptionally valuable and meritorious service to the University. The text of the citation for Mr. Mullin is as follows:

GERALD T. MULLIN

BY BIRTH, a native of the State of Nebraska, but by adoption (to our good fortune) a son of Minnesota; a graduate of the College of St. Thomas, St. Paul, and the Minnesota College of Law, Minneapolis; President of the Minneapolis Gas Company; from 1929 to 1957 a member of the Minnesota State Legislature, where his integrity, his understanding of public issues, and his sense of responsibility won for him widespread and unquestioned confidence and respect; resourceful legislative leader, notably in the fields of labor legislation, appropriations and taxation; vigorous champion of the interests of minority peoples and staunch defender of the civil rights of all citizens; over the years a steadfast and loyal supporter of the University, both in words and actions—

BECAUSE of your devoted and selfless service to the people of the State of Minnesota, in the legislature and in the community; because you symbolize in your own career the ideal of the dedicated public servant; because of what you have meant to the University of Minnesota and what the University has meant to you; and most of all because as a public figure, as a private citizen, and as a good friend you are just the kind of person that you are, the Regents of the University of Minnesota, upon recommendation of the faculties, confer upon you, Gerald T. Mullin, the REGENTS AWARD, in special recognition of your qualities of Benefaction, Fidelity, Leadership.

University Citation Given Reuel P. Lee—A special University of Minnesota Board of Regents' Citation was presented to Mr. Reuel P. Lee on March 27, 1958 at the fiftieth anniversary banquet of the Department of Mortuary Science. The text of the citation is as follows:

REUEL P. LEE

Ardent supporter and benefactor of the University of Minnesota for forty-five years actively devoted to upgrading the specialized curriculum for mortuary education, dedicated to humanitarian objectives and principles of his profession, instrumental in the formulation of plans which led to accreditation of schools and programs of embalming and funeral directing, recognized leader in establishing in the State of Minnesota a system of licensing for those in the practice of this calling—because of your effectiveness in realizing mutually beneficial associations between the University, the State Board of Health and the Minnesota Funeral Directors Association, the Regents of the University of Minnesota on this twenty-seventh day of March, nineteen hundred and fifty-eight pledge to Reuel P. Lee their cooperation and vigilant stewardship.

Department of Mortuary Science Marks 50th Anniversary—The fiftieth anniversary of the Department of Mortuary Science was commemorated at an Educational Symposium, followed by a banquet, on March 27, 1958. During that period of time, the Department of Mortuary Science has grown from a six-week course in 1908 to a three year integrated curriculum in 1955.

Following is the text of the resolution presented to the Regents by the University Association of Departments of Mortuary Science:

WHEREAS, The University of Minnesota will officially recognize the 50th Anniversary of the establishment of its Department of Mortuary Science on March 27, 1958; and

WHEREAS, The University of Minnesota Department of Mortuary Science is a charter member of the University Association of Departments of Mortuary Science and as such has given outstanding leadership in the field of mortuary science education,

Be It Therefore Resolved, That the University Association of Departments of Mortuary Science give official recognition to this important event by extending congratulations to the University of Minnesota, its President and its Board of Regents for many accomplishments in its fifty years of service to the funeral profession; and

Be It Further Resolved, That this association look to the University of Minnesota for continued participation in future plans for the advancement of mortuary science education.

Death of Former Regent—George B. Leonard, member of the Board of Regents of the University from 1937-1939, died November 16, 1956. The Board of Regents, in recognition of his service to the University, adopted the following resolution at a meeting on December 14, 1956:

WHEREAS, George B. Leonard for more than six decades was a resident of Minneapolis, and contributed vigorously in thought and action to the on-going and well-being of that city, and

WHEREAS, he was all through his long life steadfastly the champion of liberal and sometimes controversial causes that he believed to be in the best interests of the community and of the individuals who live in it, and

WHEREAS, his selfless, outspoken and forthright advocacy of these causes over the years, coupled with his unimpeachable sense of integrity, won the respect, and often the affection even of those who differed from him in principle, and

WHEREAS, his talents and his enthusiasm found expression in many forms of public service, and

WHEREAS, from 1937 to 1939 he served as a member of the Board of Regents of the University of Minnesota, from the Law School of which institution he received his degree in 1896,

Therefore Be It Resolved, That the Regents of the University of Minnesota, by this formal action, do express their appreciation for the services that George B. Leonard rendered to the University as a member of its governing board, and their admiration of the qualities that made his life such a useful one, to the University and to the community and the state of which it is a part; and they further express their heartfelt sympathy to Mrs. Leonard and all the other members of his family; and they direct that this action be made a part of the permanent, official record of the Board of Regents and the University of Minnesota.

West River Expansion—Important strides were made in the planned expansion of the campus of the University westward across the river by 1970. A faculty planning and advisory committee, appointed by President Morrill has laid significant groundwork for all expansion developments. (Members of this committee are Malcolm M. Willey, chairman; Theodore C. Blegen, Winston Close, Walter W. Cook, Roy V. Lund, C. Gilbert Wrenn, Athelstan F. Spilhaus, E. G. Williamson, Richard L. Kozelka, E. W. McDiarmid, William T. Middlebrook, Horace T. Morse, Alfred L. Vaughn, Robert E. Summers, True E. Pettengill, and Vernon L. Ausen.)

A key element in present plans is the creation of a double-deck bridge spanning the river and unifying the two areas into a single campus. Actual class-room space is expected to be located in four-story, walk-up buildings with 12-story office towers connecting these units. It is also expected that there will be some dormitory units in the west side area, as well as restaurant and lounge facilities.

One of the aims of the current plans is to divide the instructional load between the East and West Campuses about equally. In addition, the large part of the west side area will be devoted to non-laboratory and non-research facilities, which will remain concentrated on the east side. Among the many schools and colleges affected by the proposed changes is the College of Science, Literature, and the Arts which will be concentrated in two segments at opposite ends of the new bridge across the river.

This whole expansion of the University is made necessary by an unprecedented increase in college enrollment expected by 1970, and by the steadily increasing needs of University research and service operations. These needs were recognized by the 1957 Legislature which appropriated funds not only for the purchase of land across the river, but also for the construction of new buildings and for the rehabilitation of old ones.

Minnesota State Centennial—The year 1958 marked the 100th birthday of the State of Minnesota, and participation of the University in this celebration

was varied and enthusiastic. In order to facilitate University undertakings a University Committee on the State Centennial served as a central contact. (Members of this committee were: Malcolm M. Willey, chairman; Harvard H. Arnason, Theodore C. Blegen, J. O. Christianson, Raymond W. Darland, John Ervin, Jr., Theodore Fenske, Don Finlayson, James Lombard, Charles H. McLaughlin, William L. Nunn, Edward B. Stanford, Stanley J. Wenberg).

Among the many and varied examples of University participation in the Centennial can be cited the series of 39 Centennial radio programs produced by KUOM; the publication by University of Minnesota Press of "The Face of Minnesota" by John Szarkowski; the Centennial Creative Arts Festival and Centennial Concert; a new Centennial crab-apple developed by members of the Department of Horticulture. An important event was the three-day Centennial Conference on College Teaching held in April, 1958, sponsored by the Association of Minnesota Colleges.

A particularly colorful contribution of the University was the Centennial Showboat. Operated by University Theater, the Showboat played 103 performances of the melodrama "Under the Gaslight" to over 20,000 people.

The entire statewide observance of the celebration was highlighted by Centennial Week in May, 1958. On May 11, 1958, Minnesota Statehood Day was celebrated with a commemorative program at Memorial Stadium. Two days earlier, on May 9, there was a Centennial Convocation at Northrop Memorial Auditorium during which time President Morrill presented a citation on behalf of the University to the Centennial guests from the Scandinavian Countries. The text of the citation is as follows:

THE UNIVERSITY OF MINNESOTA

To The Peoples of

DENMARK

FINLAND

ICELAND

NORWAY

SWEDEN

Greetings:

WHOSE emigrated countrymen through a century and more years have brought into reality Fredrika Bremer's dream of a "glorious new Scandinavia" in the building of the North Star State

DRAWN BY this region of lakes, forests, plains, fast-flowing rivers, and fields and mines that stirred memories of their homelands, the pioneers from the saga lands of the North undertook heavy responsibilities in frontier days and later

GIANTS in the earth, they broke virgin sod into farms, lumbered primeval forests, mined red earth in the iron country

THEY and their descendants kept alive the cultures of their ancient heritage and, in their native tongues and adopted language, enriched the literature of state, of nation, and the world

THEY left a lasting impress on the musical history of Minnesota through the melodic expression of their rooted faith and by the warmth and gaiety of their folk-ballads

IN PAINTING, sculpture, crafts, architecture, and other arts, they deepened the artistic richness of the state

HARDY and vigorous, they shared their inherited skills in winter sports with all

THEY helped to "build the land with the law"—their age-old tradition—and the communities in which they lived were touched by their own spirit of order and civic advance

BELIEVERS in education for their children and children's children, they supported school and college and university with an unflinching will to achieve the true promise of America

IN FAITH and vision, they applied a tradition of understanding tolerance and service, attested by institutions and good works and Christian concern for the sick, the needy, the aged

WEDDED TO the basic principles of democracy, they strengthened the public integrity of Minnesota by devoted service alike in public office and as citizens

TO INDUSTRY, education, politics, the professions, and the entire institutional progress of community and state, the pioneers and their sons and daughters contributed signal leadership

LOYAL in spirit and service to state and nation, cherishing cultural values rooted in their ancestral lands, ever-mindful of moral, spiritual, and intellectual standards, they have been and are part and parcel, alongside their fellow Minnesotans, in the tasks, great and humble, they have made their mid-American commonwealth what it is today in this our Centennial year

AND SO in this time of memory and of dedication to a future built on foundations they helped to create, we honor these our kinsmen from across the seas and we treasure the intimate and affectionate ties between this state and the ancestral lands here symbolized, to which we owe a lasting debt and gratitude

PRESENTED TO The Friendly Peoples Represented By Our Honored Visitors On This Ninth Day of May in the Year of Our Lord, the One Thousand Nine Hundred and Fifty-Eighth, and of the University of Minnesota, the One Hundred and Seventh, Through the Good Offices and Courtesies of Her Royal Highness Princess Astrid of the Kingdom of Norway, His Royal Highness Prince Bertil of the Kingdom of Sweden, His Excellency Prime and Foreign Minister H. C. Hansen of the Kingdom of Denmark, His Excellency Prime Minister Reino Kuuskoski of the Republic of Finland, and His Excellency Ambassador Thor Thorsoski of the Republic of Iceland

Dedicate Computer Center—Formal dedication of a new electronic computing center in the Experimental Engineering Building took place on June 4, 1958. The million-dollar Univac 1103 Computer cost the University roughly \$250,000, with the remainder of the funds donated by the National Science Foundation, the Sloan Foundation of New York, and the Hill Family Foundation of St. Paul.

Dedicate Cedar Creek Forest Laboratory—Formal dedication of the new Cedar Creek Forest Laboratory, which contains an office, meeting room, classroom, research laboratories, and dormitories, took place on September 14, 1957.

Although this natural history area, located in Anoka and Isanti counties, has been administered by the University for several years now, it was a grant of \$250,000 from the Max C. Fleischmann Foundation of Nevada in 1954 which has made possible the purchase of additional acreage and the construction of this new laboratory building. The whole project is administered by the Graduate School of the University, under the directorship of Arthur N. Wilcox, professor of horticulture.

Construction Underway on New St. Paul Student Center—A new student center to replace the present St. Paul Union which is housed in Old Dairy Hall is expected to be ready for occupancy by spring of 1959.

On November 1, 1957, Student Center Day was held on the St. Paul campus commemorating the beginning of excavations on the new site several months earlier. In May, 1958, a date stone was placed at the entrance of the new building and dedication ceremonies were held at which Harold Macy, dean of the Institute of Agriculture, presided.

Establish Department of Radio and Television Broadcasting—A new department of radio and television broadcasting was established within the General Extension Division during the spring of 1957. The department is responsible for the continued operation of radio station KUOM, and for planning and preparing television courses for presentation on KTCA-TV, channel 2, the Twin Cities' Educational Television Station. Named director of the new department was Burton Paulu, manager of KUOM.

Three Units Change Status—Three departments at the University underwent organizational changes during the biennium. Effective July 1, 1957, a College of Veterinary Medicine was established from what was formerly the School of Veterinary Medicine of the Institute of Agriculture. Professor William T. S. Thorp has been named dean of the college.

The Department of Physical Education for Women was transferred to the College of Education, as was the Institute for Child Welfare. In addition, the name of the Institute was changed to the Institute of Child Development and Welfare. All of these changes went into effect July 1, 1957.

Dedicate New Masonic Memorial Hospital—On October 4, 1958, ceremonies marking the dedication and presentation of the newly completed Masonic Memorial Hospital were held at Coffman Memorial Union.

The Hospital is dedicated to the care and healing of patients in advanced stages of cancer. It is to be staffed by University Hospitals and will engage in fundamental research into what are today regarded as "incurable" diseases.

Dedicate New Home Economics Building—A \$250,000 three-story home economics building was dedicated in January, 1957 at the West Central School of Agriculture. Harold Macy, dean of the Institute of Agriculture, dedicated the building which had been under construction for two years.

Gideon D. Seymour Memorial Lecture Series—During the past biennium a number of distinguished lecturers spoke in the Gideon D. Seymour Memorial Lecture Series. This series, which was established in 1954 under the sponsorship of the University of Minnesota, with financing by the Minneapolis *Star* and *Tribune*, brings persons of national and international eminence to the Twin Cities to address public audiences.

Walter Lippmann, noted journalist and author, presented the 4th lecture since the founding of the series, on January 27, 1957. The 5th lecture was given on February 24, 1957 by James B. Conant, renowned scientist, educator, diplomat.

Lester B. Pearson, winner of the 1957 Nobel Peace Prize and former Secretary of State for External Affairs of Canada, presented the 6th lecture on November 3, 1957. The 7th lecture was given by Harrison Brown, professor of geochemistry at the California Institute of Technology, on March 9, 1958.

Geology Department Hosts to Annual Convention—The Department of Geology and the Minnesota Geological Survey acted as hosts for the 69th annual scientific and business sessions of the Geological Society of America which met in Minneapolis, October 31-November 2, 1956. Approximately 1200 geologists from the United States, Canada, and Mexico attended the sessions.

Hungarian Refugee Student Program—The Hungarian refugee student program began at the University on July 12, 1957, when the Regents established a maximum of 15 tuition and fee exempt scholarships, designated for undergraduates. In order for applicants to be considered, two agencies, the World University Service, and the Institute of International Education, had to act as sponsors.

To date, eight tuition and fee scholarships have been recommended of which seven have been accepted and are in force.

UNIVERSITY PERSONNEL

CHANGES IN PERSONNEL

Board of Regents

The 1957 Legislature reelected to six-year terms, expiring in 1963, James F. Bell, Minneapolis; Richard L. Griggs, Duluth; George W. Lawson, St. Paul, and Ray J. Quinlivan, St. Cloud, Minnesota.

Faculties

RETIREMENTS

Each year some members of the faculty reach the age of compulsory retirement, bringing to a close a long period of active association with the University.

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

1956-57

- Charles H. Rogers, dean and professor emeritus, College of Pharmacy (1913-57).
William Anderson, professor emeritus of political science, College of Science, Literature, and the Arts (1916-57).
Arlie R. Barnes, professor emeritus of medicine, Mayo Foundation (1920-57).
Raymond W. Brink, professor emeritus of mathematics, College of Science, Literature, and the Arts (1917-57).
Alfred L. Burt, professor emeritus of history, College of Science, Literature, and the Arts (1930-57).
Winchell M. Craig, professor emeritus of neurosurgery, Mayo Foundation (1927-57).
Claude F. Dixon, professor emeritus surgery, Mayo Foundation (1928-57).
Elizabeth Graybeal, professor emeritus of physical education for women, Duluth Branch (1930-57).
Henry V. Hanson, professor emeritus of otolaryngology, College of Medical Sciences (1946-57).
Philip S. Hench, professor emeritus medicine, Mayo Foundation (1928-57).
Oscar B. Jesness, professor emeritus of agricultural economics, Institute of Agriculture (1928-57).
Joseph C. Michael, clinical professor emeritus of medicine, College of Medical Sciences (1915-57).
Henry E. Michelson, professor emeritus of dermatology, College of Medical Sciences (1917-57).
J. Arthur Myers, professor emeritus School of Public Health, College of Medical Sciences (1914-57).
Ernest S. Osgood, professor emeritus of history, College of Science, Literature, and the Arts (1927-57).
Mark O. Pattridge, clinical professor emeritus, School of Dentistry (1910-57).
Ella J. Rose, professor emeritus, home economics education (1925-57).
Henry Rottschaefer, professor emeritus, Law School (1922-57).
Laurence M. Winters, professor emeritus Animal Husbandry (1928-56).
Rex W. Cox, associate professor emeritus of agricultural economics, Institute of Agriculture (1929-57).
Robert E. Fricke, associate professor emeritus of radiology, Mayo Foundation (1929-57).
Sylvester Koontz, clinical associate professor emeritus, School of Dentistry (1951-57).

- Martin Nordland, clinical associate professor emeritus of surgery, College of Medical Sciences (1932-57).
- Paul S. Parker, clinical associate professor emeritus, School of Dentistry (1915-57).
- Robert F. Schuck, associate professor emeritus of drawing and descriptive geometry, Institute of Technology (1920-57).
- Ruth Christie, assistant professor emeritus of English, College of Science, Literature, and the Arts (1925-57).
- Austin C. Davis, assistant professor emeritus of medicine, Mayo Foundation (1928-57).
- Ruth E. Lawrence, director of University Art Gallery and assistant professor emeritus (1934-57).
- Duncan M. Masson, assistant professor emeritus of medicine, Mayo Foundation (1927-57).
- Eves E. Whitfield, assistant professor emeritus extension specialist clothing, Agricultural Extension (1926-56).
- Retta Bede, instructor and preceptress emeritus, Northwest School and Station (1925-57).
- Hermina Hartig, clinical instructor emeritus of pediatrics, College of Medical Sciences (1928-57).
- Thomas W. Larimore, instructor emeritus of music, School of Agriculture (1942-57).
- Herbert L. Parten, instructor emeritus extension entomologist, Institute of Agriculture (1925-57).
- Benjamin W. Palmer, lecturer emeritus in business law, School of Business Administration (1918-57).
- Harold J. Aase, agricultural agent-assistant professor emeritus North St. Louis County, Agricultural Extension (1923-57).
- Raymond Aune, agricultural agent-assistant professor emeritus Olmsted County, Agricultural Extension (1924-57).

1957-58

- Harold S. Diehl, dean emeritus, College of Medical Sciences and professor emeritus, School of Public Health (1920-58).
- Ralph D. Casey, professor and director emeritus, School of Journalism (1930-58).
- Virgil S. Counsellor, professor emeritus, surgery, Mayo Foundation (1929-58).
- Raymond S. Dunham, professor emeritus, agronomy and plant genetics (1921-58).
- Henry C. T. Eggers, professor emeritus, mechanical engineering (1919-58).
- Hiram E. Essex, professor emeritus, experimental physiology in experimental medicine, Mayo Foundation (1929-58).
- Walter A. Fansler, clinical professor emeritus, surgery (1916-58).
- William H. Feldman, professor emeritus, comparative pathology, Mayo Foundation (1927-58).
- Frederick A. Figli, professor emeritus, surgery, Mayo Foundation (1919-58).
- Ralph K. Ghormley, professor emeritus, orthopedic surgery, Mayo Foundation (1929-58).
- Samuel F. Haines, professor emeritus, medicine, Mayo Foundation (1924-58).
- Erling W. Hansen, clinical professor emeritus, ophthalmology (1919-58).
- Herbert Heaton, professor emeritus, history (1927-58).
- Reuben A. Johnson, clinical professor emeritus, medicine (1923-58).
- Olga Lakela, professor emeritus, biology and curator of herbarium, Duluth Branch (1930-35 at U of M, 1935-58 at Duluth Branch).
- Tremaine McDowell, professor emeritus, English (1928-58).
- Dwight E. Minnich, professor emeritus, zoology (1920-58).
- Lowry Nelson, professor emeritus, sociology (1937-58).
- George A. Pond, professor emeritus, agricultural economics (1917-58).
- Orrin W. Potter, professor emeritus, mechanical engineering (1919-58).
- Frederick H. K. Schaaf, clinical professor emeritus, medicine (1917-58).
- Dora V. Smith, professor emeritus, general education (1917-58).
- James F. Weir, associate professor, medicine, Mayo Foundation (1925-58).

- Phillip A. Anderson, associate professor emeritus, animal husbandry (1915-58).
 Cora E. Cooke, associate professor emeritus extension specialist poultry, Agricultural Extension (1921-58).
 Gladys E. C. Gibbens, associate professor emeritus, mathematics, College of Science, Literature, and the Arts (1920-58).
 Richard M. Hewitt, associate professor emeritus, medical literature, Mayo Foundation (1934-58).
 Bayard T. Horton, associate professor emeritus, medicine, Mayo Foundation (1929-58).
 Pearl T. Cummings, assistant professor emeritus extension worker, parent education and parent consultation service, Institute of Child Welfare (1929-58).
 Hans P. Hanson, assistant professor emeritus, extension specialist, field studies, Agricultural Extension (1939-58).
 George E. Hudson, clinical assistant professor emeritus, obstetrics and gynecology (1928-58).
 Adam M. Smith, clinical assistant professor emeritus, medicine (1922-58).
 Ella K. S. Oerting, instructor emeritus, rhetoric, School of Agriculture (1936-58).
 Victor K. Funk, lecturer emeritus, School of Nursing (1928-58).
 George W. Larson, agricultural agent-assistant professor emeritus Chisago County, Agricultural Extension (1924-58).
 Jasper I. Swedberg, agricultural agent-assistant professor emeritus Redwood County, Agricultural Extension (1937-58).

TERMINATIONS, 1956-57

- William F. Maloney, assistant dean College of Medical Sciences and assistant professor of medicine, effective January 31, 1957, to become dean of the Medical College of Virginia.
 Adelaide McF. Johnson, professor of psychiatry Mayo Foundation, effective December 31, 1956. (Retains her clinical professorship in psychiatry in Medical School.)
 Clarence B. Lindquist, professor and head of mathematics and engineering in Division of Science and Mathematics, Duluth Branch, effective at close of 1956-57, to continue his work as Chief for Natural Sciences and Mathematics in the Higher Education Division, U.S. Office of Education, Washington, D.C.
 Leo G. Rigler, professor and head of radiology, effective June 15, 1957, to accept position as director of postgraduate education and professor of radiology at the University of California, Los Angeles.
 Martin H. Roepke, professor in the College of Veterinary Medicine, effective at close of 1956-57, to accept a position with Animal Disease and Parasite Research Division, Agricultural Research Service of U.S. Department of Agriculture, Beltsville, Maryland.
 Alan E. Treloar, professor in School of Public Health, effective March 15, 1957, to accept position as Director of Research for the American Hospital Association, Chicago, Illinois.
 Ivan D. Baronofsky, associate professor of surgery, effective December 31, 1956, to accept position as chief of the department of surgery, Mount Sinai Hospital, New York City.
 Warren A. Bennett, associate professor of pathologic anatomy, Mayo Foundation, effective October 31, 1956, to accept a position at the Thomas D. Dee hospital in Ogden, Utah.
 Helen B. Clapesattle, associate professor and director of University Press, effective November 30, 1956, marriage to Roger W. Shugg.
 Saul L. Cohen, associate professor of physiological chemistry, effective June 15, 1957, on account of illness.
 Guy Desgranges, associate professor of Romance Languages, effective June 15, 1957, to accept position with Armand Colin Publishing Company, Paris, France.
 John E. Eichenlaub, associate professor in School of Public Health, effective June 15, 1957, to devote his time to medical writing.

- Homer D. Fausch, associate professor at Northwest School and Experiment Station, effective September 29, 1956, to accept position at California Polytechnic College, Pomona, California.
- John Hospers, associate professor of philosophy, effective December 15, 1956.
- F. John Lewis, associate professor of surgery, effective September 30, 1956, to accept a position at Northwestern University.
- Samuel Nesbitt, associate professor of medicine without salary, effective June 1, 1956, to take a position in New York.
- Leonard F. Peltier, associate professor and acting director of the division of orthopedic surgery, effective December 31, 1956, to accept a position at the University of Kansas.
- Kenneth Phelps, clinical associate professor of otolaryngology, effective September 30, 1956, moving to California.
- Emmett L. Pinnell, associate professor of agronomy and plant genetics, effective February 6, 1957, to accept a position as chairman of Field Crops Department, University of Missouri.
- Roy C. Prentis, associate professor in College of Education, effective June 15, 1957, to accept position as Director of State College Board, State of Minnesota, St. Paul.
- H. Milton Berg, clinical assistant professor radiology and physical medicine, effective December 31, 1956, to accept position with Quain and Ramstad Clinic, Bismarck, North Dakota.
- Jacob Berg, assistant professor and senior student personnel worker Student Counseling Bureau, effective September 28, 1956, to accept a position with Vocational Analysis Corporation of Minneapolis.
- Eugene S. Gollin, assistant professor in Institute of Child Welfare, effective June 15, 1957, to accept a position at Queens College, New York City.
- Walter K. Haven, clinical assistant professor of ophthalmology, effective June 30, 1957.
- Earl R. Horr, clinical assistant professor School of Dentistry, effective at close of 1956-57, to devote full time to his private practice.
- Richard O. Leavenworth, clinical assistant professor ophthalmology, effective June 30, 1957.
- Osgood T. Magnuson, assistant professor assistant state leader 4-H Club in Agricultural Extension, effective October 24, 1956, to accept position as executive director of Lutheran Student Foundation of Minnesota.
- Evelyn R. Morrow, assistant professor district supervisor home agent work, Agricultural Extension, effective July 23, 1956, to finish work for doctor's degree at University of Chicago.
- Hubert E. Sauter, assistant professor and librarian, Institute of Technology, effective December 19, 1956, to take a position with the Lockheed Aircraft Corporation in Marietta, Georgia.
- Joseph C. Tam, assistant professor in School of Dentistry, effective November 21, 1956, for private practice in California.
- Fred J. Triplett, assistant professor of art in Division of Humanities, Duluth Branch, effective June 15, 1957, to accept position as Director of the Huntington Galleries, Huntington, West Virginia.
- Dewey K. Ziegler, assistant professor University Hospitals (Multiple Sclerosis Grant), effective September 30, 1956.

TERMINATIONS, 1957-58

- James Aliferis, professor of music, effective June 15, 1958, to accept the presidency of the New England Conservatory of Music, Boston, Massachusetts.
- Elizabeth M. Fuller, professor of general education, effective at close of 1957-58, to accept position as professor of education at Ohio University, Athens, Ohio.
- John R. McDonald, professor of pathology, Mayo Foundation, effective June 30, 1958 to accept appointment at Harper Hospital and Wayne University College of Medicine, Detroit, Michigan.
- Lloyd Ulman, professor of economics, School of Business Administration, effective June 15, 1958, to accept a position at University of California.

- Burton P. Grimes, professorial lecturer in psychiatry and neurology, effective June 30, 1958.
- Ralph Rossen, professorial lecturer in psychiatry and neurology, effective June 30, 1958.
- Bernard P. Arnest, associate professor of art, effective June 15, 1958, to accept directorship of School of Art, Colorado Springs Fine Arts Center.
- James E. DeVay, associate professor of plant pathology and botany, effective September 14, 1957, to accept a position at the University of California, Davis, California.
- Dorothy T. Dyer, associate professor of interdisciplinary studies in general education, effective at close of 1957-58, to accept a position at Utah State Agricultural College, Logan.
- Leo Marx, associate professor of English, effective June 15, 1958, to accept a professorship at Amherst College.
- Charles M. Nice, Jr., associate professorship of radiology, effective at close of 1957-58, to accept a professorship at Tulane University School of Medicine.
- Helen L. Pilcher, associate professor in School of Home Economics, effective December 31, 1957, to be married.
- Paul H. Ptacek, associate professor of speech and assistant director of Speech and Hearing Clinic, effective August 10, 1957, to accept position as professor of speech at Western Reserve University, Cleveland, Ohio.
- Arden K. Ruddell, associate professor of general education, effective June 15, 1958, to accept a position at University of California, Riverside.
- Earl V. Rymer, associate professor of music, effective June 15, 1958.
- Michael I. Sovern, associate professor in Law School, effective June 15, 1958, to accept a position at Columbia University Law School.
- William W. Stead, associate professor of medicine, effective June 30, 1958, to accept a position at University of Florida Medical School.
- Halvor Vermund, associate professor of radiology, effective August 31, 1957, to accept position as professor of radiology at University of Wisconsin.
- Franz H. Vitovec, associate professor of aeronautical engineering, effective at close of 1957-58, to accept a position at University of Wisconsin.
- Elliot H. Weinberg, associate professor of physics, Duluth Branch, effective June 15, 1958, to accept chairmanship of physics department at North Dakota State College.
- Leonard B. Wheat, associate professor division of education and psychology, Duluth Branch, effective December 31, 1957, to accept a position in Illinois.
- W. Lane Williams, associate professor of anatomy, effective June 15, 1958, to accept the headship of department of anatomy at University of Mississippi.
- Torfin L. Aamodt, assistant professor of entomology and economic zoology, effective December 31, 1957.
- E. Madeline Burleigh, assistant professor and manager of agricultural cafeteria, School of Home Economics, effective June 30, 1958.
- Maurice M. Callahan, assistant professor of music and band, Duluth Branch, effective at close of 1957-58, to accept position as supervisor of music at Grand Forks, North Dakota, public schools.
- Gilbert S. Campbell, assistant professor of surgery, effective June 30, 1958, to accept a position at University of Oklahoma.
- Paul M. Chung, assistant professor of mechanical engineering, effective at close of 1957-58, to accept position as research engineer, Ames Aeronautical Engineering Laboratory, NACA, Moffet Field, California.
- F. Jeanne Claypoole, assistant professor in School of Home Economics, effective June 30, 1958, to be married.
- Maurice F. Connery, assistant professor in School of Social Work, effective June 15, 1958, to accept a position at Syracuse University.
- Albert P. Earle, assistant professor of chemical engineering, effective June 15, 1958, to accept a position with Rayette Corporation, St. Paul, Minnesota.
- Marion T. Everson, assistant professor in School of Home Economics, effective June 15, 1958, to be married.
- Arthur G. Hennings, assistant professor in School of Public Health, effective January 31, 1958, to accept a position at University of Texas, Galveston.
- Shirley M. Holt, assistant professor and clinical psychologist in psychiatry and neurology, effective July 15, 1957, to accept a position at Hamline University, St. Paul.

- Robert K. Jaedicke, assistant professor in School of Business Administration, effective June 15, 1958, to accept a position at Harvard University.
- Vera E. Johnson, assistant professor of educational psychology and principal student personnel worker, Student Activities Bureau, effective at close of 1957-58, to accept position as dean of students at Colorado Women's College, Denver.
- Lester L. Larson, assistant professor in College of Veterinary Medicine, effective June 30, 1958, to accept a position with American Breeders' Service, Chicago.
- Dale J. Lundeen, assistant professor of speech and senior student personnel worker, Office of Dean of Students, effective September 15, 1957, to accept position as associate professor of speech at Northern Michigan College, Marquette, Michigan.
- Vincent H. Malmstrom, assistant professor of geography, Duluth Branch, effective June 15, 1958, to accept a position at Middlebury College, Vermont.
- William H. Murphy, Jr., assistant professor of bacteriology and immunology, effective January 15, 1958, to accept a position at University of Michigan.
- Harald Ostvold, assistant professor-librarian, Institute of Agriculture, effective November 6, 1957, to accept position as chief of science and technology division of New York Public Library.
- Elizabeth Roniger, assistant professor extension economist home management, Agricultural Extension, effective June 30, 1958.
- Robert E. Sausen, assistant professor in School of Dentistry, effective June 15, 1958, to accept a position at West Virginia University.
- John A. Schellman, assistant professor of physical chemistry, effective June 15, 1958, to accept a position at University of Oregon.
- Aksel Schiotz, assistant professor of music, effective June 15, 1958, to accept a position at Royal Conservatory of Music, Toronto, Canada.
- Robert B. Schultz, assistant professor of bacteriology, effective December 1, 1957, to accept a position at University of Maryland.
- Ralph Eugene Smith, assistant professor of medicine, effective June 30, 1958, to accept a position on staff of Mayo Clinic.
- Richard T. Smith, assistant professor of pediatrics, effective August 31, 1957, to accept position as associate professor of pediatrics at Southwestern Medical School, University of Texas, Dallas.
- Karel M. van Vliet, assistant professor of electrical engineering, effective June 15, 1958, to return to his native country The Netherlands and continue his work at the Free University of Amsterdam in department of physics.
- Howard E. Wakefield, assistant professor of general education and Bureau of Field Studies and Surveys, effective February 8, 1958, to accept a position at the University of Wisconsin.
- Harry A. Wilmer, assistant professor of psychiatry, Mayo Foundation, effective June 30, 1958.

APPOINTMENTS, 1956-57

Professors

- Wilbur M. Benson as professor of pharmacology, Louis W. and Maud Hill Foundation
 B.S. 1939, North Dakota State College; M.S. 1941, University of Florida; M.D. 1948, Ph.D. 1949, University of Wisconsin
- James L. Hetland, Jr., as professor, Law School
 B.S.L. 1948, LL.B. 1950, University of Minnesota
- Marion W. McCrea as professor and associate dean, School of Dentistry
 D.D.S. 1935, Ohio State University; M.S. 1937, University of Rochester
- Helen M. Wallace as professor of maternal and child health, School of Public Health
 A.B. 1933, Wellesley College; M.D. 1937, Columbia University College of Physicians and Surgeons; M.P.H. 1943, Harvard School of Public Health

Associate Professors

- Robert K. Anderson as associate professor, School of Veterinary Medicine
D.V.M. 1944, Colorado A & M College; M.P.H. 1950, University of Michigan
- Suzanne Davison as associate professor, School of Home Economics
B.S. 1929, M.A. 1933, University of Missouri; Ph.D. 1947, Pennsylvania State University
- John D. Donker as associate professor of dairy husbandry
B.S. 1948, University of California (Berkeley); Ph.D. 1952, University of Minnesota
- Robert H. Haakenson as associate professor and head of department of speech, Humanities Division, Duluth Branch
A.B. 1942, Augustana College (South Dakota); M.A. 1948, Ph.D. 1952, State University of Iowa
- Amy J. Holmblade as associate professor of home economics education
B.S. 1938, Ph.D. 1954, University of Michigan; M.S. 1945, University of Minnesota
- Bjarni Jonsson as associate professor of mathematics, College of Science, Literature, and the Arts
A.B. 1943, Ph.D. 1946, University of California
- G. Gordon Kingsley as associate professor and coordinator of counseling, General College
B.S. 1941, New York State College (Oswego, New York); M.A. 1946, Columbia University; Ed.D. 1954, Rutgers University
- Allan H. McCoid as associate professor, Law School
B.S. 1949, Northwestern University; LL.B. 1952, Harvard University
- Robert J. Meade as associate professor of animal husbandry
B.S. 1949, University of Nebraska; M.S. 1952, Ph.D. 1955, University of Illinois
- Henry M. Tsuchiya as associate professor of chemical engineering
B.S. 1936, M.S. 1938, University of Washington; Ph.D. 1942, University of Minnesota
- Robert A. Ulstrom as associate professor of pediatrics
B.S. 1943, M.D. 1946, University of Minnesota
- Frank Verbrugge as associate professor and associate chairman, School of Physics
B.A. 1934, Calvin College (Grand Rapids, Michigan); M.A. 1940, Ph.D. 1942, University of Missouri
- Thomas L. Waterbury as associate professor, Law School
A.B. 1948, J.D. 1950, LL.M. 1953, University of Michigan

Assistant Professors

- Paul D. Berrisford as assistant professor and chief catalog librarian
B.A. 1950, B.S. in Education, B.L.S. 1952, University of Minnesota
- Harriet E. Blodgett as clinical assistant professor, Institute of Child Welfare
B.S. 1940, Tufts College; M.A. 1943, Ph.D. 1953, University of Minnesota
- Ann P. Callahan as assistant professor, Library School
A.B. 1947, Washington University (St. Louis, Missouri); M.S. Library Science 1951, University of Illinois
- John J. Cound as assistant professor, Law School
B.A. 1949, George Washington University; LL.B. 1952, Harvard Law School
- J. Campbell Craddock as assistant professor of geology and mineralogy
B.A. 1951, De Pauw University; M.A. 1953, Ph.D. 1954, Columbia University
- Merrill K. Cragun, Sr., as assistant professor-course coordinator, General Extension Division
B.A. 1925, University of Minnesota
- William M. Crockett as assistant professor of English, Humanities Division, Duluth Branch
B.A. 1941, University of Toronto; Ph.D. 1955, University of Chicago

- John Ervin, Jr., as assistant professor and director, University of Minnesota Press
B.A. 1949, Yale University
- Charles E. Gates as assistant professor, Agriculture Experiment Station
B.S. 1950, Iowa State College; M.S. 1952, Ph.D. 1954, North Carolina State College
- Gerald A. Gladstein as assistant professor of psychology, Division of Education and Psychology, Duluth Branch
B.A. 1950, University of Connecticut; M.A. 1951, Ph.D. 1956, University of Chicago
- Christine Herness as clinical assistant professor, Institute of Child Welfare
B.A. 1926, Heidelberg College (Tiffin, Ohio); M.A. 1932, Indiana University
- James F. Hogg as assistant professor, Law School
B.A., LL.B. 1951, LL.M. 1952, Victoria University College (New Zealand); LL.M. 1954, Harvard Law School
- Sarah F. Holbrook as clinical assistant professor, Institute of Child Welfare
B.S. 1941, University of Wisconsin; Ph.D. 1953, University of Minnesota
- Iwao Iwasaki as assistant professor, School of Mines and Metallurgy
B.S. 1951, M.S. 1953, University of Minnesota; Sc.D. 1957, Massachusetts Institute of Technology
- Maurice M. Kreevoy as assistant professor of organic chemistry
B.S. 1950, University of California; Ph.D. 1953, Massachusetts Institute of Technology
- Richard H. Lyon as assistant professor of electrical engineering
A.B. 1952, Evansville College; Ph.D. 1955, Massachusetts Institute of Technology
- E. Scott Maynes as assistant professor, School of Business Administration
B.S. 1947, Springfield College; M.A. 1949, Wesley University (Middletown, Connecticut); Ph.D. 1956, University of Michigan
- William A. Mindak as assistant professor, School of Journalism
B.S. 1950, M.S. 1951, Ph.D. 1955, University of Illinois
- Phares L. Mixon as assistant professor of rhetoric, Institute of Agriculture
B.A. 1943, M.Ed. 1951, University of Florida
- Andrew T. Morstad as assistant professor, School of Dentistry
D.D.S. 1947, Marquette University; M.S. 1955, State University of Iowa
- Chester W. Murphy as assistant professor, Physical Education and Athletics
B.S. 1939, University of Chicago; M.S. 1941, George Williams College (Chicago)
- John S. Myers as assistant professor, School of Architecture
B. Arch. 1947, Harvard University
- Glenn C. Nelson as assistant professor of art, Division of Humanities, Duluth Branch
B.S. 1952, Wisconsin State College (Milwaukee); M.F.A. 1954, State University of Iowa
- Howard J. Newell as assistant professor-district 4-H club leader, Agricultural Extension
B.S. 1946, University of Minnesota
- Katsuhiko Ogata as assistant professor of mechanical engineering
B.S. 1947, University of Tokyo; M.S. 1953, University of Illinois; Ph.D. 1956, University of California (Berkeley)
- Curtis J. Overdahl as assistant professor extension specialist in soils, Agricultural Extension
B.S. 1947, M.S. 1949, University of Minnesota; Ph.D. 1956, Purdue University
- Edgar Reich as assistant professor of mathematics, Institute of Technology
B.E.E. 1947, Polytechnic Institute of Brooklyn; M.S. 1949, Massachusetts Institute of Technology; Ph.D. 1954, University of California (Los Angeles)
- Elizabeth Roniger as assistant professor extension economist home management, Agricultural Extension
B.S. 1933, Kansas State College; M.A. 1946, Teachers College, Columbia University

- John A. Schellman as assistant professor of physical chemistry
A.B. 1948, Temple University; M.A. 1949, Ph.D. 1951, Princeton University
- Robert G. Schmidt as assistant professor of sociology, Division of Social Sciences, Duluth Branch
B.A. 1943, Illinois College (Jacksonville); M.A. 1946, Harvard University; Ph.D. 1950, Washington University
- Robert B. Schultz as assistant professor of bacteriology and immunology
A.B. 1946, Whitman College; M.A. 1948, Stanford University; M.D. 1952, Yale University
- Patarasp R. Sethna as assistant professor of mechanics and materials, Institute of Technology
B.E. (Elec) 1945, B.E. (Mech) 1946, College of Poona of Bombay University; M.S.E. (Mech) 1948, M.S.E. (Eng Mech) 1950, Ph.D. 1953, University of Michigan
- Alvin Shemesh as assistant professor of anatomy and director-medical illustration and photography
B.A. 1949, New York University Heights College of Arts and Science; M.A. 1953, Harvard University
- Raymond B. Solac as assistant professor extension veterinarian, Agricultural Extension
B.S. 1943, University of Minnesota; D.V.M. 1950, Michigan State University (East Lansing)
- George F. Svatos as assistant professor of chemistry, Division of Science and Mathematics, Duluth Branch
B.S. 1950, University of Illinois; M.S. 1952, Northwestern University; Ph.D. 1954, University of Notre Dame
- Harold J. C. Swan as assistant professor of physiology, Mayo Foundation
M.B. and B.S. 1945, Ph.D. 1951, University of London
- James H. Werntz, Jr., as assistant professor, School of Physics
B.A. 1950, Oberlin College; M.S. 1952, Ph.D. 1956, University of Wisconsin

APPOINTMENTS, 1957-58

Dean

- George P. Hager as dean of the College of Pharmacy
B.S. 1938, M.S. 1940, Ph.D. 1942, University of Maryland

Professors

- Sherwood O. Berg as professor and head of agricultural economics
B.S. 1947, South Dakota State College; M.S. 1948, Cornell University; Ph.D. 1951, University of Minnesota
- Harlan M. Blake as professor, Law School
B.A. 1946, M.A. 1947, J.D. 1954, University of Chicago
- William F. Brown as professor of electrical engineering
A.B. 1925, Cornell University; Ph.D. 1937, Columbia University
- Ralph E. Comstock as professor of animal husbandry
B.S. 1934, M.S. 1936, Ph.D. 1938, University of Minnesota
- Florence A. Ehrenkranz as professor in the School of Home Economics
A.B. 1930, M.A. 1936, Ph.D. 1938, University of California
- Reuben L. Hill, Jr., as professor of sociology and child welfare (Louis W. and Maud Hill Foundation—Family Life program)
B.S. 1935, Utah State Agricultural College; Ph.M. 1936, Ph.D. 1938, University of Wisconsin
- Yale J. Kamisar as professor, Law School
A.B. 1950, New York University; LL.B. 1955, Columbia University
- Gardner Lindzey as professor of psychology
A.B. 1943, M.S. 1945, Pennsylvania State University; Ph.D. 1949, Harvard University

Associate Professors

- Douglas C. Basil as associate professor, School of Business Administration
B. Commerce, 1949, B.A. 1950, University of British Columbia; D.B.A. 1950, London School of Economics; Ph.D. 1954, Northwestern University
- Perry L. Blackshear, Jr., as associate professor of mechanical engineering
B.S. 1943, M.S. 1947, Georgia Institute of Technology; Ph.D. 1956, Case Institute of Technology
- Harold W. Chase as associate professor of political science
A.B. 1943, M.A. 1948, Ph.D. 1954, Princeton University
- Armin E. Grams as associate professor, Institute of Child Welfare
B.S. 1954, Concordia College (River Forest, Illinois); M.A. 1947, DePaul University (Chicago); Ph.D. 1952, Northwestern University
- Robert S. Hancock as associate professor, School of Business Administration
B.S. in Commerce, 1947, North Central College (Naperville, Illinois); M.S. 1949, Ph.D. 1956, University of Illinois
- William W. Heusner, Jr., as associate professor in the Department of Physical Education and Athletics
B.S. 1949, M.A. 1952, Northwestern University; Ph.D. 1955, University of Illinois
- Eugene Mather as associate professor of geography
A.B. 1940, M.S. 1941, University of Illinois; Ph.D. 1951, University of Wisconsin
- I. Richard Savage as associate professor, School of Business Administration
B.S. 1944, University of Chicago; M.S. 1945, University of Michigan; Ph.D. 1954, Columbia University
- Jacob Schmookler as associate professor Ford Foundation Research in Economics and Business, School of Business Administration
A.B. 1940, Temple University; M.A. 1947, Ph.D. 1951, University of Pennsylvania
- John T. Shepherd as associate professor physiology, Mayo Foundation
M.B., B.Ch., B.A.O. 1945, M.Ch. 1948, M.D. 1951, D.Sc. 1956, Queen's University (Belfast, Ireland)
- E. Paul Torrance as associate professor of general education and director of the Educational Research Bureau
A.B. 1940, Mercer University; M.A. 1944, University of Minnesota; Ph.D. 1951, University of Michigan
- Frank Ungar as associate professor of physiological chemistry
B.A. 1943, Ohio State University; M.S. 1947, Western Reserve University; Ph.D. 1952, Tufts College
- Aram Vartanian as associate professor of Romance Languages
B.A. 1944, M.A. 1947, Ph.D. 1950, Columbia University
- Donald R. Yennie as associate professor in the School of Physics
M.E. 1945, Stevens Institute of Technology; Ph.D. 1951, Columbia University

Assistant Professors

- Norman E. Abelson as assistant professor of music
B.A. 1949, Washington State College; M.A. 1953, Ed.D. 1955, Columbia University
- Donald E. Anderson as assistant professor of electrical engineering
B.S. 1952, M.S. 1954, Ph.D. 1958, University of Minnesota
- Edward E. Anderson as assistant professor, School of Dentistry
B.S. 1950, Iowa State College; D.D.S. 1956, M.S. 1957, State University of Iowa
- A. Mark Bolsterli as assistant professor, School of Physics
A.B. 1951, Ph.D. 1955, Washington University
- Mary E. Bowne as assistant professor of physical education for women, Division of Education and Psychology, Duluth Branch
B.A. 1933, Coe College; M.S. 1941, Ph.D. 1956, University of Wisconsin

- William G. Boyce as assistant professor of art, Division of Humanities, Duluth Branch
B.S. 1949, M.Ed. 1952, University of Minnesota
- Charles A. Brekke as clinical assistant professor, School of Dentistry
D.D.S. 1944; B.A. 1955, University of Minnesota; M.S. 1958, New York University
- E. Madeline Burleigh as assistant professor, School of Home Economics, and manager of Agricultural Cafeteria
B.S. 1929, Drexel Institute of Technology (Philadelphia); M.A. 1934, Teachers College, Columbia University
- Ronald C. Bzoch as assistant professor of mathematics, College of Science, Literature, and the Arts
B.A. 1953, M.S. 1954, DePaul University; Ph.D. 1957, Illinois Institute of Technology
- Rudolph J. Capobianco as assistant professor psycho-educational clinic, College of Education
B.A. 1949, M.A. 1950, University of Denver; Ed.D. 1954, University of Illinois
- Glenn M. Christensen as assistant professor chemistry, Division of Science and Mathematics, Duluth Branch
B.A. 1952, University of Minnesota
- William Cohen as assistant professor, Law School
B.A. 1953, LL.B. 1956, University of California (Los Angeles)
- John M.A. Danby as assistant professor of astronomy
B.A. 1950, M.A. 1954, Christ Church of Oxford University; Ph.D. 1953, Manchester University
- Don Davies as assistant professor and director of student teaching, College of Education
A.B. 1949, M.A. 1953, Stanford University; Ed.D. 1956, Columbia University
- Robert M. Eisberg as assistant professor, School of Physics
B.S. 1949, University of Illinois; Ph.D. 1953, University of California
- H. Donald Ferris as assistant professor and librarian, Institute of Agriculture
B.S. 1939, Lehigh University; M.S.L.S. 1952, Florida State University
- Dewey G. Force, Jr., as assistant professor psycho-educational clinic, College of Education
B.A. 1947, Hamline University; M.A. 1948, University of Minnesota; Ph.D. 1954, University of Michigan
- Delmar R. Gillespie as clinical assistant professor of medicine
B.A. 1930, B.S. 1933, M.D. 1934, University of Minnesota
- Robert L. Hall as assistant professor Student Activities Bureau, Office of Dean of Students
B.A. 1947, Yale University; M.A. 1950, Ph.D. 1953, University of Minnesota
- William F. Hartfiel as clinical assistant professor of surgery
M.D. 1926, University of Minnesota
- John M. Higbee as assistant professor, Division of Veterinary Diagnostic Laboratories, School of Veterinary Medicine
D.V.M. 1939, Iowa State College
- Albert B. Hood as assistant professor of education and senior student personnel worker, Office of Dean of Students
B.S. 1951, University of New Hampshire; Ed.D. 1956, Cornell University
- William F. Hueg, Jr., as assistant professor extension agronomist, Agricultural Extension
B.S. 1948, Cornell University; M.S. 1954, Michigan State University
- W. Carl Jackson, Jr., as assistant professor and chief acquisitions librarian
B.A. 1951, M.A. 1952, Florida State University
- Thomas E. Keys as assistant professor history of medicine, Mayo Foundation
B.A. 1931, Beloit College; M.A. 1934, University of Chicago

- Jesus Gil de Lamadrid as assistant professor mathematics, College of Science, Literature, and the Arts
B.S. 1948, M.S. 1949, University of Chicago; Ph.D. 1955, University of Michigan
- Vincent H. Malstrom as assistant professor of geography, Division of Social Sciences, Duluth Branch
A.B. 1947, M.A. 1948, Ph.D. 1954, University of Michigan
- Lawrence Markus as assistant professor of mathematics, Institute of Technology
B.S. 1942, M.S. 1947, University of Chicago; Ph.D. 1951, Harvard University
- G. Albin Matson as assistant professor of bacteriology and immunology
B.A. 1927, University of Utah; M.A. 1929, University of Kansas; Ph.D. 1935, Washington University
- Manfred J. Meier as assistant professor and clinical psychologist, psychiatry and neurology
B.A. 1952, M.S. 1953, Ph.D. 1956, University of Wisconsin
- Emmett B. Moore, Jr., as assistant professor of physics, Division of Science and Mathematics, Duluth Branch
B.S. 1951, State College of Washington; Ph.D. 1956, University of Minnesota
- William R. Morgan as assistant professor of speech, Humanities Division, Duluth Branch
B.F.A. 1942, University of Texas; M.F.A. 1948, Ph.D. 1951, University of Iowa
- Paul L. Murphy as assistant professor of history
A.B. 1947, College of Idaho; M.A. 1948, Ph.D. 1953, University of California
- James C. Nichol as assistant professor chemistry, Division of Science and Mathematics, Duluth Branch
B.S. 1943, M.S. 1945, University of Alberta; Ph.D. 1948, University of Wisconsin
- Francis B. O'Leary as assistant professor and librarian, Institute of Technology
B.S. 1949, Manhattan College; M.S.L.S. 1952, Columbia University
- Harley J. Otto as assistant professor extension agronomist, Agricultural Extension
B.S. 1952, Colorado State University; Ph.D. 1956, Cornell University
- David A. Pope as assistant professor of mathematics, Institute of Technology
B.S. 1949, M.A. 1951, Ph.D. 1956, University of California (Los Angeles)
- Edward R. Rang as assistant professor of mechanics and materials, Institute of Technology
B.S. 1949, M.S. 1950, University of Wisconsin; Ph.D. 1957, University of Minnesota
- Armand A. Renaud as assistant professor of Romance Languages
B.A. 1948, Wayne University; Ph.D. 1954, Yale University
- Arthur Robinson as assistant professor of mechanics and materials, Institute of Technology
B.C.E. 1951, M.S. 1953, Ph.D. 1955, Cooper Union
- Robert L. Scott as assistant professor of speech and theater arts
A.B. 1950, Colorado State College of Education; M.A. 1951, University of Nebraska; Ph.D. 1953, University of Illinois
- James C. Sentz as assistant professor of agronomy and plant genetics
B.S. 1949, Pennsylvania State University; M.S. 1951, Ph.D. 1953, North Carolina State College
- John M. Sivertsen as assistant professor of metallurgy, School of Chemistry
B.S. 1950, Northwestern University; M.S. 1952, Ph.D. 1957, University of Illinois
- James E. Spear as assistant professor, manager of Minneapolis Office and Institute Program, Director of extension classes, General Extension Division
B.S. 1948, University of Pittsburgh; M.S. 1949, Alabama Polytechnic Institute

- David A. Storvick as assistant professor of mathematics, College of Science, Literature, and the Arts
A.B. 1951, Luther College; M.A. 1952, Ph.D. 1956, University of Michigan
- Roy A. Swanson as assistant professor of classics
B.A. 1948, B.S. 1949, M.A. 1951, University of Minnesota; Ph.D. 1954, University of Illinois
- Armas W. Tamminen as assistant professor of psychology, Division of Education and Psychology, Duluth Branch
B.S. 1940, M.A. 1949, Ph.D. 1957, University of Minnesota
- Willard W. Tennyson as assistant professor and director of Guidance Service, College of Education and University High School
B.A. 1947, Hamline University; M.A. 1948, University of Minnesota; Ph.D. 1954, University of Michigan
- Thomas F. Waters as assistant professor of entomology and economic zoology
B.S. 1952, M.S. 1953, Ph.D. 1956, Michigan State University
- Roger E. Wilk as assistant professor, College of Education
B.S. 1950, Kansas State College; M.A. 1952, University of Minnesota
- Harry A. Wilmer as assistant professor of psychiatry, Mayo Foundation
B.S. 1938, M.D. 1941, M.S. in Anatomy 1941, Ph.D. in Pathology 1944, University of Minnesota
- Frederick A. Wuori as assistant professor business economics, Division of Social Sciences, Duluth Branch
B.B.A. 1939, University of Minnesota; M.A. 1950, Georgetown University
- Robert E. Yoss as assistant professor of neurology, Mayo Foundation
M.D. 1948, University of Tennessee; M.S. 1952, Ph.D. 1952, University of Michigan

PROMOTIONS AND TRANSFERS, 1956-57

- Acting Dean and Professor to Dean and Professor*
William B. Lockhart (Law School)
- Assistant Dean and Professor to Associate Dean and Professor*
Theodore H. Fenske (Institute of Agriculture)
- Professor and Head to Professor, Head, and Associate Dean*
Benjamin J. Lazan (IT—mechanics and materials)
- Associate Professor to Assistant Dean and Associate Professor*
Robert J. Holloway (School of Business Administration)
- Assistant Professor to Assistant Dean and Assistant Professor*
H. Mead Cavert (College of Medical Sciences—physiology)
- Professor to Professor and Director*
Robert J. Keller (University High School and general education)
- Associate Professor to Professor and Chairman*
John R. Borchert (geography)
- Associate Professor to Professor and Acting Chairman*
William A. McDonald (classics)
Robert F. Spencer (anthropology)
- Associate Professor-Superintendent North Central School and Experiment Station to Professor and Head*
Clarence L. Cole (dairy husbandry)

Professor to Professor and Head

Lester E. Hanson (animal husbandry)

Associate Professor to Professor

George Amberg (interdisciplinary studies in general education)
 B. Marden Black (Mayo Fd—Surgery)
 Josef Brozek (physiological hygiene)
 Edward N. Cook (Mayo Fd—urology)
 Adrianus J. Dekker (electrical engineering)
 Monroe D. Donsker (SLA—mathematics)
 Arthur E. Engebretson (agricultural extension)
 Ward S. Fowler (Mayo Fd—physiology)
 Ralph T. Holman (Hormel Institute)
 Arthur E. Hutchins (horticulture)
 Florence Julian (University Hospitals—nursing service)
 Haddow M. Keith (Mayo Fd—pediatrics)
 Thomas H. King (plant pathology and botany)
 Fulton Koehler (IT—mathematics)
 Gisela Konopka (School of Social Work)
 C. Walton Lillehei (general surgery)
 Kenneth MacCorquodale (psychology)
 John M. MacGregor (soils)
 Charles H. McLaughlin (political science)
 Verval Mueller (School of Social Work)
 Joseph C. Olson, Jr. (dairy husbandry)
 Theodore A. Olson (School of Public Health)
 Gerald B. Ownbey (botany)
 Merrill P. Rassweiler (General College—physical science and mathematics)
 Hermann Schlenk (Hormel Institute)
 Lloyd L. Smith, Jr. (entomology and economic zoology)
 James W. Stephan (hospital administration)
 Ben B. Sutton (School of Business Administration)
 Henry L. Taylor (physiological hygiene)
 David W. Thompson (speech and theater arts)
 Lloyd Ulman (School of Business Administration)
 Leonard Unger (English)
 Eric E. Wollaeger (Mayo Fd—medicine)

Clinical Associate Professor to Professor

Henry V. Hanson (otolaryngology)
 Werner Simon (psychiatry and neurology)

Clinical Associate Professor to Clinical Professor

Harry B. Hall (orthopedic surgery)
 Frederick H. K. Schaaf (medicine)

Clinical Assistant Professor to Clinical Professor and Director

John H. Moe (orthopedic surgery)

Assistant Professor and Acting Director to Associate Professor and Director

John E. Stecklein (Bureau of Institutional Research)

Assistant Professor to Associate Professor

Woodrow J. Aunan (animal husbandry)
 James R. Beer (entomology and economic zoology)
 Ruth von Bergen (School of Public Health)
 Frank Buckley (English)
 Arnold F. Caswell (music education)
 Clarke Chambers (history)
 Maynard Cohen (neurology)
 Francis E. Drake (rhetoric)

Albert Faulconer, Jr. (Mayo Fd—anesthesiology and physiology)
 Frank W. Forbes (agricultural extension)
 Roy G. Francis (sociology)
 Watson B. Fulks (IT—mathematics)
 Ralph S. Grant (Northeast Experiment Station—Duluth)
 Helmut R. Gutmann (physiological chemistry)
 Theda Hagenah (Student Counseling Bureau)
 John W. Hall (botany)
 George A. Hallenbeck (Mayo Fd—physiology and surgery)
 Ermond H. M. Hartmans (agricultural extension)
 James P. Hartnett (mechanical engineering)
 Ralph H. Hopp (libraries)
 Robert W. House (Duluth Branch—music)
 Warren E. Ibele (mechanical engineering)
 James J. Jenkins (psychology)
 Robert M. Jordan (animal husbandry)
 Irwin H. Kaiser (obstetrics and gynecology)
 Alfred G. Karlson (Mayo Fd—comparative pathology)
 Willard R. Lane (general education)
 Paul R. Lipscomb (Mayo Fd—orthopedic surgery)
 Warren S. Loud (SLA—mathematics)
 Reuel I. Lund (School of Business Administration)
 Thomas F. Magner (Slavic and oriental languages)
 Gordon M. Martin (Mayo Fd—physical medicine and rehabilitation)
 David J. Merrell (zoology)
 George S. Michaelsen (Students' Health Service—industrial health engineer)
 Harold M. Mooney (School of Mines and Metallurgy)
 Donald R. Nichols (Mayo Fd—medicine)
 Charles A. Owen, Jr. (Mayo Fd—clinical pathology)
 Leonard F. Peltier (orthopedic surgery)
 Allan G. Peterson (entomology and economic zoology)
 Stephen Prager (physical chemistry)
 George W. Preckshot (chemical engineering)
 Roy C. Prentis (College of Education)
 David G. Pugh (Mayo Fd—radiology)
 Josephine L. Rollins (art)
 William F. Scherer (bacteriology)
 Ira O. Scott (School of Business Administration)
 James B. Serrin, Jr. (IT—mathematics)
 Lucian A. Smith (Mayo Fd—medicine)
 Michael I. Sovern (Law School)
 Marvin L. Stein (IT—mathematics)
 Martin Steinmann, Jr. (English)
 Milo H. Swanson (poultry husbandry)
 Albert Tezla (Duluth Branch—English)
 Hylton A. Thomas (art)
 Mary Turpie (English)
 Halvor Vermund (University Hospitals—radiation therapy)
 Albert K. Wickesberg (School of Business Administration)
 Walter A. Wykhuis (School of Dentistry)
 Bernard Zimmerman (surgery)

Clinical Assistant Professor to Clinical Associate Professor

William F. Braasch (School of Dentistry)
 William Branstad (School of Dentistry)
 Victor P. Hauser (surgery)
 Earl C. Henrikson (surgery)
 Walter M. Jacobsen (School of Dentistry)
 Willard D. White (surgery)

Lecturer to Associate Professor

Richard B. McHugh (School of Public Health)

Instructor to Associate Professor

Archie L. Good (School of Veterinary Medicine)
Donald G. Low (School of Veterinary Medicine)

Assistant Professor and Principal to Assistant Professor and Acting Superintendent

William Matalamaki (North Central School and Experiment Station)

Assistant Professor to Assistant Professor and Principal

Deane A. Turner (Southern School of Agriculture)

Research Associate to Assistant Professor

Darrell F. Fienup (agricultural economics)

Instructor to Assistant Professor

Stuart W. Arhelger (general surgery)
Glen E. Baxter (SLA—mathematics)
Edward Berryman (music)
Dorothy Burrows (General College—literature and writing)
David S. Childs, Jr. (Mayo Fd—radiology)
Edward C. Clark (Mayo Fd—neurology)
Raymond O. Collier (College of Education)
Beulah E. R. Compton (School of Social Work)
David Cooperman (interdisciplinary studies in general education)
David Daly (Mayo Fd—neurology)
Henry W. Dodge, Jr. (Mayo Fd—neurosurgery)
Frances E. Dunning (School of Nursing)
F. Henry Ellis, Jr. (Mayo Fd—surgery)
Donald J. Erickson (Mayo Fd—physical medicine and rehabilitation)
Paul Fetler (music)
Robert L. Glass (agricultural biochemistry)
Frederick C. Goetz (medicine)
Edmund F. Graham (dairy husbandry)
Glenn Gullickson (physical medicine and rehabilitation)
Shirley M. Holt (clinical psychology)
Thomas F. Irvine, Jr. (mechanical engineering)
Eugene A. Johnson (School of Public Health)
William A. Kavanaugh (trade and industrial education)
Dorothy O. Lareau (Law School)
Albert J. Linck (plant pathology and botany)
Bernard W. Lindgren (IT—mathematics)
Merle K. Loken (radiology)
Alexander R. Margulis (Cancer Detection Center)
George McCutcheon (General College)
Clarence E. Mueller (physical education and athletics)
Donald W. Mulder (Mayo Fd—neurology and psychiatry)
Victor Newcomb (General College)
Charles M. Nice, Jr. (University Hospitals—X-ray diagnosis and therapy)
Esther J. Olson (General College)
Francis V. Raab (philosophy)
Richard B. Raile (pediatrics)
Warren L. Reynolds (inorganic chemistry)
Eleanor M. Salisbury (General Extension Division)
John M. Slye (SLA—mathematics)
Maurice H. Stauffer (Mayo Fd—medicine)
Thomas F. Stovall (General College)
Edward O. Swanson (State-wide High School Testing Program)
William E. Wellman (Mayo Fd—medicine)
Clarence Winchell (internal medicine)
Se Puan Yu (electrical engineering)

Clinical Instructor to Clinical Assistant Professor

Rolph Andreassen (medicine)
 Coleman J. Connolly (surgery)
 John M. Culligan (surgery)
 Louis L. Freidman (obstetrics and gynecology)
 Richard J. Frey (medicine)
 Mark Hanson (medicine)
 Walter Indeck (surgery)
 Donald C. MacKinnon (surgery)
 D. Keith Millett (surgery)
 Daniel J. Moos (surgery)
 Maynard C. Nelson (surgery)
 Edward H. O'Phelan (surgery)
 William E. Petersen (medicine)
 Fred A. Rice (medicine)
 Joseph Ryan (medicine)
 Graham G. Smith (otolaryngology)
 Ben Sommers (medicine)
 Kenath H. Sponsel (orthopedic surgery)

Clinical Instructor to Assistant Professor

Benjamin Bofenkamp (otolaryngology)
 Douglas R. Kusske (otolaryngology)
 Harold S. Ulvestad (otolaryngology)

Clinical Instructor to Clinical Assistant Professor

Nathan C. Plimpton (surgery)
 Frank W. Quattlebaum (surgery)
 Walter R. Schmidt (surgery)
 Lyle A. Tongen (surgery)

Assistant Professor and Principal Southern School of Agriculture (Waseca) to Assistant Professor and Superintendent Northwest School and Experiment Station (Crookston)

Bernard E. Youngquist

Research Fellow to Assistant Professor-Director

W. Albert Sullivan, Jr. (Cancer Detection Center)

Research Fellow to Assistant Professor

Nora L. Larson (Hormel Institute)
 Richard W. Von Korff (physiological chemistry)

Lecturer to Assistant Professor

Stanley Block (mechanical engineering)
 Donald V. Harper (School of Business Administration)
 John H. Kareken (School of Business Administration)
 Aksel Schiotz (music)

PROMOTIONS AND TRANSFERS, 1957-58*Comptroller, Treasurer and Associate Professor to Comptroller, Treasurer and Professor*

Laurence R. Lunden

Assistant Dean-Director-Professor to Dean-Professor

William T. S. Thorp (College of Veterinary Medicine)

Director and Associate Professor to Associate Dean and Associate Professor

Robert B. Howard (College of Medical Sciences)

Assistant Dean and Associate Professor to Professor and Chairman
Robert J. Holloway (School of Business Administration)

Assistant Dean and Assistant Professor of Medicine to Director-Assistant Professor Continuation Medical Education and Assistant Dean
N. L. Gault

Assistant Professor and Assistant to the Dean to Assistant Dean-Assistant Professor
Dorothy O. Lareau (Law School)

Associate Professor to Assistant Dean and Associate Professor
Reuel I. Lund (School of Business Administration)

Associate Professor-Superintendent to Professor-Superintendent Agricultural Experiment Station (Rosemount)
Albert C. Heine

Professor to Professor and Chairman
Walter W. Heller (Department of Economics—School of Business Administration)

Clinical Professor to Professor and Head
Harold O. Peterson (radiology)

Associate Professor and Head to Professor and Head
Frederick Van Bergen (anesthesiology)

Instructor and Acting Head to Professor and Head
Raimunds Zemjanis (veterinary obstetrics)

Associate Professor to Professor

Robert K. Anderson (veterinary bacteriology and public health)
John P. Arnold (veterinary surgery and radiology)
Wendell L. Bartholdi (School of Dentistry)
Reginald G. Bickford (Mayo Foundation—physiology)
Emma M. Birkmaier (University High School)
Emmert Brackney (Romance languages)
Robert C. Brasted (inorganic chemistry)
John A. Dettmann (Duluth Branch—business and economics)
Frank E. DiGangi (College of Pharmacy)
Selmer A. Engene (agricultural economics)
John B. Erich (Mayo Fd—plastic surgery)
Eugene H. Falk (Romance languages)
Edmund B. Flink (medicine)
Eunice Flock (Mayo Fd—biochemistry)
Lyle A. French (neurosurgery)
Bernard R. Gelbaum (SLA—mathematics)
Clarence A. Good, Jr. (Mayo Fd—radiology)
Kenneth L. Graham (University theater)
Henry L. Hansen (School of Forestry)
J. Francis Hartmann (anatomy)
William R. Hastie (art education)
Julia F. Herrick (Mayo Fd—physiology)
Mellor R. Holland (School of Dentistry)
Robert S. Hoyt (history)
James R. Jensen (School of Dentistry)
Donovan A. Johnson (University High School)
Robert L. Jones (School of Journalism)
Edward S. Judd (Mayo Fd—surgery)
Gerhard K. Kalisch (SLA—mathematics)

Harold H. Kelley (Psychology Laboratory for Research in Social Relations)
 Robert R. Kierland (Mayo Fd—dermatology)
 Rufus W. Lumry (physical chemistry)
 Herbert McClosky (political science)
 Keith N. McFarland (Agriculture—resident instruction)
 Cecil H. Meyers (Duluth Branch—business and economics)
 Paul R. O'Connor (inorganic chemistry)
 Arthur M. Olsen (Mayo Fd—medicine)
 Scott S. Pauley (School of Forestry)
 Henry W. Riecken, Jr. (sociology)
 John Rood (art)
 Herbert W. Schmidt (Mayo Fd—medicine)
 Roy A. Schuessler (music)
 Mulford Q. Sibley (political science)
 Edward Silberman (St. Anthony Falls hydraulic laboratory)
 John Sirjamaki (sociology)
 Donald K. Smith (speech and theater arts)
 Clarence M. Stowe (veterinary physiology and pharmacology)
 James L. Threlkeld (mechanical engineering)
 Marjorie H. Thurston (rhetoric)
 Lyle A. Weed (Mayo Fd—bacteriology)
 John E. Wertz (physical chemistry)
 Dorothy Whitmore (School of Social Work)
 Frank Wood (German)

Clinical Associate Professor to Clinical Professor

Edward T. Evans (orthopedic surgery)
 Wallace P. Ritchie (neurosurgery)
 Erwin M. Schaffer (School of Dentistry)

Visiting Associate Professor to Associate Professor

Johannes C. C. Nitsche (IT—mathematics)
 George Seltzer (School of Business Administration)

Assistant Professor to Associate Professor and Chairman

Alan Donagan (philosophy)

Assistant Professor-Director to Associate Professor-Director

Burton Paulu (Radio and television broadcasting)

Assistant Professor and Assistant Director to Associate Professor and Assistant Director

Paul H. Ptacek (Speech and Hearing Clinic)

Assistant Professor of Psychology and Principal Student Personnel Worker to Associate Professor of Psychology and Principal Student Personnel Worker

LeVerne F. Snoxell (Dean of Students)

Assistant Professor to Associate Professor

Roland H. Abraham (agricultural extension)
 Alvin G. Anderson (St. Anthony Falls Hydraulic Laboratory)
 Wayne J. Anderson (General College)
 Harold F. Arneman (soils)
 Arthur Ballet (University theater)
 Ronald I. Beazley (School of Forestry)
 Ellis S. Benson (hospital laboratories)
 Marthe Blinoff (Romance Languages)
 Fred H. Blum (interdisciplinary studies in general education)
 Eugenio Calabi (IT—mathematics)

Warren B. Cheston (School of Physics)
 Huai C. Chian (Duluth Branch—biology)
 Theodore W. Clymer (general education)
 Edward Coen (School of Business Administration)
 Raymond O. Collier (general education)
 Edwin F. Cook (entomology and economic zoology)
 John J. Cound (Law School)
 James R. Curtin (Elementary School)
 David C. Dahlin (Mayo Fd—pathology)
 James E. DeVay (plant pathology and botany)
 James W. DuShane (Mayo Fd—pediatrics)
 Laddie J. Elling (agronomy and plant genetics)
 Stuart W. Fenton (School of Chemistry)
 Gerard A. Fleisher (Mayo Fd—biochemistry)
 Arnold M. Flikke (agricultural engineering)
 David W. French (plant pathology and botany)
 Walter T. Graves (civil engineering)
 J. Merle Harris (General College)
 Arvid B. Hagen (agricultural extension)
 Norton M. Hintz (School of Physics)
 Pershing B. Hofslund (Duluth Branch—biology)
 James F. Hogg (Law School)
 Joseph M. Janes (Mayo Fd—orthopedic surgery)
 Arthur L. Johnson (sociology)
 Herbert G. Johnson (agricultural extension)
 Joseph Jorgens (radiology)
 Byrl Kennedy (internal medicine)
 John W. Kirklín (Mayo Fd—surgery)
 William A. Kleinhenz (mechanical engineering)
 Thor Kommedahl (plant pathology and botany)
 Frank J. Kovach (Duluth Branch—industrial education)
 Henry Lepp (Duluth Branch—geology)
 Jacob C. Levenson (English)
 Robert K. Lindorfer (veterinary bacteriology and public health)
 Collin S. MacCarty (Mayo Fd—neurosurgery)
 James F. Maclear (Duluth Branch—history)
 Richard B. Mather (Slavic and oriental languages)
 Vernon R. Mattox (Mayo Fd—physiologic chemistry)
 Merle P. Meyer (School of Forestry)
 Andrew T. Morstad (School of Dentistry)
 Donn G. Mosser (radiology)
 John S. Myers (School of Architecture)
 Charles M. Nice, Jr. (radiology)
 Johannes Riedel (music)
 William C. Rogers (Extension Division—State Organization Service)
 Arden K. Ruddell (general education)
 Louis T. Safer (General College)
 Helen M. Slocum (physical education for women)
 James E. Smith (Duluth Branch—music)
 Richard D. Springer (mechanical engineering)
 Thomas G. Sturgeon (Duluth Branch—English)
 Richard A. Swalin (metallurgy)
 Donald C. Swanson (classics)
 Marvin J. Taves (sociology)
 John E. Turner (political science)
 Gordon O. Voss (Duluth Branch—industrial education)
 Paul E. Waibel (poultry husbandry)
 Dwain W. Warner (zoology)
 Elliot H. Weinberg (Duluth Branch—physics)
 Jesse B. Williams (dairy husbandry)
 Lewis B. Woolner (Mayo Fd—pathology)
 Hidehiko Yamabe (IT—mathematics)
 Donald H. Yardley (School of Mines and Metallurgy)
 Helen J. Yesner (School of Social Work)

Clinical Assistant Professor to Clinical Associate Professor

Donald S. Amatuzio (medicine)
 Tague C. Chisholm (surgery)
 Ellis N. Cohen (anesthesiology)
 Marmion W. Houghlum (School of Dentistry)
 Davitt A. Felder (surgery)
 Wyman Jacobson (medicine)
 Conrad I. Karleen (surgery)
 Bernard G. Lannin (surgery)
 Zondal R. Miller (psychiatry and neurology)
 Malvin J. Nydahl (orthopedic surgery)
 Frederick M. Owens, Jr. (surgery)
 I. Raymond Scherer (medicine)
 John P. Wendland (ophthalmology)
 Robert W. Wiethoff (School of Dentistry)
 J. Allen Wilson (medicine)

Instructor to Associate Professor

George S. Hage (School of Journalism)

Research Associate to Assistant Professor

Darrell F. Fienup (agricultural economics)
 Paul J. Kellogg (School of Physics)
 Elmer W. Learn (agricultural economics)
 Thomas Mahoney (Industrial Relations Center)

Assistant Professor-Principal-Acting Superintendent to Assistant Professor-Superintendent North Central School and Station

William Matalamaki

Assistant Professor to Assistant Professor and Head

John E. Hafstrom (Duluth Branch—mathematics and engineering)

Instructor and Senior Student Personnel Worker to Assistant Professor of Educational Psychology and Senior Student Personnel Worker

Alton L. Raygor (Student Counseling Bureau)

Clinical Instructor-Refractonist to Assistant Professor-Refractonist

Bruce L. Kantar (Hospital)

Assistant Professor to Clinical Assistant Professor

Abraham Falk (medicine)

Instructor to Assistant Professor Speech and Assistant Director Speech and Hearing Clinic

Clark D. Starr

Clinical Instructor to Assistant Professor

James Dahl (medicine)

Instructor to Clinical Assistant Professor

David I. Seibel (obstetrics and gynecology)

Instructor and Curator of James F. Bell Collection to Assistant Professor and Curator

John Parker (Library)

Research Fellow and Lecturer to Assistant Professor

Charles Fairhurst (School of Mines and Metallurgy)

Research Fellow to Assistant Professor

Henry A. Bent (inorganic chemistry)
 Anand P. Chaudhry (School of Dentistry)
 Janis Grava (soils)
 Olaf E. Kolari (animal husbandry)
 Helmut Mangold (Hormel Institute)
 Karel M. van Vliet (electrical engineering)

Instructor to Assistant Professor

Howard A. Andersen (Mayo Fd—medicine)
 Harold Berris (psychiatry and neurology)
 S. Gaylen Bradley (bacteriology)
 Joel G. Brunson (pathology)
 André Bruwer (Mayo Fd—radiology)
 Joseph J. Buckley (anesthesiology)
 James B. Carey, Jr. (internal medicine)
 Anna M. Carpenter (anatomy)
 Paul H. Cashman (rhetoric)
 Paul M. Chung (mechanical engineering)
 F. Jeanne Claypoole (School of Home Economics)
 Kenneth D. Devine (Mayo Fd—plastic surgery)
 Joseph E. Duncan (Duluth Branch—English)
 F. Faith Finnberg (General College)
 Harold Gilberstadt (psychiatry and neurology)
 Charles J. Glotzbach (College of Education)
 Wesley H. Gray (West Central School and Station)
 David G. Hanlon (Mayo Fd—medicine)
 Roger S. Harris (agricultural extension)
 Bernard V. Haxby (electrical engineering)
 Alvin B. Hayles (Mayo Fd—pediatrics)
 Edward D. Henderson (Mayo Fd—orthopedic surgery)
 Data M. Hochhalter (agricultural extension)
 Colin B. Holman (Mayo Fd—radiology)
 Robert T. Holt (political science)
 G. Wendell Hopkins (psychiatry and neurology)
 Wayne Hoseth (medicine)
 Margaret M. Jacobson (agricultural extension)
 O. Eldon Johnson (anthropology)
 Carl D. Koutsky (psychiatry)
 Lester L. Larson (veterinary obstetrics)
 Margery Low (School of Nursing)
 David T. Lykken (clinical psychology)
 R. Drew Miller (Mayo Fd—medicine)
 Frank Morrell (neurology)
 Robert Moulton (speech and theater arts)
 William H. Murphy (bacteriology)
 Murray J. Murray (medical service—hospital)
 Josephine B. Nelson (agricultural extension)
 Richard E. Norris (Botany)
 Anne W. Oren (School of Social Work)
 Steven Orey (SLA—mathematics)
 Thomas W. Parkin (Mayo Fd—medicine)
 Karl Potter (philosophy)
 Benjamin R. Reiter (University Health Service)
 Donald A. Scholz (Mayo Fd—medicine)
 William B. Schwabacher (General College)
 Ralph E. Smith (West Central School and Station)
 Warren B. Stenberg (IT—mathematics)
 William A. Stockdale (General College)
 Melvin W. Stromberg (veterinary anatomy)
 Barbara J. Stuhler (Extension Division—State Organization Service)
 Edward A. Usenik (veterinary surgery and radiology)
 Melvin Waldfoegel (art)

Walter B. Wallin (School of Forestry)
 Lee W. Wattenberg (pathology)
 David Webster (psychiatry and neurology)
 Daniel N. Wiener (psychiatry and neurology)

Clinical Instructor to Clinical Assistant Professor

Arnold S. Anderson (pediatrics)
 Frank S. Babb (orthopedic surgery)
 Paul J. Bilka (medicine)
 Lester W. Carlander (orthopedic surgery)
 Thomas J. Emond (School of Dentistry)
 Lee C. Hermann (School of Dentistry)
 Earl Hill (medicine)
 Miles B. Hirschey (School of Dentistry)
 Norman O. Holte (School of Dentistry)
 Robert J. Jacobsen (School of Dentistry)
 Richard H. Jones (orthopedic surgery)
 Edward H. Kelly (orthopedic surgery)
 Walter F. Larrabee (medicine)
 Paul T. Lowry (medicine)
 Robert H. Monahan (ophthalmology)
 Charles A. Neumeister (proctology)
 T. George Nishida (School of Dentistry)
 Allan D. Petersen (School of Dentistry)
 Dean Rizer (medicine)
 Frederick G. Rosendahl (orthopedic surgery)
 Karl E. Sandt (ophthalmology)
 Sidney K. Shapiro (psychiatry and neurology)
 Theodore S. Smith (pediatrics)
 Russell H. Solsvig (School of Dentistry)
 Rodney F. Sturley (obstetrics and gynecology)
 Lowell Weber (medicine)

Clinical Assistant to Clinical Assistant Professor

Richard E. Reiley (orthopedic surgery)

Lecturer to Assistant Professor

John Berryman (Interdisciplinary studies in general education)
 Robert K. Jaedicke (School of Business Administration)
 Wendell Josal (University theater)
 James L. Lundy (mechanical engineering)
 Doris I. Miller (School of Nursing)
 Kenneth T. Whitby (mechanical engineering)

LEAVES OF ABSENCE, 1956-57

- Theodore C. Blegen, dean of the Graduate School and professor of history, without salary February 26 to March 31, 1957, to make a special study of the role of research in the University of the State of New York.
- Athelstan F. Spilhaus, dean and professor of the Institute of Technology, without salary July 11-31, 1956, to attend the forty-fourth session of the Executive Board of UNESCO in Paris; without salary March 11-31, 1957, to attend meeting of ad hoc committee of the Executive Board of UNESCO and the forty-seventh session of the Executive Board in Paris.
- Henry E. Allen, professor and coordinator of students' religious activities, sabbatical furlough September 16, 1956 to June 15, 1957, to study student religious activities and inter-religious patterns and attitudes in public supported universities between North Africa and Indonesia.
- H. Harvard Arnason, professor and chairman of art, without salary for 20% time for 1956-57, to serve as director of Walker Art Center, Minneapolis.
- Herbert M. Bosch, professor in School of Public Health, with salary October 25 to November 10, 1956, to act as special adviser to the World Health

- Organization (United Nations) in conducting the first Eastern Mediterranean Seminar on Sanitary Engineering in Beirut, Lebanon.
- Allan H. Brown, professor of botany, sabbatical furlough for 1956-57, to accept a fellowship from the John Simon Guggenheim Foundation to carry out research on photosynthesis.
- Oswald H. Brownlee, professor in the School of Business Administration, without salary for 1956-57, to serve as a member of the United States Operations Mission to Chile under appointment from the Department of State, Washington, D.C.
- Theodore Caplow, professor of sociology, without salary for spring quarter of 1956-57, to serve as visiting professor at Stanford University.
- Norman J. DeWitt, professor and chairman of classical languages, sabbatical furlough for 1956-57, to study, reorganize and refresh thinking, teaching, and research.
- William F. Geddes, professor and head of agricultural biochemistry, with salary January 1 to March 31, 1957, on account of illness.
- Ernst Gellhorn, professor of physiology, sabbatical furlough for 1956-57, to complete a monograph and other writing.
- Ruth E. Grout, professor in School of Public Health, without salary for the spring quarter of 1956-57, to serve as consultant to the Regional Office for Europe World Health Organization and serve as coordinator of a European Conference on the Training of Health Personnel in Health Education of the Public at Geneva, Switzerland.
- Walter W. Heller, professor in School of Business Administration, continuation of leave with salary for the fall quarter of 1955-56, giving 50% time service.
- E. Adamson Hoebel, professor and chairman of anthropology, without salary for 1956-57, to serve on a Fulbright appointment as visiting professor at Oxford University, England.
- Robert J. Keller, professor of general education, without salary September 16-30, 1956, to serve as director for the Governor's Committee on Higher Education.
- Clarence B. Lindquist, professor and head of mathematics and engineering, Division of Science and Mathematics, Duluth Branch, without salary February 16 to June 15, 1957, to accept an appointment in the United States Office of Education.
- Samuel H. Monk, professor of English, sabbatical furlough for 1956-57, to accept a Guggenheim fellowship to do research and writing on a book on English Literary Criticism 1660-1700 at the libraries of Harvard, Washington, D.C., London, Oxford, and Cambridge.
- Will M. Myers, professor and head of agronomy and plant genetics, with salary November 6-26, 1956, to attend the Seventh International Grassland Congress meeting in New Zealand.
- Raymond B. Nixon, professor in School of Journalism, with salary for the spring quarter of 1956-57, to accept a Ford Foundation foreign study travel grant for developing courses in International Communication and Comparative Foreign Journalism, time to be spent in the principal centers of Asia, the Middle East, and Western Europe.
- Ralph A. Piper, professor of physical education and athletics, sabbatical furlough for 1956-57, to accept a Fulbright award as lecturer in physical education in Burma, India.
- Ernest H. Rinke, professor of agronomy and plant genetics, without salary for 1956-57, to accept assignment with the Food and Agriculture Organization of the United Nations in charge of the European corn breeding program.
- Arnold M. Rose, professor of sociology, sabbatical furlough for 1956-57, to pursue studies on comparative social behavior in India and Italy and to extend acquaintance with the development of sociology in other countries.
- Ella J. Rose, professor of home economics education, with salary for 83% time and without salary for 17% time July 1 to September 30, 1956, on account of illness.
- Paul C. Rosenbloom, professor of mathematics, Institute of Technology, without salary for 1956-57, to serve as visiting professor at Harvard University.
- Robert N. Shoffner, professor of poultry husbandry, without salary January 1 to June 15, 1957, to serve as visiting professor at Iowa State College.

- Lorenz G. Straub, professor head and director of civil engineering and hydraulics, without salary for 25% time for 1956-57 for personal reasons to permit more effective service in direction of major engineering projects and professional objectives.
- Frederick M. Swain, professor of geology, without salary for winter and spring quarters of 1956-57, to serve as staff geologist for the Pennsylvania Railroad.
- Allen Tate, professor of English, without salary for 33% time for the fall quarter of 1956-57, to accept an assignment from the Department of State to lecture in India; remainder of time away from the University will be covered by teaching an extra course during the winter and spring quarters of 1956-57.
- Alice F. Tyler, professor of history, sabbatical furlough for winter quarter of 1956-57, for travel and refreshment in areas of interest and historical significance.
- Helen M. Wallace, professor of maternal and child health in School of Public Health, with salary June 15 to August 10, 1957, to accept a World Health Organization travel grant for study in Latin American countries.
- David H. Willson, professor of history, sabbatical furlough for spring quarter of 1956-57, to deliver a series of three lectures at the University of London and do research in the principal libraries in London and Edinburgh on the interrelations of England and Scotland during the early seventeenth century.
- Gladys I. Bellinger, associate professor in the School of Home Economics, without salary July 29 to August 31, 1956, to participate in a Marriage and Family Life Study Tour sponsored by the Florida State University and the National Council on Family Relations, time to be spent in the European countries.
- Werner W. Boehm, associate professor in the School of Social Work, continuation of leave without salary for 1956-57 for directorship of special curriculum study project under the auspices of the Council on Social Work Education.
- Richard G. Bond, associate professor of public health engineering in the School of Public Health, with salary January 1 to February 28, 1957, on account of illness.
- John A. Buttrick, associate professor in the School of Business Administration, without salary February 1 to June 15, 1957, to teach at University of California, Berkeley.
- Saul L. Cohen, associate professor physiological chemistry, with salary winter and spring quarters of 1956-57, on account of illness.
- Osborne B. Cowles, associate professor of physical education and athletics for men, with salary October 18 to November 1, 1956, to serve as instructor at basketball clinic, Wiesbaden, Germany.
- Guy Desgranges, associate professor of Romance Languages, without salary for 1956-57, to do research and writing on the French novelist Bernanos.
- Lorenz E.A. Eitner, associate professor of art, sabbatical furlough for 1956-57, to carry out research in the field of German romantic painting.
- Ned A. Flanders, associate professor of general education, sabbatical furlough for spring quarter of 1956-57, to conduct research in elementary education on a Fulbright Research Award in New Zealand.
- Ermond H.M. Hartmans, associate professor extension economist farm management in agricultural extension, without salary March 26 to May 25, 1957, to accept a temporary appointment as technical leader for a farm management group from foreign countries with Foreign Agricultural Service, United States Department of Agriculture.
- John Hospers, associate professor of philosophy, with salary for fall quarter of 1956-57, for writing and finishing some research projects.
- Thomas B. Irving, associate professor of Romance Languages, without salary for 1956-57, to accept a Fulbright award to study the Arabic language and Islamic philosophy at the College of Arts and Science in Baghdad, Iraq.
- Harold H. Kelley, associate professor of psychology Laboratory for Research in Social Relations, without salary for 1956-57, to accept fellowship at the

- Ford Foundation Center for Advanced Study in the Behavioral Sciences in California.
- Murray Krieger, associate professor of English, without salary for winter and spring quarters of 1956-57, to accept a Guggenheim fellowship to work on a book length study of twentieth century novelists.
- Ramer D. Leighton, associate professor extension dairyman in Agricultural Extension, with salary November 12, 1956 to January 5, 1957, on account of illness.
- Arthur J. Madden, Jr., associate professor of chemical engineering, sabbatical furlough for 1956-57, to do research in chemical engineering on a Guggenheim fellowship and a Fulbright travel grant at Delft Technological Institute, Netherlands.
- Mary Malcolm, associate professor of music, sabbatical furlough for 1956-57, to observe the teaching of Music Theory and of Sight-singing in other American Universities and at the Paris Conservatory under Nadia Boulanger.
- Carlos Martinez, associate professor of cancer biology research, with salary May 1 to August 31, 1957, to teach at the Instituto de Anatomia e Istologia Patologica in Perugia, Italy and to lecture in the department of medicine of Universidad Central de Madrid on cancer research and technics.
- Leo Marx, associate professor of English, sabbatical furlough for 1956-57, to complete a book.
- Franz Montgomery, associate professor of English, sabbatical furlough for 1956-57, to do research in the British Museum and in the South Kensington Museum in London in preparation for publication of an edition of William Combes, *The Tour of Dr. Dyntax in Search of the Picturesque*.
- Arthur E. Naftalin, associate professor of political science, continuation of leave without salary for 1956-57, to serve as State Commissioner of Administration.
- Roy C. Prentis, associate professor of general education, without salary October 1, 1956 to June 15, 1957, to serve as Executive Secretary for the State Teachers College Board of Minnesota.
- Henry W. Riecken, associate professor of sociology, without salary March 1-30, 1957, to conduct exploratory research in Pakistan to formulate a research project that will assist officials of the International Cooperation Administration in planning their program in Pakistan.
- John Rood, associate professor of art, sabbatical furlough for 1956-57, for creative work in sculpture and to complete work on a book.
- Ephraim Rosen, associate professor of psychology, sabbatical furlough for 1956-57, to accept a Fulbright award doing research in criminal psychology in Rome, Italy.
- Ira O. Scott, associate professor in School of Business Administration, for 1956-57, to serve as Fellow under the Merrill Foundation with salary paid by the Merrill Foundation for Advancement of Financial Knowledge Incorporation grant through the University of Minnesota.
- Malcolm B. Stinson, associate professor in School of Social Work, without salary for 1956-57, to carry forward a research teaching and consultative project to schools of social work in India under the Council on Social Work Education.
- Mildred C. Templin, association professor in Institute of Child Welfare, sabbatical furlough for 1956-57, to travel in several foreign countries to study in the areas of development of language and thought and in techniques of handling longitudinal research data.
- Lewis W. Wannamaker, associate professor of pediatrics, continuation of leave without salary for 1956-57, to continue work as visiting investigator at the Rockefeller Institute for Medical Research.
- Chester W. Wood, associate professor and director of student personnel services, Duluth Branch, continuation of leave without salary for 1956-57, to serve as chief of the Division of Education in United Nations Korean Reconstruction Agency in Seoul, Korea.
- Torfine L. Aamodt, assistant professor of entomology and economic zoology, without salary March 6 to April 5, 1957.

- Fred H. Blum, assistant professor of interdisciplinary studies in general education, without salary March 16 to June 15, 1957, to undertake a project for the Society of Friends in England.
- Huai C. Chiang, assistant professor of science and mathematics, Duluth Branch, sabbatical furlough for 1956-57, to accept a Guggenheim fellowship at Cambridge University, England.
- Evelyn D. Crisp, assistant professor in General College, without salary for the winter quarter of 1956-57, for personal reasons and professional development.
- Leon W. Green, assistant professor of mathematics in the Institute of Technology, without salary for 1956-57, to accept a fellowship from the American Swiss Foundation for Scientific Exchange for study and research at the Federal Institute of Technology in Zurich, Switzerland.
- Ruth F. Green, assistant professor in division of professional education, Duluth Branch, sabbatical furlough for 1956-57, to work toward completion of doctor's degree at Teachers College, Columbia University.
- Hans P. Hanson, assistant professor extension specialist field studies in Agricultural Extension, without salary October 6 to November 30, 1955, to act as consultant to the Norwegian Agricultural Extension Service in Oslo, Norway at the request of Norwegian Ministry of Agriculture.
- Vivian H. Hewer, assistant professor and senior student personnel worker, Student Counseling Bureau, without salary July 16-27, 1956, to accept a Fellowship in Business by the Foundation for Economic Education Inc. at the Bank of America, San Francisco.
- P. Lee Irwin, assistant professor in School of Journalism, without salary for 1956-57, to reestablish the business department of weekly newspaper *Bothell (Washington) Citizen*.
- Richard B. Mather, assistant professor of Slavic and oriental languages, sabbatical furlough for 1956-57, to pursue intensive research in the field of Early Chinese Buddhist History and to avail self of the personnel and library of the Institute of Oriental Culture of the University of Kyoto, Japan.
- Merle P. Meyer, assistant professor in School of Forestry, without salary August 1 to September 15, 1956, to accept an appointment with the United States Forest Service to try out new aerial photogrammetric techniques, equipment, films, and training methods.
- Truman R. Nodland, assistant professor of agricultural economics, with salary July 1 to September 30, 1956, on account of illness.
- Stanley F. Paulson, assistant professor of interdisciplinary studies in general education, without salary for 1956-57, to serve as an exchange professor at San Francisco State College.
- Robert A. Phillips, assistant professor of horticulture, with salary November 9 to December 22, 1956, on account of illness.
- William A. Porter, assistant professor in General Extension Division, without salary September 16, 1956 to June 15, 1957, to accept a visiting professorship at San Francisco State College.
- Ruth H. Richards, assistant professor of physical education for women, Division of Education and psychology, Duluth Branch, without salary February 11 to June 15, 1957, to work on doctor's degree at University of Wisconsin.
- Marvin J. Taves, assistant professor of sociology, sabbatical furlough for 1956-57, to accept a Fulbright professorship in Austria.
- Dailey B. Terrell, assistant professor of philosophy, without salary for 1956-57, to accept a visiting appointment at Northwestern University.
- Myra B. Zabel, assistant professor extension specialist home improvement, Agricultural Extension, without salary August 17-23, 1955, for vacation.
- Richard W. Brand, agricultural agent-instructor, Todd County, Agricultural Extension, sabbatical furlough October 26, 1956 to July 20, 1957, to work toward master's degree at the University of Minnesota.

LEAVES OF ABSENCE, 1957-58

- William T. Middlebrook, vice president Business Administration, with salary February 13 to April 1, 1958, for survey of the University of the Philippines

- at the request of the Department of State in company with President John A. Hannah, Michigan State University, and Professor Floyd Reeves of Michigan State University.
- Harold S. Diehl, dean of the College of Medical Sciences and professor of Public Health, without salary for 58% time December 1, 1957 to June 30, 1958, for work with American Cancer Society.
- Horace T. Morse, dean and professor of General College, with salary for 75% time and without salary for 25% time September 1 to December 31, 1957, to serve as a general education specialist in India under the Department of State.
- Athelstan F. Spilhaus, dean and professor of Institute of Technology, without salary November 18-23 and with salary November 24 to December 31, 1957, to attend the forty-ninth session of Executive Board UNESCO in Paris, the ninth Pacific Science Congress in Bangkok and deliver a public lecture upon the invitation of the Thailand Government; and to visit Antarctica as a member of the Executive Committee of the United States National Committee for International Geophysical year; without salary May 12-22, 1958, to attend last portion of the fiftieth session Executive Board UNESCO in Paris.
- Robert E. Summers, dean of admissions and records, with salary November 25 to December 14, 1957, to visit colleges and universities and college student selection boards in Great Britain, Germany, and Italy; with salary for 60% time and without salary for 40% time February 11 to March 24, 1958, to advise in the establishment of the Baghdad National University by appointment under the International Educational Exchange Service of the United States Department of State.
- Austin A. Dowell, director of resident instruction and assistant dean and professor of agricultural economics, College of Agriculture, Forestry and Home Economics, with salary February 13 to April 1, 1958, on account of illness.
- Benjamin J. Lazan, professor and head Mechanics and Materials and associate dean of Institute of Technology, with salary October 21 to November 11, 1957, to present paper before Structures and Materials Panel meeting of the Advisory group for Aeronautical Research of NATO in Paris and to survey for United States Air Force present state of European research and practice in acoustic fatigue in aircraft structures.
- John E. Anderson, professor in Institute of Child Development and Welfare, without salary for 4% time January 1 to June 15, 1958, as mental health consultant for State Board of Health.
- H. Harvard Arnason, professor and chairman of art, continuation of leave without salary for 20% time for 1957-58, to serve as director of Walker Art Center.
- Francis M. Boddy, professor School of Business Administration, with salary February 5 to March 15, 1958, to lecture in Salzburg Seminar at Schloss Leopoldskron, Salzburg, Austria.
- Herbert M. Bosch, professor in the School of Public Health, without salary September 16 to November 9, 1957, to serve as consultant to World Health Organization on the training of sanitation personnel in Japan.
- Nelson L. Bossing, professor of general education, without salary January 1 to June 15, 1958, to accept a Fulbright award at the University of Chile to study educational systems and cultures.
- Oswald H. Brownlee, professor in School of Business Administration, sabbatical furlough for 1957-58, to do research on the economics of government expenditure partially financed by a Ford Foundation fellowship.
- Josef Brozek, professor in School of Public Health Laboratory of Physiological Hygiene, without salary April 16 to May 15, 1957, to serve under the United States State Department exchange program with the National University of Mexico.
- Theodore Caplow, professor of sociology, without salary for spring quarter 1957-58, for pilot field work on a major research project with 50% salary paid by a research fund through the University of Minnesota.

- Mitchell V. Charnley, professor in School of Journalism, sabbatical furlough for winter and spring quarters 1957-58, to study areas of mass communication in Italy.
- A. Orville Dahl, professor and chairman of botany, sabbatical furlough for 1957-58, to do research on pollen grain structure at Danish Geological Survey laboratories in Copenhagen, Denmark.
- Harold C. Deutsch, professor of history, sabbatical furlough for 1957-58, to accept a Fulbright fellowship for research in Germany on the subject of German leadership in the period of World War II.
- Herbert Feigl, professor and director Minnesota Center for Philosophy of Science, without salary February 11 to June 15, 1958, to serve as a Carnegie visiting professor at the University of Hawaii.
- Eugene P. Pfeider, professor and chief of Division of Mineral Engineering, without salary for winter and spring quarters of 1957-58, to serve as visiting professor at School of Mineral Sciences at Stanford University.
- Richard K. Gaumnitz, professor in School of Business Administration, sabbatical furlough for 1957-58, to study and do research on management methods and philosophies and operating practices in industry in the United States and Europe.
- J. Francis Hartmann, professor of anatomy, sabbatical furlough for 1957-58, to study at the Anatomical Institute in Kiel, Germany, and visit laboratories in Stockholm, London, and Paris.
- Richard C. Jordan, professor and head of mechanical engineering, with salary November 21 to December 10, 1957, to serve as delegate from National Academy of Sciences-National Research Council to attend Executive Committee of Institut Internationale Du Froid in Paris.
- Robert J. Keller, professor and director of University High School, without salary October 7, 1957 to January 31, 1958, to accept a Carnegie visiting professorship at University of Hawaii; without salary for 50% time March 1 to June 30, 1958, to serve with Legislative Interim Commission on Higher Education and director of research.
- Harold H. Kelley, professor of psychology, Laboratory for Research in Social Relations, without salary February 3 to June 15, 1958, to serve as visiting professor at the University of California in Berkeley.
- Howard C. H. Kernkamp, professor in College of Veterinary Medicine, with salary February 21 to March 21, 1958, to advise and consult on matters pertaining to disease problems of swine with Department of Veterinary Science at University of Florida.
- Ralph L. Kitchell, professor and head of division of veterinary anatomy in College of Veterinary Medicine, sabbatical furlough September 16, 1957 to September 15, 1958, to do research at the Royal Veterinary College in Stockholm, Sweden and London, England.
- Izaak M. Kolthoff, professor and chief in School of Chemistry, with salary November 27 to December 20, 1957, to accept invitation to USSR Academy of Sciences to participate in analytical symposium in Moscow.
- Fred A. Krantz, professor of horticulture, with salary December 1, 1957 to April 30, 1958, on account of illness.
- Robert Livingston, professor in School of Chemistry, with salary May 26 to June 15, 1958, to present a paper at the annual meeting of the Society de Chemie Physique in Paris.
- Rufus W. Lumry, professor in School of Chemistry, with salary October 7 to November 2, 1957, to attend UNESCO Conference on enzymes in Tokyo, Japan.
- Tremaine McDowell, professor of English, with salary for 87% time and without salary for 13% time March 1 to June 15, 1958, on account of illness.
- Walter T. Pattison, professor and chairman Romance Languages, sabbatical furlough for 1957-58, to accept a Guggenheim award and do research in France and Spain on Benito Perez Galdos.
- Raymond G. Price, professor in College of Education, sabbatical furlough December 16, 1957 to March 15, 1958, to do research on the non-vocational business needs of secondary school students.

- Ralph E. Rapson, professor and head School of Architecture, with salary April 20 to May 20, 1958, to study architecture in Germany on invitation of the West German Government.
- A. Glenn Richards, professor of entomology and economic zoology, sabbatical furlough October 1, 1957 to September 30, 1958, to do research at the Max Planck Institute for biology at Tubigen, Germany in collaboration with Dr. Kuhn.
- Ralph G. Ross, professor of interdisciplinary studies, General Education, without salary for fall quarter of 1957-58, to serve as visiting professor of philosophy at New York University.
- Alvin F. Sellers, professor and head of division of veterinary physiology and pharmacology, sabbatical furlough September 1, 1957 to August 31, 1958, to do research under a Guggenheim fellowship at the physiological laboratory Cambridge University and the Rowett Research Institute in Scotland on the control mechanisms and absorptive functions of the ruminant stomach.
- Nelson T. Spratt, Jr., professor of zoology, without salary for 1957-58, to serve as assistant director of the National Science Foundation Division of Embryology, Washington, D.C.
- Lorenz G. Straub, professor-head-director Civil Engineering and Hydraulics, continuation of leave without salary for 20% time for 1957-58 for personal reasons and to permit more effective service in direction of major engineering projects and professional objectives.
- Jerome T. Syverton, professor and head bacteriology and immunology, without salary for 1957-58, to accept a Commonwealth Fund award for research and writing including ten weeks in Europe.
- David W. Thompson, professor of speech and theater arts, sabbatical furlough for 1957-58, to serve as a Fulbright lecturer in dramatic literature at a Japanese university.
- Lloyd Ulman, professor in School of Business Administration, without salary for 1957-58, to conduct a seminar at Harvard University.
- Leonard H. Unger, professor of English, without salary for 1957-58, to accept an appointment as a Fulbright lecturer in American Literature at the University of Rome.
- John H. Williams, professor in School of Physics, without salary April 16 to June 15, 1958, to accept position as head of research division of Atomic Energy Commission, Washington, D.C.
- C. Gilbert Wrenn, professor of general education, sabbatical furlough for winter quarter of 1957-58, to work on a monograph describing the three-year project on college teaching internships supported by the Ford Fund for the Advancement of Education.
- Bernard P. Arnest, associate professor of art, without salary for 1957-58, to study and direct an art department at Colorado College.
- Woodrow J. Aunan, associate professor of animal husbandry, without salary June 16 to August 15, 1957, to accept the F. C. Vibrans Senior Scientist award and to participate in a program in meat research at the American Meat Institute Foundation, Chicago, Illinois.
- Arthur H. Ballet, associate professor of speech and theater arts, without salary for 1957-58, to serve as producer-director of the Virginia Museum Theater, Richmond, Virginia.
- Ronald I. Beazley, associate professor in School of Forestry, without salary May 15 to September 30, 1958, to carry out an economic study of timber requirements, forest resources and forest industries of twenty-one countries in the Far East conducted by the Economic Commission for Asia and the Far East and the United Nations.
- Gladys I. Bellinger, associate professor in School of Home Economics, without salary July 22 to August 24, 1957, for personal reasons.
- John Berryman, associate professor of interdisciplinary studies, General Education, without salary for fall quarter of 1957-58, to accept the Partisan Review-Rockefeller fellowship in poetry for 1957 and do creative writing.
- Werner W. Boehm, associate professor in School of Social Work, continuation of leave without salary for 1957-58, to head national study of curriculum for the Council on Social Work Education.

- John A. Buttrick, associate professor in School of Business Administration, continuation of leave without salary for 1957-58, to teach and do research at University of California.
- Maynard M. Cohen, associate professor psychiatry and neurology, without salary October 1, 1957 to June 15, 1958, to study in England on a United States Public Health Service grant.
- John D. Donker, associate professor of dairy husbandry, with salary April 19 to May 2, 1957, to consult with dairy department staff members of Universities of Florida and Georgia on nutrition problems in the dairy industry.
- Dorothy T. Dyer, associate professor of interdisciplinary studies in General Education, sabbatical furlough for fall quarter of 1957-58, to prepare a publication in the Family Life program for professional reference.
- Ned A. Flanders, associate professor in General Education, continuation of sabbatical furlough for fall and winter quarters of 1957-58, to conduct research in elementary education on a Fulbright Research award in New Zealand.
- Frank W. Forbes, associate professor-district supervisor county extension work, sabbatical furlough October 14, 1957 to June 30, 1958, to study at the University of Wisconsin.
- C. C. Hsiao, associate professor of mechanics and materials in Institute of Technology, with salary May 14 to June 11, 1958, to attend a conference sponsored by the International Union of Pure and Applied Physics and the Academy of Sciences of the USSR in Leningrad.
- Warren E. Ibele, associate professor of mechanical engineering, without salary for fall quarter of 1957-58, to work at Pratt and Whitney Aircraft on problems of thermodynamics and fluid mechanics aspects of combustion.
- Ione M. Jackson, associate professor in School of Dentistry, without salary July 22 to August 3, 1957, for extended vacation.
- Irwin H. Kaiser, associate professor of obstetrics and gynecology, sabbatical furlough for 1957-58, for study and laboratory investigation in the field of fetal physiology at the Wenner-Gren Cardiovascular Research Laboratory Norrtull's Hospital in Stockholm, Sweden.
- Ramer D. Leighton, associate professor extension dairyman Agricultural Extension, with salary May 5 to 26, 1958, on account of illness.
- Irvin E. Liener, associate professor of agricultural biochemistry, sabbatical furlough May 16 to October 18, 1957, to accept a Guggenheim Memorial Fellowship to conduct research on enzymes at the Carlsberg Laboratory in Copenhagen, Denmark.
- Leo Marx, associate professor of English, without salary for fall quarter of 1957-58, to serve as visiting lecturer at Amherst College.
- Allan H. Morrish, associate professor of electrical engineering, without salary for fall and winter quarters of 1957-58, to accept a Guggenheim fellowship for study at Oxford University, England.
- Arthur E. Naftalin, associate professor of political science, continuation of leave without salary for fall and winter quarters and 80% time spring quarter of 1957-58, to serve as State Commissioner of Administration.
- Ruby B. Pernell, associate professor in School of Social Work, sabbatical furlough for 1957-58, to spend a year in England for study and research at the London School of Economics and Political Science.
- George W. Preckshot, associate professor of chemical engineering, sabbatical furlough for 1957-58, for research at Edinburgh, Scotland, on interfacial relations between solid surfaces and liquids as they affect pool boiling.
- Wallace A. Russell, associate professor of psychology, sabbatical furlough for 1957-58, to conduct an experimental research project in Germany on the mediational role of word association in the German language.
- Earl V. Rymer, associate professor of music, sabbatical furlough for 1957-58, to study and improve teaching methods.
- Stanley Schachter, associate professor of psychology, sabbatical furlough for 1957-58, to prepare a monograph on research on conditions affecting the affiliative motive and to study new techniques in survey and scaling methodology, time to be spent at Columbia University.

- Mary J. Shaw, associate professor of philosophy, sabbatical furlough for 1957-58, to study text materials in philosophy in the lycees of France and visit excavation sites in Greece and Sicily.
- Mulford Q. Sibley, associate professor of political science, without salary for 1957-58, to serve as visiting professor at Stanford University.
- Ernst Simonson, associate professor in School of Public Health, Laboratory of Physiological Hygiene and Ophthalmology Research Funds, without salary for 30% time for 1957-58, for outside consultation.
- Dale K. Sorensen, associate professor in College of Veterinary Medicine, without salary August 1, 1957 to June 30, 1958, to carry out special work at the Brookhaven National Laboratories of the associated universities at Upton, Long Island, New York, to gain experience in the use of radioactive isotopes and radiobiology.
- Michael I. Sovern, associate professor in Law School, without salary for 1957-58, to accept an appointment as visiting professor of law at Columbia University.
- Martin Steinmann, Jr., associate professor of English, sabbatical furlough for 1957-58, to complete research and writing on British novelist, T. F. Powys, in England.
- Malcolm B. Stinson, associate professor in School of Social Work, continuation of leave without salary for 1957-58, to study schools of social work in India for the Council of Social Work Education.
- John E. Wertz, associate professor of physical chemistry, sabbatical furlough for 1957-58, to study problems of magnetic resonance at Clarendon Laboratory of Oxford University and visit other laboratories in England, France, Holland, Germany, and Switzerland.
- Grace D. Brill, assistant professor extension nutritionist, with salary July 15 to August 3, 1957, on account of illness.
- Louise T. Dodsall, assistant professor of plant pathology and botany, with salary March 1 to May 31, 1958, and June 16 to July 31, 1958, on account of illness.
- David W. French, assistant professor plant pathology and botany, without salary June 10 to September 10, 1957, to participate in forest survey project work in Alaska under the employment of the Forest Survey Section of the United States Forest Service.
- Lawrence H. Johnston, assistant professor in School of Physics, without salary for 33% time for 1957-58, to work with the Midwestern Universities Research Association.
- Howard F. Koeper, assistant professor in School of Architecture, sabbatical furlough for 1957-58, to complete requirements for Ph.D. degree in art at Harvard University.
- Jerome Liebling, assistant professor of art, without salary for 1957-58, to serve as visiting professor of art at New York State University Teachers College, New Paltz, New York.
- Alexander R. Margulis, assistant professor of radiology, without salary for 1957-58, for military service.
- William Matalamaki, assistant professor and superintendent at North Central School and Experiment Station, sabbatical furlough October 1, 1957 to September 30, 1958, to complete course work for doctorate at University of Wisconsin.
- Philip T. Meyers, assistant professor in School of Business Administration, without salary for 1957-58, to accept a one year appointment at University of Texas, and complete Ph.D. requirements there.
- William D. Munro, assistant professor of mathematics, Institute of Technology, sabbatical furlough for 1957-58, to study at the Numerical Analysis Research Center at the Los Angeles Branch of the University of California.
- Elizabeth Roniger, assistant professor extension economist home management, Agricultural Extension, without salary December 23, 1957 to January 4, 1958, for extended vacation.
- Mordecai M. Roshwald, assistant professor in interdisciplinary studies in general education, without salary for spring quarter, to go to England in regard to the publication of his book.

Charles A. Simkins, assistant professor extension specialist soils, Agricultural Extension, without salary June 1-30, 1958, to accept a position in Iran with Development and Research Corporations.

Myra B. Zabel, assistant professor extension specialist home improvement, Agricultural Extension, with salary December 11, 1957 to January 4, 1958, on account of illness.

SHORT-TERM LEAVES

In accordance with the plan announced in the President's Report for 1952-54, page 14, the following short-term leaves were granted:

1956-57

W. D. Armstrong, professor of physiological chemistry, spring quarter, to go either to the Argonne National Laboratory or to the Oak Ridge Laboratory to carry out experiments in the field of biochemistry of fluoride as studied with radioactive fluoride. (Was cancelled)

Willard W. Cochran, professor of agricultural economics, spring quarter, to write a serious, but non-technical book on farm price behavior.

Ruth E. Eckert, professor of higher education, spring quarter, to prepare an interpretative study of American higher education. (Was cancelled)

Henry Ehlers, professor of philosophy, Duluth Branch, spring quarter, to study the comparison between the treatment of "assumptions" in some recent studies in "critical thinking" with treatments in books on "logic" and "scientific method."

A. O. C. Nier, professor of physics, spring quarter, to study areas of physics related to mass spectroscopy.

Paul M. Oberg, professor of music, winter quarter, to collect and transcribe 16th and 17th century polyphonic sacred music available only in manuscripts at Puebla and Mexico City.

Cecil J. Watson, professor of medicine, winter quarter, to continue work on a book on the "Porphyrins and Bile Pigments in Medicine."

John H. Williams, professor of physics, winter quarter, for nuclear physics study and research at three West Coast laboratories, to enhance the program and productivity of the linear accelerator and Van de Graaff research programs at the University of Minnesota.

Dale Yoder, professor Industrial Relations Center, winter quarter, to study the effects of employer-association bargaining on employee relations programs.

A. J. Dekker, associate professor of electrical engineering, fall quarter, to study measuring techniques and properties of solids at low temperatures, as well as magnetic resonance and relaxation phenomena at the Kamerlingh Onnes Laboratory at the University of Leiden, The Netherlands.

Henry L. Hansen, associate professor of forestry, fall quarter, to concentrate efforts on the acquisition and summarization of information on "The Silvicultural and Ecological Significance of Balsam Fir in the Northern United States and Southern Canada."

Murray Krieger, associate professor of English, fall quarter, to investigate the nature, the meaning, and the aesthetic significance of the tragic version as it appears in relevant literary works of the past hundred years.

Robert E. Moore, associate professor of English, spring quarter, to study the Dramatic Opera of the Restoration.

Paul R. O'Connor, associate professor of inorganic chemistry, spring quarter, to strengthen his background in the field of radiation chemistry (the chemical effects of high energy particles and radiation) with the objective of initiating a research program in this area at the University of Minnesota.

David W. Thompson, associate professor of speech and theater arts, winter quarter, to study role and rite in drama.

James F. Maclear, assistant professor of social studies division, Duluth Branch, spring quarter, to write several essays on the intellectual history of the transition from Puritanism to Nonconformity, titled, *The Making of the English Nonconformist Tradition*.

1957-58

- Clifford P. Archer, professor of education, spring quarter, to conduct research on the "Characteristics and Functions of Community Schools."
- T. M. Currence, professor of horticulture, winter quarter, to study changes in fruit type and other characteristics by which modern varieties of some crops have developed.
- W. H. Dankers, professor of economics, Agricultural Extension, July, 1957, to study cooperative marketing of agricultural products in Northern Europe.
- Samuel Eddy, professor of zoology, winter quarter, to study the fishes of the desert water systems of the Southwest.
- Rudolph Hermann, professor of aeronautical engineering, spring quarter, to study supersonic aerodynamic research in West Germany and neighboring European countries.
- Philip D. Jordan, professor of history, winter quarter, for research and travel in the Southwest and Mexico for improvement of instruction to strengthen courses in the history of the early national period of the United States by study in regional institutions of materials pertaining to a developing nationalism and an expanding frontier prior to and after the Mexican War.
- W. J. Luyten, professor of astronomy, spring quarter, for research dealing primarily with the motions of the stars and to complete a catalog of some 120,000 stars mainly in the southern hemisphere. (Was cancelled)
- Lennox A. Mills, professor of political science, winter quarter, to carry out library research on Southeast and to some extent South Asia, with the expectation that this will later lead to a book on the subject.
- B. S. Pomeroy, professor of veterinary medicine, spring quarter, to study respiratory infections of poultry with special emphasis on basophilic group of viruses.
- Lloyd H. Reyerson, professor of chemistry, spring quarter, to study basic physical chemistry of certain crystalline proteins at the Carlsberg Laboratories in Copenhagen, Denmark.
- Lloyd Short, professor of political science, fall quarter, to complete a book on Minnesota State Government and Administration.
- Leonard Unger, professor of English, fall quarter, for research and writing on Seventeenth Century literature, including Milton. (Was cancelled)
- A. van der Ziel, professor of electrical engineering, fall quarter, to study the theory of the solid state with particular reference to noise problems.
- Frank M. Whiting, professor of speech and theater arts, winter quarter, to prepare material for the Minnesota Centennial.
- Harold B. Allen, associate professor of English, winter quarter, to complete the projected Linguistic Atlas of the Upper Midwest.
- F. W. Hoffbauer, associate professor of internal medicine, winter quarter, to study the pathology of human nutritional liver disease (fatty cirrhosis).
- Irvin E. Liener, associate professor of agricultural biochemistry, June-August, 1957, for physico-chemical studies on trypsin. (Was cancelled)
- A. H. Morrish, associate professor of electrical engineering, spring quarter, for research on some aspects of the solid state at low temperature.
- Walter Quirt, associate professor of art, fall quarter, to study the social tempo of the Upper Midwest as a creative factor of major importance; its theoretical and practical importance; its theoretical and practical significance to the Upper Midwest artist; its possible relation to Contemporary Art.
- Julius F. Wolff, Jr., associate professor of political science, Duluth Branch, fall quarter, to write an administrative analysis of the Minnesota Department of Conservation.
- Margaret M. Forbes, assistant professor of classics, spring quarter, to travel and study in Italy.
- D. W. French, assistant professor of plant pathology and botany, fall quarter, to obtain further knowledge in the field of forest pathology problems other than in Minnesota. (Was cancelled)
- Ellis N. Livingston, assistant professor of history, Duluth Branch, spring quarter, to prepare a monograph on the Nye investigation of the munitions industry.
- Alvin E. Prottengeier, assistant professor of German, spring quarter, for research on the participation of German capital and persons involved in the

early Portuguese and Spanish trade voyages to the Orient via the Cape of Good Hope route.

Louis Safer, assistant professor of general arts, spring quarter, to study the development of experimental techniques in painting.

DEATHS

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

John J. Reighard, professor, School of Business Administration, July 14, 1956.

Herbert E. Cleffton, professor of Romance Languages, July 22, 1956.

Russel M. Cornell, assistant professor of civil engineering, July 28, 1956.

Joseph A. Wise, professor of civil engineering, August 25, 1956.

Paul R. Grim, professor and director student teaching, College of Education, September 18, 1956.

William H. Kirchner, professor emeritus of drawing and descriptive geometry, October 8, 1956.

Lyman R. Critchfield, clinical assistant professor emeritus, pediatrics, October 31, 1956.

James T. Hillhouse, professor of English, December 10, 1956.

Percy M. Lowe, instructor in agricultural economics, December 13, 1956.

Charles Bird, professor of psychology, January 22, 1957.

Thomas H. Canfield, Jr., associate professor of poultry husbandry, March 10, 1957.

Byrl R. Kirklin, professor emeritus of radiology, Mayo Foundation, March 3, 1957.

Irvile C. LeCompte, professor emeritus Romance Languages, April 5, 1957.

William P. Kirkwood, professor emeritus of publications, Department of Agriculture and journalism in College of Science, Literature, and the Arts, April 9, 1957.

Herman J. Wolff, clinical associate professor of medicine, April 19, 1957.

Josephine E. Tilden, professor emeritus of botany, May 15, 1957.

Albert C. Army, associate professor emeritus of agronomy and plant genetics, May 22, 1957.

Frederick L. Pfeiffer, associate professor of German, May 30, 1957.

Ernest B. Pierce, director of Alumni Relations emeritus, June 7, 1957.

Henry A. Erikson, professor emeritus of physics, June 22, 1957.

Frank E. Burch, professor emeritus of ophthalmology, July 1, 1957.

Mark O. Pattridge, clinical professor emeritus, School of Dentistry, July 27, 1957.

John M. Culligan, clinical assistant professor of surgery, August 7, 1957.

Joseph W. Beach, professor emeritus of English, August 13, 1957.

Roscoe C. Webb, clinical associate professor of surgery, August 16, 1957.

Arthur C. Strachauer, professor emeritus of surgery, August 23, 1957.

Harold I. Lillie, professor emeritus of otolaryngology, Mayo Foundation, August 27, 1957.

Paul M. Calvin, agricultural extension agent farm management, Agricultural Extension, September 6, 1957.

Arthur E. Stoppel, professor of chemical engineering, September 29, 1957.

Hally J. Fisher, instructor emeritus of preventive medicine and public health, October 17, 1957.

Julia O. Newton, associate professor emeritus state leader home demonstration agent, Agricultural Extension, October 21, 1957.

Charles E. Proshok', clinical instructor of obstetrics and gynecology, October 30, 1957.

Oswald S. Wyatt, clinical professor of surgery, November 21, 1957.

Thomas D. Speidel, professor and chairman of orthodontics in School of Dentistry, November 30, 1957.

Eugene T. Leddy, associate professor of radiology, Mayo Foundation, January 5, 1958.

Peter M. Mattill, lecturer emeritus, School of Nursing, January 12, 1958.

Lewis B. Hessler, assistant professor emeritus of English, January 30, 1958.

Howard Gilkinson, professor of speech, February 7, 1958

Laurence M. Winters, professor emeritus of animal husbandry, March 16, 1958.
 Frances K. Del Plaine, assistant professor of English, April 10, 1958.
 John R. Meade, clinical instructor of medicine, May 4, 1958.
 Fred A. Krantz, professor of horticulture, May 11, 1958.
 Louis L. Freidman, clinical assistant professor of obstetrics and gynecology,
 June 14, 1958.
 Erling S. Platou, professor of pediatrics, June 17, 1958.

HONORS AND DISTINCTIONS

Administration—JAMES LEWIS MORRILL served as consultant, Co-ordination of the Exchange of Persons Programs, International Educational Exchange Service and International Cooperation Administration, U. S. Department of State, 1956; member, President's Committee on Education Beyond the High School, 1956-57; and was awarded certificate in recognition of meritorious service in behalf of American education by Office of Education, U. S. Department of Health, Education, and Welfare, 1958. For the American Association of Land-Grant Colleges and State Universities, he served as: member, Committee on National Defense, 1956-57; chairman, Subcommittee on Book about Land-Grant Institutions, 1957; member, Steering Committee for Land-Grant Centennial, 1957-58; member, Committee on Survey of Land-Grant Institutions, 1957-58; member, Committee on Government Controls of Higher Education, 1957-58; chairman, Committee on Centennial Theme, 1958; and member, Committee on Centennial Brochure, 1958. He served as member, Commission on Education and International Affairs, American Council on Education, 1957-58; president, National Association of State Universities, 1957-58; president, 1957-58, and chairman, Committee for the Continuing Study of Higher Education, 1956-57, Association of Minnesota Colleges; member, Advisory Committee, Advertising Council Campaign on Behalf of Higher Education, Council for Financial Aid to Education, 1956; member, President Eisenhower's Civilian National Honors Committee, 1956; member, Committee on Professional Education, Commission on Colleges and Universities, North Central Association of Colleges and Secondary Schools, 1956-57; and member, Advisory Committee, Institute of College and University Administrators, Harvard School of Business Administration, 1956-57. For 1956-58 he served as member of the following: Advisory Council, and Grants Advisory Committee, National Fund for Medical Education; Editorial Board, *Journal of Higher Education*; College of Electors, Hall of Fame, New York University; Council of Ten, Western Conference University Presidents; Executive Committee of the Executive Council, Minnesota Historical Society; Board of Trustees, The Minneapolis Foundation; Board of Trustees, Ames Library of South Asia; Board of Trustees, Minnesota Community Research Council; Board of Trustees, United Hospital Fund of Minneapolis and Hennepin County; National Board, National Book Committee; Interstate Committee on Higher Education, Midwest Council of State Governments; Committee of Sponsors, Greater Minneapolis Council of Churches; and in 1957-58 was member, Board of Trustees, Institute of International Education; and member, World Advisory Committee, World Congress of Junior Chamber International. For 1958 he served as: member, Board of Directors, Educational Facilities Laboratories; member, Committee on Selection of 1958 Markle Scholars; and member, Minnesota World Health Organization (WHO) and Centennial Health Committee; was elected to honorary membership in Alpha Zeta, 1956; and was awarded the honorary degree, Doctor of Laws, by University of Exeter, England, 1956, University of California at Los Angeles, 1957, and Iowa State College, 1958.

STANLEY J. WENBERG, served as secretary, Committee for the Continuing Study of Higher Education, Association of Minnesota Colleges, 1956-58; member, Minnesota Citizens Committee for Public Education, 1956-58; member, Board of Directors, Minnesota Mental Health Education, 1956-58; member, Education Committee, Minnesota Statehood Centennial Commission, 1956-58; member, Board of Directors, 1957-58, and vice president, 1958, Campus Club; and secretary, Committee on Institutional Cooperation, Council of Ten and the University of Chicago, 1958. He is an honorary member of Phi Delta Kappa, Alpha Sigma Pi, and Phi Alpha Theta.

Alumni Relations—RAYMOND D. CHISHOLM, at the request of the U. S. State Department, served in Burma as specialist under the International Education Exchange Program, 1958; and was member, U. S. Olympic Committee, 1958.

EDWIN L. HAISLET served as member, Governor's Advisory Council on Children and Youth; member, Mayor's Advisory Committee; member, Mayor's Law Enforcement Commission; member, Hennepin County Centennial Committee; chairman, General Services Division, United Hospital Fund; and member, U. S. Olympic Committee.

Academic Administration—MALCOLM M. WILLEY continued to serve as director, Social Science Research Council, 1956-58; member, Executive Committee, 1956-58, and member, 1956-58 and chairman, 1958, Board of Directors, Midwest Inter-Library Corporation; member, General Survey Committee, California-Western Conference Cost and Statistical Study, 1956-57; member, Program Committee, and member representing the Social Science Research Council, U. S. National Commission for UNESCO, 1956-58; and member, Board of Directors, Walker Art Center, 1958. In May of 1958 he served as generalist for the North Central Association of Colleges and Secondary Schools in an accreditation appraisal of St. Louis University, St. Louis, Missouri. He was member, Executive Committee, and chairman, Education Committee, Cathedral Church of St. Mark in Minneapolis, 1957-58; member, Board, The Episcopal Foundation, 1956-58; and member, Board of Directors, Columbia University Alumni Club of Minnesota, 1956-58.

Office of Admissions and Records—CLARA H. KOENIG was awarded honorary membership in the American Association of Collegiate Registrars and Admissions Officers, April, 1958.

TRUE E. PETTEGILL served as associate editor, Board of Editors, *College and University*, 1956-58, and member, Executive Committee, 1958, American Association of Collegiate Registrars and Admissions Officers; member, Survey Team to evaluate and make recommendations regarding the administration of the admissions and registrars' offices, 1957, and consultant, University Calendar Study Committee, 1958, University of Michigan at Ann Arbor; and president, Upper Midwest Association of Collegiate Registrars and Admissions Officers, 1957-58.

ROBERT E. SUMMERS served with the U. S. Department of State, American Specialists Branch, International Educational Exchange Service, on an educational advisory assignment with Arab educators, made through the U. S. Embassy at Baghdad, 1958, on the establishment of the first national university in Iraq.

Office of the Dean of Students—HENRY E. ALLEN continued to serve as chairman, Indian Sub-committee, and vice-chairman, Governor's Human Rights Commission, 1956-58; chairman, Committee on Religious Values, and member, Governor's Advisory Council on Children and Youth, 1956-58; chairman, Subcommittee on Religion, Minnesota Statehood Centennial Commission, 1958; and member, National Advisory Committee on Indian Affairs, 1957-58.

RALPH F. BERTIE was elected president, Division of Counseling Psychology, American Psychological Association, 1958. He served as member, Advisory Committee for Guidance, Counseling and Testing, Minnesota State Department of Education, 1958; member, Governor's Committee on Highway Safety, 1958; member, Advisory Panel on Research into the Identification, Development, and Utilization of Human Talent, American Institute for Research, 1957-58; and member, Committee on Equality of Opportunity in Higher Education, American Council on Education, 1957-58. He appeared as expert witness before the Committee on Education and Labor, U. S. House of Representatives, 1958.

PAUL A. BLOLAND received the All-University Congress Staff Recognition Award, 1957.

ALICE M. CHRISTIAN served as member, Executive Planning Committee for the National Convention, 1956-57, and chairman, Trips and Tours Committee, 1956-57, National Rehabilitation Association; member, Advisory Board, Minnesota Rehabilitation Association, 1957-58; member, Board of Trustees, Twin City Vocational Guidance Association, 1958; and member, Oral Examining Board, State Civil Service Commission.

THEDA HAGENAH served as member, Executive Council, American College Personnel Association, 1958; and vice president, Minnesota Association of Deans and Counselors of Women, 1957-58.

JULIA S. HARRIS received the All-University Congress Staff Recognition Award, 1958.

ERNEST H. HENRIKSON served as member, Executive Council, American Speech and Hearing Association; member, Minnesota Committee on Speech Correction; chairman, Minnesota Committee on Temporary Certification for Speech Therapists; was appointed book review editor, *Journal of Speech and Hearing Disorders*, and *Journal of Speech and Hearing Research*; served as consultant, Veterans Administration Aphasia Clinic, Minneapolis; and as consultant in esophageal speech, Hennepin County Chapter, American Cancer Society.

VIVIAN H. HEWER served as member, Advisory Board, Twin City Vocational Guidance Association, 1956-58; member, Advisory Board, 1956-58, and chairman, 1957-58, Personnel Committee, University of Minnesota YWCA.

JOHN M. HUEBNER was named member, Committee to Study Federal Aid to Education, Minneapolis Board of Education, 1957.

DAVID N. KANATZ received the All-University Congress Staff Recognition Award, 1958.

WILBUR L. LAYTON was awarded the Diploma in Counseling Psychology by the American Board of Examiners in Professional Psychology, September 1956; served as associate editor, *Counseling News and Views*, newsletter, Division of Counseling Psychology, American Psychological Association, 1957-58; member, Executive Committee, Minnesota Psychological Association, 1957-58; member, Governor's Advisory Committee on Vocational Rehabilitation, 1956-58; first vice president and member, Board of Directors, Minnesota Council for the Gifted, 1957-58.

HUGH J. MCCARDLE served as delegate and conference reporter, Regional Conference, Phi Delta Kappa; and was one of 40 citizens representing the State of Minnesota at Great Lakes Naval Training Center's "Minnesota Week."

MABELLE G. McCULLOUGH served as member, Board of Directors, and member, Executive Committee, Wesley Foundation, Minneapolis, 1958; member, Board of Directors, and chairman, Status-of-Women Programs, Minneapolis Branch, American Association of University Women, 1957-58.

ELINOR H. MCGREW received the All-University Congress Staff Recognition Award, 1958.

JOSEF A. MESTENHAUSER served as member, Committee on International Relations, Minnesota Congress of Parents and Teachers, 1956-58.

FORREST G. MOORE was named first vice president, 1956-57, and president-elect, 1957-58, National Association of Foreign Student Advisers; member, Institute of International Education Liaison Committee, National Association of Foreign Student Advisers, 1957-58; and was recipient of an award to direct a research project on "The University's Continuing Relationships with Foreign Students," under grant from the Carnegie Corporation of New York.

GERHARD NEUBECK served as president, Minnesota Council on Family Life, 1956-58; chairman, Marriage Counseling Section, 1957-58, and member, Board of Directors, 1956-58, National Council on Family Relations.

WILLIAM B. OTTERNESS served as member, Board of Trustees, 1956-58, and secretary-treasurer-elect, 1957-58, Twin City Vocational Guidance Association.

ALTON L. RAYGOR served as president, Minnesota Reading Association, 1957-58.

JAMES H. REEVES received the All-University Congress Recognition Award, 1957; and served on Governor's Committee on Housing and Relocation, 1957-58.

GEORGE B. RISTY served as chairman, Great Northern Scholarship Committee, 1956-58; member, 1957-58, and chairman-elect, 1958, Minnesota Indian Scholarship Committee; chairman, International Milling Company Scholarship Committee, 1956-58; member, Tozer Foundation, Inc. Scholarship Committee, 1956-58; and member, Sears Roebuck and Company Scholarship Committee (Minneapolis), 1956-58.

PAUL H. SCHWANKL served as member, Board of Trustees, Twin City Vocational Guidance Association, 1956-58.

MARTIN L. SNOKE was named secretary, Minnesota Committee on High School-College Relations; member, Selection Committee, Naval Reserve Offi-

cers' Training Corps; secretary, Minnesota Dad's Association; and member, Liaison Committee with National Student Association, National Association of Student Personnel.

MATTHEW STARK was named member, Governor's Human Rights Commission; chairman, Governor's Housing and Relocation Committee; and vice chairman, Committee on the Study of the Role of the Negro in Minnesota History, Minnesota Historical Society.

CLARK D. STARR served as member, Executive Council, chairman, Committee on State Legislation, and president, 1958, Minnesota Speech and Hearing Association; member, Minnesota Citizens Committee on Public Education; and was appointed by the State Director of Special Education as member, Committee for Evaluation of State Program of Education for Children With Impaired Hearing.

EDWARD O. SWANSON served as member, Board of Trustees, Twin City Vocational Guidance Association, 1956-58.

BENJAMIN WILLERMAN served as panel member, Conference, Office of Social Science Programs, Air Force Personnel and Training Research Center, 1956; and member, Behavioral Science Conference, sponsored by Behavioral Sciences Division, Air Force Office of Scientific Research, 1957.

EDMUND G. WILLIAMSON served as chairman, Advisory Committee on Counseling Service for Vocational Rehabilitation and Education, Veterans Administration; member, Board of Cooperating Editors, *Journal of Educational and Psychological Measurement*; and member, Advisory Council, National Student Association.

DONALD R. ZANDER received the All-University Congress Staff Recognition Award, 1957.

University of Minnesota Press—HELEN L. MACDONALD served as member, Minneapolis Public Library Board 1956-58; and chairman, Committee on Intellectual Freedom, Minnesota Library Association.

JANE MCCARTHY was designer of the book selected by the American Institute of Graphic Arts as one of the "Fifty Books of the Year," (best designed and best made) 1956, and received the award again in 1957; was designer of two books selected by the Chicago Book Clinic with top honors for excellence in design and manufacture, 1957, and of four books so selected in 1958; and was designer of the two books selected as best-designed and best-manufactured, in the Midwestern Books Competition for 1956, and of the two books so selected in 1957.

HELEN CLAPESATLE SHUGG was presented with the Outstanding Achievement Award of the University of Minnesota, April 25, 1958.

University Libraries—MAXINE B. CLAPP served as president, Alumni Association, University of Minnesota Library School, 1957-58.

VERA M. CLAUSEN served as chairman, Dental School Libraries Group, Medical Library Association, 1957-58.

RALPH H. HOPP served as Minnesota representative for the Association of College and Reference Libraries, American Library Association, 1956-57; and member, Membership Committee, Minnesota Library Association, 1956-57.

BLANCHE E. MOEN served as member, Subscription Books Bulletin Committee, American Library Association, 1956-57.

JOHN PARKER served as member, Section on Rare Books, Manuscripts, and Special Collections, American Library Association; and member, Midwest Regional Advisory Board, Bibliographical Society of America.

JESSIE F. RICHARDSON served as secretary-treasurer, Reference Section, Minnesota Library Association, 1957-58.

ALMA O. SCOTT served as member, Sub-Committee of the Literature Committee, Minnesota Statehood Centennial Commission, 1957-58.

EDWARD B. STANFORD served as member, Citizens' Library Committee appointed by the Mayor to advise on the selection of a Chief Librarian for the St. Paul Public Library, 1956, and member, Examining Board to screen candidates for this position, St. Paul Civil Service Commission, 1958; member, Executive Board, Association of Research Libraries, 1956-57; chairman, University Libraries Section, Association of College and Reference Libraries, 1956; member, Committee on Russian Scientific Translations, Association of

Research Libraries, 1956-58; member, Committee on Minnesota Statehood Centennial, Minnesota Library Association, 1957-58.

ROBERT H. STUMM served as representative for World Affairs Center, Minnesota Library Association, 1957-58; and member, Library Committee, Minnesota Statehood Centennial Commission, 1957-58.

Department of Concerts and Lectures—JAMES S. LOMBARD continued as co-chairman, Upper Midwest Regional Auditions of the Air, 1956-58; served for the fourth time as Sovereign Grand Chaplain (World Chaplain), Independent Order of Odd Fellows, 1956; was adviser, Young Artists Contest, Women's Association of the Minneapolis Symphony Orchestra, 1957; chairman, Committee on the Arts, Minnesota Statehood Centennial Commission, 1956; member, Special Organizational Committee, Minneapolis Chamber of Commerce, 1957; and adviser to the Junior Chamber of Commerce's "Music Under the Stars" Summer Concert Series, 1957. He was charter member, Association of College and University Concert Managers, 1957; and president, Six O'Clock Club, Minneapolis, 1958. In 1957 he was chosen cultural representative by the Government of Israel and was the guest of the Foreign Ministry of that government to participate in the dedication of the Frederic Mann Auditorium in Tel Aviv; and again visited Norway and Sweden at the invitation of the Foreign Ministries of those countries.

Student Unions—DON L. FINLAYSON served as chairman, Youth Committee, Minnesota Statehood Centennial Association, 1957-58.

HANS E. HOPF was vice president, National Ski Association; and treasurer, Central United States Ski Association.

PAUL W. LARSON served as secretary-treasurer, Region 7, Association of College Unions, 1956-57; and received the All-University Congress Staff Award, 1957.

GORDON L. STARR served as chairman, Scholarship Committee, Minnesota Recreation Association; member, Minnesota Statehood Centennial Association; University representative, Ninth Annual and Tenth Annual Boys' State; and member, Trades and Industry Committee, United Hospital Fund, 1957-58.

Bureau of Institutional Research—MARY CORCORAN served as member, Research Staff, Governor's Committee on Higher Education, 1956; and member, representing Iowa, Minnesota, North and South Dakota, Membership Committee, American Educational Research Association, 1958.

JOHN E. STECKLEIN served as research consultant, Governor's Committee on Higher Education; invited contributor, *Encyclopedia of Educational Research*; chairman of section, Atlantic City Meeting, National Council on Measurements Used in Education; consultant, research project, U. S. Public Health Service; member, Committee for the Continuing Study of Higher Education, Association of Minnesota Colleges; and was selected for training in Leadership Training Program, North Central Association of Colleges and Secondary Schools. He was joint recipient of a research grant from the Cooperative Research Program, U. S. Office of Education.

Business Administration—LAURENCE R. LUNDEN served as secretary, Midwestern Universities Research Association, 1956-58; president, Hennepin County Tuberculosis Association, 1956-58; secretary, General Survey Committee, California and Western Conference Cost and Statistical Study, 1956-58; chairman, 1956-57, and consultant, 1958, Committee on Taxation and Fiscal Reporting to the Federal Government; member, The Committee on Institutional Research Policy, 1956-58, American Council on Education; member, Joint Committee of Business Officers, Association of Land-Grant Colleges and Universities and National Association of State Universities, 1956-58; and received the Distinguished Achievement Award in educational administration from the Trustees of Grinnell College, 1957.

WILLIAM T. MIDDLEBROOK was member, Governor's Self-Survey Committee on Civil Service Pay and Procedures; chairman, General Survey Committee, California-Western Conference Cost and Statistical Study, 1956-57; and was appointed by the International Cooperative Administration of the Federal Government to participate in a study of the University of the Philippines, Manila, 1958.

College of Science, Literature, and the Arts—ERNST C. ABBE served as chairman, Committee on Constitutional Revision, Minnesota Academy of Science; and received a research grant from the Louis W. and Maud Hill Family Foundation.

NORMAN E. ABELSON was elected member, Voice Committee, Music Teachers National Association.

JAMES ALIFERIS served as head of music for Educational Musical and Cultural Recordings Corporation, St. Paul, 1956-58; and Minneapolis adviser, International Society for Contemporary Music, 1956-58.

HAROLD B. ALLEN was named chairman, Committee on Improving Instruction in Freshman English, Conference on College Composition and Communication, 1956; second vice president, 1956, and chairman, Arrangements for the 1957 Meeting, National Council of Teachers of English; discussion leader, Conference 3, Convention of the American Dialect Society, 1957; and was awarded a Smith-Mundt grant by the Department of State and a supplementary grant by the Egyptian government to serve as linguistic consultant to the Egyptian Ministry of Education, 1958.

WILLIAM ANDERSON was appointed by the Governor as member, Task Force on State Functions and Intergovernmental Relations, Minnesota Self-Survey, 1956; and member, Governor's Committee on Ethics in Government, 1957-58. He was recipient of grant from the Ford Foundation, 1957, for post-retirement research project on *The History, Theory, and Practice of the Study of Politics*, 1957.

H. HARVARD ARNASON served as trustee, American Federation of Arts; member, Editorial Board, *Art in America*; and juror, American Exhibition of Paintings, Brussels' World Fair, 1958.

GLEN E. BAXTER served as member, Executive Council, Minnesota Section, Mathematical Association of America, 1957-58.

PHILIP A. BENSON was awarded the American-Scandinavian Foundation Fellowship, 1958.

DAVID K. BERNINGHAUSEN served as vice president, 1956-57, and president, 1957-58, Minnesota Library Association; member, Committee on Accreditation, American Library Association, 1956-58; and vice president and president-elect, 1958, Association of American Library Schools.

EDWARD BERRYMAN was director, Workshop, Arrowhead Chapter, American Guild of Organists, 1957.

JOHN BERRYMAN, during a tour of Central India sponsored by the State Department, 1957, was invited to read his own poetry at the Royal Asiatic Society in Calcutta, Gujerat University in Ahmedabad, etc.; and also read from his poetry at the Library of Congress, 1958.

EUGENE BLUESTEIN was awarded a Louis W. and Maud Hill Family Foundation Fellowship for the study of folk music, 1958.

FRED H. BLUM testified before the Subcommittee on Labor, Committee on Labor and Public Welfare, U. S. Senate, Washington, D. C., 1957; was chairman, Minnesota Chapter, 1957-58, and representative, North Central Area, 1958, Society for the Scientific Study of Religion; and received an action-research grant from the Friends Social Order Committee, Philadelphia Yearly Meeting, Society of Friends, 1957.

MORGAN BLUM served as judge, twenty-seventh annual poetry contest, Kokomo (Indiana) Poetry Circle, 1957.

MAY BRODBECK was awarded a Faculty Research Fellowship, Social Science Research Council, 1956-58; was a fellow, Air Force Behavioral Science Conference, University of New Mexico, 1957; and secretary-treasurer, Western Division, American Philosophical Association, 1956-57.

WERNER W. BOEHM served as director, National Curriculum Study, Council on Social Work Education, 1956-58.

JOHN R. BORCHERT served as consultant to: Social Studies Curriculum Revision Committee of the Minneapolis School System, Minneapolis Park Board Planning Staff, Minnesota State Highway Department, and St. Paul Planning Board; member, Committee on Climatology, National Research Council (Advisory to U.S. Quartermaster General, Environmental Research Laboratory); and member, Zoning and Land-Use Task Force, Minneapolis Capital Long-Range Improvements Committee.

JAN O. M. BROEK was chairman, Air Force ROTC Liaison Committee; and member, Program Committee for annual meeting, 1957, Association of American Geographers; and chairman, Economic Status Committee, University of Minnesota Chapter, American Association of University Professors. He was recipient of a grant from the Office of Naval Research.

ALLAN H. BROWN was panel member, Advisory Committee for Biology, Office of Naval Research; member, Molecular Biology Panel, National Science Foundation, 1957-58; member, Subcommittee for Plant Physiology, IXth International Botanical Congress; editor, *Plant Physiology*; and editor, Row Peterson Series of Biological Monographs. He received a research grant from the Office of Naval Research; and was awarded a Guggenheim Fellowship, Cambridge, England, 1956-57.

BRYNG BRYNGELSON served as fellow, American Medical Writer's Association.

J. WILLIAM BUCHTA served as chairman, Cooperative Committee on the Teaching of Science and Mathematics, American Association for the Advancement of Science; head, Institute Section, National Science Foundation; member, Board, and member, Executive Committee, American Institute of Physics; and was awarded the Oerstad Medal for 1957 by the American Association of Physics Teachers.

GEORGE S. BUSH was awarded Magazine Publishers Association Internship with *Look*, 1957; elected member, Kappa Tau Alpha (honorary journalism scholarship society), 1958; and was appointed coordinator, Short Course Committee, National Press Photographers Association, 1958.

RALPH D. CASEY served as president, American Association of Schools and Departments of Journalism 1956-57; and member, Committee of Consultants, Florida State Board of Control, to evaluate schools of journalism in the University of Florida and the Florida State University. He held a research grant from the International Press Institute, Zürich, Switzerland; and was awarded the Distinguished Service Medallion and Certificate in Journalism, University of Wisconsin, 1958. He delivered the annual Eric W. Allen Memorial Address in Journalism, University of Oregon, February 1958.

ARNOLD F. CASWELL was appointed chairman, Annual State Conference, Minnesota Music Educators' Association, 1956-58; province governor, Minnesota and Wisconsin Chapters, Phi Mu Alpha Sinfonia (Men's professional music fraternity); chairman, Research Committee, North Central Division, Music Educators' National Conference; and was director, high school choral festivals in Minnesota and Iowa communities.

MITCHELL V. CHARNLEY served as member, National Council on Radio-Television Journalism, 1956-57; second vice president, 1957, first vice president and president-elect, 1958, Association for Education in Journalism; member, Board of Directors, 1956, and vice president, 1957-58, Minnesota Association for Mental Health.

HAROLD W. CHASE was appointed by the Educational Testing Service to help in the construction of an examination for candidates in U.S. Foreign Service, 1956-58; served as political science editor, Scribner's *Publisher*, 1958; administrative officer, Landing Force Training Unit, 1956, and Naval Amphibious Base, 1957, Reserve Training, U.S. Marine Corps.

ASHER N. CHRISTENSEN continued as editor, "Government" section, *Handbook of Latin-American Studies*; was named by Governor Freeman to Commission on Legislative Reapportionment in Minnesota, 1957; and was contributing editor, section on "Latin America," *World Book Encyclopedia*, 1958.

KENNETH E. CLARK served as member, 1956-58, and chairman, 1956-57, Education and Training Board, and member, Policy and Planning Board, 1957-58, American Psychological Association; chairman, Advisory Research Board, National Merit Scholarship Corporation; consultant on Fellowship Selection Program, National Science Foundation, 1956; and was awarded a renewal of research contract, U.S. Navy, 1958.

MIRIAM COHN was elected president, Minnesota Conference on Social Work Education, 1957-58.

RUSSELL M. COOPER served as chairman, Committee on Liberal Arts Education, vice-chairman and secretary, Commission on Research and Service, member, Executive Committee, member, Public Relations Committee, member, Nominating Committee, and member, Editorial Board, North Central

Association of Colleges and Secondary Schools; was member, Executive Committee, and elected president, Association for Higher Education, National Education Association; member, Committee on Religion in State Universities, Religious Education Association; co-chairman, Minnesota Statehood Centennial Conference on College Teaching; and chairman, Minnesota delegation to St. Louis Conference, President's Commission on Education Beyond the High School.

A. ORVILLE DAHL was guest investigator at laboratory of Dr. Johannes Iverson, Copenhagen, Denmark, 1957-58; and received a research grant from the National Science Foundation.

NORMAN J. DEWITT served as president, 1956-57, and member, Executive Committee, 1957-58, Classical Association of the Middle West and South.

RAFAEL DRULIAN made recordings for Mercury Records Corporation; and was soloist with the Minneapolis Symphony Orchestra.

GUY DUCKWORTH served as director, *Music for Children*, Walker Art Center, Minneapolis, 1958; chairman, Materials Committee, 1956-58, and conductor, State Student Honor Concerts, 1957 and 1958, Minnesota Music Teachers Association.

MARVIN D. DUNNETTE served as member, Governor's Commission for Traffic Safety.

PAUL FETLER was commissioned by Civic Orchestra of Minneapolis to write Cantata, *Of Earth's Image*, 1958; commissioned by Ford Foundation and American Music Center to write *Contrasts for Orchestra*; and commissioned to write *Two Pieces for Modern Dance* by the Minneapolis Dance Trio, 1956.

WILLIAM W. FLETCHER was elected to Sigma Xi.

FLOYD O. FLOM served as member, Ethics in Government Committee, State of Minnesota, 1957-58; research consultant, Republican State Central Committee, 1957-58; consultant, Citizens Organized for Responsible Government, Minneapolis, 1957; and director, Minnesota Citizenship Clearing House, 1956-58.

MARGARET M. FORBES served as associate editor, *Classical Journal*, 1956-58.

JOHN FRASER served as editor, *The Graduate Student of English*, 1957-58.

ALBERT W. FRENKEL served as judge, scientific exhibits, Minnesota Junior Academy of Science, 1958. He was recipient of a research grant from National Science Foundation; and of a research fellowship grant from Kettering Foundation.

JOSEPH G. GALL served as chairman, Session, Sixteenth Growth Symposium, University of Rhode Island, 1957; was recipient of travel grant from the National Science Foundation to attend and participate in Symposium on Chromosome Structure, IX International Congress for Cell Biology, St. Andrews, Scotland, August-September, 1957; participant at UNESCO Symposium on problems of cellular and sub-cellular organization held in Edinburgh, Scotland, September 1957; and was elected member, Corporation, Marine Biological Laboratory, Woods Hole, Massachusetts. He attended the International Genetics Symposia, Tokyo and Kyoto, Japan, September 1956 with travel grant from the American Institute of Biological Sciences; and was recipient of research grants from National Science Foundation, 1957, 1958, and U.S. Public Health Service, 1957-58.

J. EDWARD GERALD served as member, Advisory Board, Program of Information on World Affairs, *Minneapolis Star*; member, Committee on Professional Freedom and Responsibility in Press and Radio, and chairman, Annual Meeting Symposium, Association for Education in Journalism.

NANCY M. GOLDBERG served as member, editorial staff, *Critique: Studies in Modern Fiction*, 1957-58.

SAMUEL S. GOLDICH served as program chairman, Annual Meeting, Geological Society of America and affiliated societies, November 1956; councilor, Mineralogical Society of America; and received research grants from National Science Foundation and the Geological Society of America.

KENNETH L. GRAHAM served as executive secretary-treasurer, 1956-58, member, Executive Board, 1956-58, and editor, *Directory*, 1957, American Educational Theatre Association; contributing editor, *Players Magazine*, 1956-57; critic-judge, District and Regional Speech Festivals, State High School League, 1956-57; director, Short Course in Creative Dramatics, St. Paul Council of Arts and Sciences and the Greater St. Paul Leisure Time Activities Council, 1957; conductor, Children's Theater Workshop, Flint, Michigan, for the Mott

Foundation Program, 1957; supervisor and coordinator, Young People's University Theater Program with Minneapolis Elementary Principals Committee and St. Paul Elementary School Supervisor, 1956-58; and supervisor, Creative Dramatics (after-school activity) in several Twin Cities grade schools, requested by Leisure-time Chairmen, Parent-Teacher Associations, 1956-58.

JOHN W. GRUNER was member, Fulbright Awards Committee, National Research Council, 1955-58; consultant to Raw Materials Division, Atomic Energy Commission, 1956-58; and invited speaker at Governor's First Resources Conference, Hibbing, Minnesota, November 1956.

ALRIK GUSTAFSON served as consultant, Nordic Cultural Commission, Copenhagen, Oslo, and Stockholm in planning a joint Scandinavian publication venture in English translations of major Scandinavian literary works; and was appointed associate bibliographer, Modern Language Association of America.

GEORGE S. HAGE was elected president, American Studies Association of Minnesota and the Dakotas, 1956-57.

JOHN W. HALL was editor, *Proceedings*, Minnesota Academy of Science; and received a research grant from National Science Foundation.

M. THEODORE HEINECKEN served as assistant editor, *The Graduate Student of English*, 1957-58.

ERNEST H. HENRIKSON served as member, Executive Council, American Speech and Hearing Association; member, Minnesota Committee on Speech Correction; chairman, Minnesota Committee on Temporary Certification for Speech Therapists; book review editor, *Journal of Speech and Hearing Disorders*; book review editor, *Journal of Speech and Hearing Research*; consultant, Aphasia Clinic, Veterans Administration, Minneapolis; and consultant in esophageal speech, Hennepin County Chapter, American Cancer Society.

WILLIAM T. HERON was treasurer, American Society of Clinical Hypnosis.

E. ADAMSON HOEBEL served as president, American Anthropological Association; member, Board of Directors, Social Science Research Council; member, Board of Directors, Association on American Indian Affairs; and member, Governor's Commission on Human Rights, State of Minnesota.

PAUL L. HOLMER served as member, Executive Board, Faculty Christian Fellowship, National Council of Churches, 1956-58; member, Editorial Board, *Christian Scholar*, 1957-58; treasurer, Board of Christian Higher Education, Augustana Lutheran Church of America, 1956-58; and was awarded the Philosophy of Religion Fellowships, Dayton Foundation and Sweatt Foundation, summers 1956, 1957, 1958. He held lectureships as follows: Lilly Foundation, 1958; Tingsted Memorial, St. Olaf College, 1957; and Knoles Lecturer, University of Wisconsin, 1958.

THEODORE HORNBERGER served as chairman, Judging Committee for the Distinguished Book Competition, Minnesota Statehood Centennial Commission; chairman, American Literature Group at the Modern Language Association Convention, 1956; and was elected to the Board of Editors, *American Literature*, 1957.

WILLIAM S. HOWELL served as speech adviser and critic judge, Minnesota State High School League; member, Legislative Assembly, and member, Committee on Honors and Awards, Speech Association of America; member, Advisory Committee, American Forensic Association; and received "Certificate of Recognition" from the Minneapolis Sales Executives organization for "contributions to the success of Minneapolis Sales Executives, 1957-58."

JAMES J. JENKINS was named faculty research fellow, 1956-58, and chairman, Committee on Linguistics and Psychology, 1956-58, Social Science Research Council.

DONALD N. JOBES served as editor, *The Graduate Student of English*, 1957-58.

O. ELDEN JOHNSON was director, pro tem, The Science Museum, St. Paul, Minnesota, 1957-58.

ROBERT L. JONES served as member, Council on Communications Research, Association for Education in Journalism; member, Research Committee, Sigma Delta Chi; member, Advisory Editorial Board, *Journalism Quarterly*; and held special research grants from the International Press Institute, Zürich, Switzerland, the Carnegie Endowment for International Peace, The Fund for the Republic, and the Minneapolis *Star and Tribune*.

GERHARD K. KALISCH was member, Advisory Committee on Science and Mathematics, State Board of Education; chairman, Minnesota High School Mathematics Contest (part of national contest); member, Executive Committee, Minnesota Section, and member, Board of Governors, Mathematics Association of America.

JOHN C. KIDNEIGH served as member-at-large, National Board, chairman, Committee on Personnel, and chairman, Committee on Structure and Function, National Association of Social Workers, 1956-58; member, Program Committee, National Conference on Social Welfare, 1956-58; chairman, Social Work Subcommittee of Training Committee, National Institute of Mental Health, 1956-58; special consultant, U. S. Children's Bureau, 1958; member, Commission on Accrediting, member, Advanced Curriculum Committee, and member, Teaching Materials Committee, Council on Social Work Education, 1956-58; and member, National Board, Unitarian Service Committee, 1956-58. He was recipient of a Special Award "for outstanding service to the profession" from the Southern Minnesota Chapter, National Association of Social Workers, 1958.

FRED L. KILDOW served as director, Minnesota High School Press Association; director, National Scholastic Press Association; and director, Associated Collegiate Press.

GISELA KONOPKA served as member, Executive Committee, Group Work Section, National Board, and member, Commission on Practice, National Association of Social Workers, 1956-58; member, National Board, National Conference on Social Welfare, 1958; consultant on Institutional Care, Minnesota State Department of Public Welfare, 1957-58; and chairman, Special Project on Delinquency, Hennepin County Community Chest and Council, 1956-57.

MURRAY KRIEGER served as secretary of English 11, Modern Language Association Convention, 1957.

IVAN J. KUBANIS was executive secretary, Governor's Study Commission on Agriculture, 1957-58.

JOSEPH J. KWIAK served as member and chairman, Advisory and Nominating Committee of Group IX (Literature and the Related Arts), 1956-57, and member, Annual Bibliography Committee, 1956-58, Modern Language Association of America; member, Committee on Cooperating Societies, American Studies Association, 1956-58; consultant, Fulbright Selection Board, Washington, D. C., 1956.

FRANK M. LASSMAN was consultant in acoustical audiology, Veterans Administration; consultant in Special Education for the Deaf, Department of Education, State of Minnesota; member, Professional Advisory Board, Minnesota Society for Crippled Children and Adults; and member, Board of Examiners for Advanced Certification in Professional Audiology, American Speech and Hearing Association.

DONALD B. LAWRENCE was awarded a Sigma Xi National Lectureship, 1957; and received a research grant from the Louis W. and Maud Hill Family Foundation.

JACOB C. LEVENSON received honorable mention in the Minnesota Centennial Distinguished Book Competition for *The Mind and Art of Henry Adams*, 1958.

WERNER LEVI was awarded a grant for research at Graduate Institute of International Studies, Geneva University, Geneva, Switzerland, 1956-58; and was awarded a prize for essay, Committee for Economic Development, June 1958.

GEORGE L. LEVINE served as editor, *The Graduate Student of English*, 1957-58.

JEROME LIEBLING exhibited 120 photo murals, "A Century of Minnesota Architecture," Minneapolis Institute of Art, March 1958; exhibited 50 photographs, New York State University, New Paltz, New York; prepared special photographic material for Centennial Issue, Minnesota State Legislative Manual, 1958; and was recipient of grant, New York State Research Council, January 1958.

GARDNER LINDZEY served as member, Publications Board, and member, Committee on Evaluation, American Psychological Association; was recipient of research grants from the Ford Foundation, Social Science Research Council, and the U.S. Public Health Service; and was awarded a fellowship, Foundations' Fund for Research in Psychiatry.

LLOYD H. LOFQUIST served as consultant, National Annual Guidance, Training and Placement Workshop, Office of Vocational Rehabilitation, Department of Health, Education, and Welfare, Washington, D. C.; editor, *Bulletin of Rehabilitation Counseling*, and member, Executive Council, Division of Rehabilitation Counseling, American Personnel and Guidance Association; member, Research Committee, Governor's Advisory Board on Vocational Rehabilitation; consultant on In-Service Training, Minnesota Division of Vocational Rehabilitation; member, Board of Directors, Minnesota Rehabilitation Association; and co-principal investigator on a 2-year research grant from Office of Vocational Rehabilitation.

WARREN S. LOUD served as chairman, Mathematics Section, Minnesota Academy of Science; chairman, Administration Subcommittee, and treasurer, Minnesota High School Mathematics Contest Committee.

ELEANOR B. LUCKEY was named member, Committee on Family Life, and member, Subcommittee on Marriage Counselor Training, 1958, National Council of Churches; and family counselor, Hennepin Avenue Methodist Church, Minneapolis, 1957-58.

WILLEM J. LUYTEN was recipient of research contract on "White Dwarfs" and travel grant to attend the meeting of the International Astronomical Union in Moscow, Office of Naval Research.

KENNETH MACCORQUONALE served as assistant editor, Century Psychology Series, Appleton-Century-Crofts, Inc; member, Publications Board, and member, Committee on Evaluation, American Psychological Association. He was the recipient of a research grant from the National Science Foundation.

THOMAS F. MAGNER received a Carnegie travel grant to Soviet Union and Eastern Europe, July and August 1956; and was elected vice president, American Association of Teachers of Slavic and East European Languages, 1957.

MARY MALCOLM was elected to Pi Kappa Lambda, 1958.

HERBERT MCCLOSKEY was awarded a one year fellowship, Center for Advanced Study in the Behavioral Sciences, Stanford, California, 1956; fellowship for research and writing, Rockefeller Foundation, 1957; and grant from the Social Science Research Council for research in political behavior, 1957.

ERRETT W. MCDIARMID served as member, Executive Committee, 1956-58, and chairman, Division of Arts and Sciences, 1957-58, American Association of Land-Grant Colleges and State Universities; member, Staff, Survey of Library Service for the Blind, American Foundation for the Blind, 1956-57; member, Board of Trustees, and member, Executive Committee, J. J. Hill Reference Library, St. Paul, 1956-57; and was elected president, 1956-57, and member, Executive Board, 1957-58, St. Anthony Park Library Association.

WILLIAM A. McDONALD was awarded a John Simon Guggenheim grant in May, 1958, for a year's research in Greece.

CHARLES H. MCLAUGHLIN served as University representative, Midwest Seminar on American Foreign Policy, Cranbrook School, Bloomfield Hills, Michigan, September 1956; moderator, Minnesota Foreign Policy Association series of weekly radio panels on foreign affairs, WCCO, 1957-58; member, Board of Directors, Minnesota United Nations Association, 1957; member, Planning Committee, and rapporteur, American Assembly's High School Residential Seminar on the Far East, March 1958.

PAUL E. MEEHL served as consultant in clinical psychology, Minnesota State Prison, Stillwater; and delivered the Gooch lecture at Yale University, January 1958.

LENNOX A. MILLS was invited to present a paper at Conference on Southern Asia, London School of Oriental and African Studies, 1956; and was recipient of a Guggenheim Fellowship to write a book on Malaya, 1957.

WILLIAM A. MINDAK was awarded research grant by the Educational Radio and Television Center, Ann Arbor, Michigan, 1957-58.

ELIO D. MONACHESI served as chairman, Correctional Advisory Committee, Minnesota State Department of Public Welfare, 1956-58; chairman, Study Committee, Glen Lake Home School for Boys, 1956-58; member, Executive Committee of the Juvenile Delinquency Committee, Community Welfare Council of Hennepin County, 1956-58; member, Board of Directors, Big Brothers, Inc., Minneapolis; member, Interview Panel, to screen candidates for the positions of Associate Warden and Prison Captain, February 1958, and member, Interview Panel to screen candidates for position of Correctional Program

Supervisor, April 1958, Minnesota State Civil Service Department; member, Committee on Correctional Institutions and Camps, Governor's Advisory Council on Children and Youth, 1957-58; member, Technical Panel for study of Minnesota Youth Conservation Commission, National Probation and Parole Association, 1958; and was elected president, Midwest Sociological Society, 1958.

SAMUEL H. MONK continued as member, Advisory Council of the English Department, Princeton University, 1956-58.

ROBERT E. MOORE was cited for outstanding performance in educational television, by the Minneapolis Citizens Committee on Public Education, 1958.

THOMAS MORLEY served as Minnesota representative and member, Board of Directors, Nature Conservancy.

MALCOLM H. MYERS was elected vice president, Twin Cities Chapter, 1957-58, and president, 1956-57, Artists' Equity Association; was recipient of purchase prize at Seattle Art Museum, 1958; and had work purchased for permanent collections by Museum of Modern Art and New York Public Library, 1958. He presented a one-man exhibition of painting and prints, Minneapolis Institute of Arts, 1958; and received award of honorable mention, Walker Biennial, Walker Art Center, 1958.

LOWRY NELSON served as member, Governor's Citizens Council on Aging, 1956-58; consultant for service in Brazil, International Cooperation Administration, Summer 1957; and member, Agricultural Committee, National Planning Association.

RAYMOND B. NIXON served as adviser on mass communications, U.S. Department of State and U.S. National Commission for UNESCO, 1958; vice president, International Association for Mass Communications Research, and attended its first meeting in Paris, France, May 1958; member, President's Committee on Employment of Physically Handicapped, and member, National Panel of Labor Arbitrators, American Arbitration Association; editor, *Journalism Quarterly*, and ex-officio member, Council on Communications Research, Association for Education in Journalism. He received a Ford Foundation grant for study of journalism education and research in Asia, the Middle East, and Europe, 1957.

RICHARD E. NORRIS was recipient of a research grant from the National Science Foundation.

PAUL M. OBERG served as executive secretary-treasurer, Minnesota Public School Music League, 1956-58; vice president, Region 4, and chairman, Committee on Improvement of Instruction, National Association of Schools of Music; member, Board of Directors, Minnesota Music Educators Association, 1956-57; member, Board of Directors, St. Paul Civic Opera Association; and chairman, Special Committee on Certification of Private Music Teachers set up by the Minnesota Commissioner of Education. He was elected to Pi Kappa Lambda.

WILLIAM VAN O'CONNOR served as advisory editor, *Critique: Studies in Modern Fiction*, 1957 and 1958; and as judge of scripts on a subject of interest to Minnesotans, Minnesota Statehood Centennial Commission, 1957.

JOHN M. H. OLMSTED was associate editor, *American Mathematical Monthly*, Mathematical Association of America.

DONALD G. PATERSON was member, 1956-58, and chairman, 1956-57, Walter VanDyke Bingham Lecture Committee, and chairman, 1957-58, Committee on Retired Psychologists, American Psychological Association; member and chairman, Candidate Review Committee, Citizens League of Minneapolis and Hennepin County, 1956-58; member, Board of Directors, Twin Cities Vocational Guidance Association, Inc., 1956-58; member, Board of Directors, Minnesota League for Human Genetics, 1956-58; member, Board of Directors, secretary, membership chairman, and editor, *Newsletter*, Minnesota Branch, American Civil Liberties Union, 1956-58; member, Executive Council and Executive Committee, Prospect Park and East River Road Improvement Association, Minneapolis, 1956-58; member-at-large, Citizens Committee on Public Education, 1956-58; and was elected commandant, American Legion, University Post 548, April 1958. He received an Award for Distinguished Service to Psychology presented by the Minnesota Psychological Association, May 1958.

RUBY B. PERNELL was awarded a Fulbright fellowship to the London School of Economics, 1957-58.

WAYNE PETERSON was elected to Pi Kappa Lambda, 1958; and was winner of Centennial Composition Contest, 1958.

MABEL K. POWERS was participant, Midwestern Conference on Womanpower, National Manpower Council, May 1958.

CONRAD C. REINING was awarded prize for paper read at the Central States Anthropological Society Meeting at Madison, May 1957; and was elected fellow, American Association for Advancement of Science, 1957.

JOHANNES RIEDEL was elected chairman, First National Conference, editor of pamphlet series, and chairman, Commission of Musicology, 1958, Lutheran Society for Worship, Music, and the Arts. He served as editor, Lutheran Brotherhood Choral Series, 1956; and consultant for exhibition of sacred music literature, World Lutheran Federation, Minneapolis, 1957.

THOMAS J. ROBERTS served as an editor, *The Graduate Student of English*, 1957-58.

VIRGINIA J. ROCK was participant in Conference 8, Modern Language Association Convention, 1956.

JOSEPHINE L. ROLLINS received the Donaldson Purchase Award for watercolor, and the Mutual Service Insurance Company's purchase award for casein, Walker Art Center Biennial, 1958.

JOHN ROOD was awarded a commission for "Pioneers in Progress" panels for the headquarters of the American Association of University Women, Washington, D. C., 1957.

ARNOLD M. ROSE served as member, Council of Aging, State of Minnesota; chairman, Committee on Relations with Sociologists in Other Countries, American Sociological Society; chairman, Constitution Committee, Midwest Sociological Society; alternate American delegate, and member, Teaching and Training Committee, International Sociological Association; chairman, Committee on Sociology and Social Work, and member, Executive Committee, Society for the Study of Social Problems.

EPHRAIM ROSEN was a Fulbright research scholar in Rome, Italy, 1956-57; and served as consultant, Division of Nursing Resources, U.S. Public Health Service, 1958.

MORDECAI M. ROSHWALD was awarded first prize in a national essay contest, United World Federalists, 1956.

H. ETTA SALOSHIN served as special consultant on therapeutic group work, Medical Services, U.S. Veterans Administration, 1956-58.

OTTO H. SCHMITT was elected vice president, Biophysical Society; program chairman, Symposium, sponsored by National Academy of Sciences, American Institute of Biological Sciences, and National Science Foundation, May 1958; chairman, Symposium on Biological Transducers, 1958, chairman, Animal Orientation Committee, and member, Space Biology Committee, American Institute of Biological Sciences; chairman, Subcommittee for 1958 National Meeting, Joint Council for Electronics in Medicine and Biology, American Institute of Electrical Engineers—Institute of Radio Engineers—Instrument Society of America; member, Steering Committee on the Use of Artificial Satellites in the Study of Life Sciences, National Academy of Sciences; member, Advisory Committee for Biology, Office of Naval Research; member, Board of Scientific Counsellors, National Institute for Arthritis and Metabolic Diseases, member, Cardiovascular Study Section, National Heart Institute, consultant, Biophysics and Biophysical Chemistry Study Section, and consultant on Electronic Computers in Medicine, National Institutes of Health; member, Board of Directors and delegate to Assembly, Basic Sciences Section, American Heart Association; consultant on Electronic Computers in Heart Research, U.S. Veterans Administration; member, Administrative Committee, Professional Group for Medical Electronics, and member, Administrative Committee, Professional Group on Ultrasonics Engineering, Institute of Radio Engineers; member, Technical Panel for the Earth Satellite Program, International Geophysical Year; consultant, Air Research and Development Command, U.S. Air Force; member, Editorial Board, *American Journal of Physiology* and *Journal of Applied Physiology*, American Physiological Society; member, Editorial Board, *Circulation Research*; member, Editorial Committee, *Proceedings*, Minnesota Academy of Science. He received

research grants from the Minnesota Heart Association, National Institutes of Health, and Office of Naval Research.

PAULINE SCHMOOKLER was awarded second prize for an original one-act play, "Golden Gravestone" by the Minnesota Statehood Centennial Commission.

HAROLD W. SCHNEIDER served as member, Editorial Staff, *Critique: Studies in Modern Fiction*, 1957-58.

ROY A. SCHUESSLER served as member, Board of Directors, Twin Cities Chapter, National Association of Teachers of Singing; member, Board of Directors, Twin Cities Music Educators Association; member, Policy Committee on Performance of "The Messiah," Lutheran Welfare Society; and vocal clinician for District and State Music Contests.

GEORGE M. SCHWARTZ served as councilor, 1956-57, and councilor, Division of Engineering Geology, 1957-58, Geological Society of America; president-elect, 1957-58, and president, 1958, Society of Economic Geologists; member, Board of Directors, 1958, and member, Glossary Revision Committee, American Geological Institute; chairman, Mineral Resources Panel, Governor's Second Statewide Resources Conference, 1958; chairman, Minnesota State Mapping Advisory Board, 1957-58; and member, Technical Sub-Committee, St. Paul Resources Research Committee.

LYNDELL N. SCOTT served as member, Commission on Accrediting, member, Advanced Curriculum Committee, and member, Casework Advisory Panel, National Curriculum Study, Council on Social Work Education, 1956-58; member, Training Committee, American Public Health Association, 1957-58; member, Board of Directors, Minnesota Childrens Home Society, 1957-58; member, Methodology Committee, Research Section, National Association of Social Workers, 1956-58; and consultant, Area Medical Services, U.S. Veterans Administration, 1956-57.

WILFRID S. SELLARS served as co-editor, *Philosophical Studies*.

VIRGINIA L. SENDERS was member, Governor's Commission for Traffic Safety.

LLOYD M. SHORT was awarded the honorary degree, Doctor of Laws, by Sioux Falls College and the annual Public Service Award by the Minnesota Chapter, American Society for Public Administration; served as general chairman, Conference on Education and Training, Administrative Careers in Local and State Government, 1957; member, Committee on Education and Training, American Society for Public Administration; member, Joint Committee on Training for Government Service, American Association of Land-Grant Colleges and State Universities—U.S. Department of Agriculture; and member, Committee on Forms and Structures, Citizens League of Minneapolis and Hennepin County.

MULFORD Q. SIBLEY served on Board of Editors, *Midwest Journal of Political Science*. He was Visiting Professor of Political Science at Stanford University, 1957-58.

JOHN C. SIM served as director, Minnesota Chapter, Sigma Delta Chi, 1957-58; judge, Northern States Circulation Managers Awards, 1957 and 1958; member, Examination Board, Department for Informational Writer II, Minnesota State High School League, 1958; and judge, Minnesota State High School Press Association contests, 1957 and 1958.

WESLEY C. SIMONTON served as secretary-treasurer, Cataloging and Classification Section, Resources and Technical Services Division, 1957-58, and member, Committee on Accreditation, 1956-58, American Library Association.

DONALD K. SMITH was president-elect, Central States Speech Association; member, Language Arts Committee, State Board of Education; judge, Minnesota State High School League; and was elected representative from the Central States Region to the Legislative Assembly, Speech Association of America, 1958.

ROBERT F. SPENCER served as consultant in Mental Health, Veterans Administration, Fort Snelling; member, Committee on the American Indian, and member, Governor's Human Rights Commission; and consultant in race relations, Evangelical Lutheran Conference. He was elected fellow, American Association for the Advancement of Science.

GALE L. SPERRY served as manager, East Central State Regional Music Contest; guest conductor, Big Nine Music Festival (Band); and Minnesota chairman, College Band Directors National Association, 1956-57.

NELSON T. SPRATT was elected assistant director, Division of Embryology, National Science Foundation, 1957-58.

G. ROBERT STANGE served as member, Program Committee of English 10, Modern Language Association Conventions, 1956 and 1957; and member, Regional Committee for Selection of Woodrow Wilson Fellows, 1957-58.

CLARK D. STARR served as member, Executive Council, chairman, Committee on State Legislation, and was elected president, 1958, Minnesota Speech and Hearing Association; member, Minnesota Citizens' Committee on Public Education; appointed by State Director of Special Education as member, Committee on Evaluation of state program for the education of children with hearing problems; and was recipient of grant from the National Society for Crippled Children.

GROVER C. STEPHENS was awarded a travel grant from the National Science Foundation to attend the Sixth International Congress, Society for Biological Rhythm, in Semmering, Austria, August 1957; and a travel grant from American Institute of Biological Sciences to participate in a symposium at the Institute of Radio Engineers' meetings, New York, March 1958.

MALCOLM B. STINSON served as special consultant to Lucknow University, India, and as team member, Social Work Education Project in India, Council on Social Work Education, 1956-58.

FREDERICK M. SWAIN was chairman, Annual Convention Committee, Geological Society of America, 1956; staff geologist, the Pennsylvania Railroad, 1957; secretary-treasurer, Twin City Geologists, 1958. He received a research grant from the National Science Foundation, 1957-58.

ALLEN TATE received honorary doctorates from Coe College, 1956, and Colgate University, 1957; and the Christian Culture Award Gold Medal for 1958, from the Assumption University of Windsor (Canada). He served as first Visiting Professor of English of the Eli Lilly Foundation, Hanover College, Hanover, Indiana, 1958; director, International Seminar in the Humanities, Harvard University, summer 1956; lecturer under the auspices of the U.S. Department of State in India, Italy, France, and England, autumn 1956; was appointed permanent senior fellow, Indiana University School of Letters, 1957; and was member, Advisory Board of *Confluence*, 1956.

D. BURNHAM TERRELL was awarded a research grant from the Azzano Foundation.

GEORGE A. THIEL was recipient of the Neil A. Miner Award presented by the American Association of Geology Teachers, with designation as the Outstanding Geology Teacher of the Year, 1958; was member, Mineral Resources Panel for the Governor's Second Statewide Resources Conference, 1958; and was elected president, Minnesota Chapter, The Society of Sigma Xi.

DONALD R. TORBERT served as member, Committee for preservation and restoration of Louis Sullivan designed bank in Owatonna, Minnesota State Art Society, 1956-58; and was named honorary member, Minnesota Society of Architects, American Institute of Architects, 1956.

JOHN E. TURNER conducted a Social Science Workshop at Adams State College, Colorado, June 1958.

LEONARD H. UNGER was Fulbright lecturer in American Literature at the University of Rome, 1957-58.

GEORGE B. VOLD served on State Civil Service Examining Board to qualify candidates for Parole Agent II positions, 1956; member, representing Midwest Sociological Society, Council, American Sociological Society, 1957-58; delegate representing International Society of Criminology at 10th Anniversary Commemorative Assembly and 11th Annual Assembly, World Health Organization, 1958.

GEORGE A. WARP was a participant in planning, organizing, and staging of Department Managers' Development Conference, Twin Cities area; participant, Management Workshop, U.S. Department of Agriculture; and director, Korean Program in Public Administration at Seoul National University under the University's contract with the International Cooperation Administration.

BERNHARD D. WEISER served as member, Diploma Examining Board, University of Manitoba, Winnipeg, 1957; soloist, World Premier, Eugene Gutsch's

"Concerto for Piano" with University Summer Symphony Orchestra; soloist, Minneapolis Symphony Orchestra, 1956; and was engaged to play a solo program for the Canadian Broadcasting Corporation.

FRANK M. WHITING served as president, 1956-57, and chairman, Committee on Overseas Touring, 1957-58, American Educational Theatre Association; directed, accompanied, and managed three overseas tours: summer 1957, "A Midsummer Night's Dream" to Germany and France, and winter 1958, "I Remember Mama" to Korea, Japan, and Okinawa, for U.S. Department of Defense; and autumn 1957, "Our Town" and "A Midsummer Night's Dream" to Brazil for the U.S. State Department.

HAROLD W. WILSON was consultant in design and typographic revision, *Minnesota Welfare*, published by Minnesota Department of Public Welfare; member, Advisory Board, *Gopher Historian*, published by Minnesota State Historical Society; and business manager, *Journalism Quarterly*.

ROBERT D. WIRT served as chairman, Advisory Committee on Special Education, Minnesota State Department of Education; member, Research Advisory Committee, Minnesota State Prison and Parole Board; research adviser, St. Paul Workhouse; and chairman, Advisory Committee on Juvenile Crime Control, Elliot Park Neighborhood House, Minneapolis.

HERBERT E. WRIGHT was secretary, Geomorphology Group, 1957-58, and leader and associate editor of guidebook, *Field Excursion*, 1957, and official delegate to International Congress for Quarternary Research, Madrid, 1957, Geological Society of America; member, Minnesota Water Resources Board, 1957; and president, Minnesota Chapter, Archaeological Institute of America. He received research grants from Louis W. and Maud Hill Family Foundation, National Science Foundation, and Geological Society of America.

JOYCE R. ZASTROW was recipient of a Tanglewood Scholarship (choral department), 1957.

Institute of Technology—JOHN D. AKERMAN served as chairman, Scientific Advisory Board for Federal Selective Service, State of Minnesota, 1956-58; member, State Safety Committee, 1956-58; member, Planning Committee, Aeronautics Section, American Society for Engineering Education, 1956-58; received Citation as Distinguished Alumnus from the College of Engineering, University of Michigan, in recognition of his outstanding achievement and his contributions to the development of the field of engineering, 1957; and was awarded an Honorary Diploma for "Outstanding Scientific Accomplishments in International Aeronautical Sciences," by the Latvian Cultural Fund in the United States of America, 1957.

NEAL R. AMUNDSON was American editor, *Chemical Engineering Science*; and chairman, Kinetics and Rate Processes Subcommittee, Program Committee, American Institute of Chemical Engineers.

PAUL ANDERSEN was recipient of research grant from the American Institute of Steel Construction, 1957.

ALVIN G. ANDERSON served as chairman, Committee on Sedimentation, Hydraulics Division, American Society of Civil Engineers; member, Committee on Applied Hydraulics, Civil Engineering Division, American Society for Engineering Education; and member, North Central Regional Committee, American Geophysical Union.

DONALD E. ANDERSON was elected to membership in Sigma Xi, 1958.

GUST BRTSIANES served as member, Committee on the Physical Chemistry of Steelmaking, Metallurgical Society, American Institute of Mining and Metallurgical Engineers, 1957-58.

ROBERT L. BLISS was associate architect, Solar House Competition, Scottsdale, Arizona; architectural member of the Board, Minnesota State Art Society; coordinator, State Board of Registration Examinations; and member, Planning Commission, Shorewood Village, Excelsior, Minnesota.

ROBERT C. BRASTED continued as editor, Series, *Comprehensive Inorganic Chemistry*; member, Evaluation Panel, Institute Programs, National Science Foundation; and consultant, Olin Mathieson Chemical Corporation, 1956-58, General Mills Research Laboratories, and Operations Research Office, Johns Hopkins University, 1956-58. He delivered the Sigma Xi Lecture at Southern Illinois University and the Arthur Lee Haines Lecture at the University of South Dakota, 1958.

J. DOYLE BRITTON was awarded a grant by Research Corporation, 1957-58.

WILLIAM F. BROWN, JR. served as chairman, Session on Small Particles and Permanent Magnets, Washington, D. C., 1957, and member, Program Committee, Conference on Magnetism and Magnetic Materials, 1958, American Institute of Electrical Engineering; and was awarded research grants by the National Science Foundation, 1958, and the U. S. Air Force, 1957-58.

PAUL W. BULLEN served as member, Planning Commission, 1956-58, and chairman, Park Board, 1956-58, Village of Brooklyn Center.

Eugenio Calabi was joint recipient of research grant from the National Science Foundation, 1956.

PAUL A. CARTWRIGHT served as vice-chairman, 1956, and chairman, 1957, North Midwest Section, American Society for Engineering Education.

W. BROOKS CAVIN served as president, Minnesota Chapter, American Institute of Architects; and chairman, Committee on Visual Arts and Architecture, Minnesota Statehood Centennial Commission.

NORMAN H. CEAGLSKE was named alternate delegate to the American Automatic Control Council (a division of the International Federation of Automatic Control), member, Program Committee, and member, Education Subcommittee of the Process Control Division, American Institute of Chemical Engineers, 1957-58.

ROBERT G. CERNY was member, Board of Directors, chairman, Lower Loop Committee, and chairman, Redevelopment Committee, Minneapolis Chamber of Commerce; member, Board, Minneapolis Chapter, American Institute of Architects; executive secretary, Civic Center Development Association; member, Board of Directors, Downtown Council of Minneapolis; member, Board of Directors, National Council of Christians and Jews (local); and member, Board of Directors, Mental Health Association, Minneapolis.

CHIEH-CHIEN CHANG served as consultant, Air Force Command, Office of Scientific Research, Air Research Development Command, U. S. Air Force; consultant, Los Alamos Scientific Laboratory, University of California, Los Alamos, New Mexico; president and founder, American Rocket Society, 1956-58; and received research grants from the U. S. Air Force.

WARREN B. CHESTON was awarded a Fulbright fellowship at the Institute for Theoretical Physics, University of Utrecht, 1958.

WINSTON A. CLOSE was elected president, Minneapolis Chapter, American Institute of Architects; and president, Association of University Architects.

STRATHMORE R. B. COOKE served as principal investigator, Utilization of Derivatives from Fish Oils in Ore Flotation, Fish and Wildlife Service, U. S. Department of the Interior, 1956-58; member, Papers and Publications Committee, and member, Education Committee, Minerals Beneficiation Division, American Institute of Mining and Metallurgical Engineers, 1958. He delivered the Richard's Lecture in Mineral Engineering to the Northeast Section, American Institute of Mining and Metallurgical Engineers, 1958.

BRYCE L. CRAWFORD, JR. served as member, Executive Committee, Division of Chemical Physics, American Physical Society, 1956-57; member, Editorial Board, *Annual Review of Physical Chemistry*, 1956-57; chairman, Committee on Molecular Spectra and Molecular Structure, Division of Chemistry and Chemical Technology, National Research Council; secretary, Commission on Molecular Spectroscopy, and member, Commission on Optical Data, International Union of Pure and Applied Chemistry; member, Executive Board, The Coblenz Society; member, Visiting Committee in Chemistry, Brookhaven National Laboratory; member, Visiting Committee in Chemistry, Oak Ridge National Laboratory; and member, Committee on the Gordon Conference on Infrared Spectroscopy. He was awarded research grants by the Bureau of Ordnance, U. S. Navy; Office of Ordnance Research, U. S. Army; and a grant-in-aid, E. I. du Pont de Nemours Co.

ADRIANUS J. DEKKER was awarded a single-quarter leave, 1956, and was recipient of a Guggenheim Fellowship, 1958, for study at the University of Leiden, The Netherlands. He was elected fellow, American Physical Society, 1957; and served as co-chairman, Colloquium on Secondary Electron Emission (Minneapolis) in cooperation with Electronic Components Laboratory, Wright Air Development Center, Ohio, 1958.

ERNST R. G. ECKERT served as member, Advisory Council, Mechanical Engineering Department, Princeton University, 1956-58; consultant, Office of

Scientific Research, U. S. Air Force, and National Advisory Committee for Aeronautics, 1956-58; and received a research grant from the National Science Foundation, 1958.

ROBERT M. EISBERG held a Harwell Fellowship at the Cavendish Laboratory, Cambridge, England, 1956-57.

CHARLES FAIRHURST was recipient of the Sam Mavor Award from the Institution of Mining Engineers, Great Britain, 1956; and served as consultant to the Minnesota State Tax Commission, 1956-58.

JESSE E. FANT was elected president, Northwestern Section, American Society of Civil Engineers, 1957; and served as director, Summer Surveying Camp, Minnesota Highway Department, 1957.

STUART W. FENTON was awarded a research fellowship in chemistry, Alfred P. Sloan Foundation, 1958.

LAWRENCE E. GOODMAN served as member, Editorial Board, *Journal of Applied Mechanics*, American Society of Mechanical Engineers, 1956-57.

LEON W. GREEN received a grant from the Swiss-American Foundation for Scientific Exchange, for research and study at the Federal Institute of Technology in Zürich, Switzerland, 1956-57; and was joint recipient of a research grant from the National Science Foundation, 1956.

BERNARD V. HAXBY was elected to membership in Sigma Xi, 1958; and served as co-chairman and organizer, Colloquium on Secondary Electron Emission (Minneapolis) in cooperation with Electronic Components Laboratory, Wright Air Development Center, Ohio, 1958.

HELMUT G. HEINRICH received the Aeronaut Leo Stevens Award of 1957 for significant contributions to aerodynamic retardation.

RUDOLF HERMANN received research grants from the U. S. Air Force and from industries; was member, Advisory Board, 1957-58, Institute of Aeronautical Sciences; and chairman, Twin City Institute of the Aeronautical Sciences, 1956.

EDWARD L. HILL was elected member, Commission IV, International Scientific Radio Union, 1957-58; and member, Staff of Reviewers for *Mathematical Reviews*, 1956-58.

NORTON M. HINTZ was elected a fellow, American Physical Society, 1957.

WARREN E. IBELE was elected member, Standing Committee on Thermal-Physical Properties, American Society of Mechanical Engineers, 1957; honorary member, Pi Tau Sigma (Mechanical Engineering Society); and consultant, Pratt and Whitney Division, United Aircraft Corporation, 1956-57.

THOMAS F. IRVINE, JR. served as president, Twin City Section, American Rocket Society, 1958; chairman, Subcommittee on Rocket Heat Transfer, 1958, and member, Heat Transfer and Biotechnical Committee, 1958, American Society of Mechanical Engineers; member, Ramsey County Library Board, 1956-58; and was elected to membership in Sigma Xi, 1957.

HERBERT S. ISBIN served as chairman, Nuclear Engineering Division, 1957, member, Executive Committee, 1956-58, and chairman, Program Committee, Division of Interest 8, 1956-57, American Institute of Chemical Engineers; secretary, Nuclear Committee, 1957-58, and chairman, Chemical Engineering Division, Midwest Section, 1957, American Society for Engineering Education; member, Governor's Committee on Atomic Energy Development Problems, 1956-58; University representative on Minnesota Nuclear Operations Group, 1956-58; and coordinator, Grants for Teaching and Demonstration Aids in Nuclear Engineering Education, Atomic Energy Commission, 1956-58.

OTTO H. JOHNSON was awarded contract, Air Force Office of Scientific Research, 1956-57.

LAWRENCE H. JOHNSTON served as member, Technical Planning Group, Midwestern Universities Research Association, 1956-58; and member, Special Advisory Committee on facilities to be constructed in connection with new large accelerator, Argonne National Laboratory, 1958.

THOMAS L. JOHNSTON was associated in research project, Office of Naval Research, 1956.

RICHARD C. JORDAN served as member, Executive Committee, and member, Division of Engineering and Industrial Research, 1956-58, member, Special Advisory Committee to Building Research Advisory Board, 1958, chairman, 1956-58, and delegate to the International Institute in Paris, France, 1958, U. S. National Committee for the International Institute of Refrigeration, National

Academy of Sciences—National Research Council; member, and vice-chairman, Committee on Research, 1956-58, chairman, Technical Advisory Committee on Solar Energy Utilization, 1956-58, vice-chairman, Technical Advisory Committee on Heat Flow Through Fenestration, 1956-58, vice-chairman, Technical Advisory Committee on Cooling Loads, 1956-57, and member, Technical Advisory Committee on Heat Pumps, 1956-58, American Society of Heating and Air Conditioning Engineers; member, Council, 1956-57, chairman, International Affairs Committee, 1956-58, member, Professional Development Committee, and member, Awards Committee, 1956-58, American Society of Refrigerating Engineers; honorary chairman, Joint National Meeting, American Society of Heating and Air Conditioning Engineers—American Society of Refrigerating Engineers, 1958; and was elected president, Minnesota Chapter, American Society of Engineering Education, 1956-57. He received research grants from the National Science Foundation, 1956-58, the American Society of Heating and Air Conditioning Engineers, 1956-58, The Refrigeration Research Foundation, 1956-58, the American Society of Refrigerating Engineers, 1956-58, and the U. S. Public Health Service, 1956-58.

THOMAS L. JOSEPH received a testimonial scroll from the Blast Furnace and Coke Oven Associations of the Pittsburgh and Chicago Districts, in recognition of his experimental studies and research, 1957; and served as technical adviser, Materials Advisory Board, National Research Council, 1957-58.

PAUL J. KELLOGG served as director, IGY World Data Center A, Cosmic Ray Archives, 1956-58.

MILES S. KERSTEN was appointed member, National Road Test Advisory Committee, American Association of State Highway Officials; and chairman, Flexible Pavement Design Committee, Highway Research Board, National Research Council.

IZAAK M. KOLTHOFF was elected member, National Academy of Sciences, 1958. He served as chairman, Analytical Chemistry Committee, member, Committee on International Union of Chemistry, and member, Fulbright Screening Committee, National Research Council; president, and vice president, 1957-58, Analytical Section, and vice president, 1956-57, International Union of Pure and Applied Chemistry; associate editor, Series, Chemical Analysis, and Series, Organic Analysis, *Journal of the American Chemical Society*; and received research grants from the Air Force Office of Scientific Research, Louis W. and Maud Hill Family Foundation, National Science Foundation, Office of Ordnance Research—U. S. Army, Research Corporation, and U. S. Public Health Service.

WASHINGTON D. LACABANNE served as consultant to the Minnesota State Tax Commission, 1956-58.

ROBERT F. LAMBERT was awarded research grants by the National Science Foundation, 1957, and the U. S. Air Force, 1958.

WALTER M. LAUER was awarded an Atomic Energy Commission grant, 1956.

BENJAMIN J. LAZAN served as vice president, and member, Editorial Board, Society for Experimental Stress Analysis; and member, Executive Committee on Fatigue of Metals, American Society for Testing Materials.

ADOLPH O. LEE was vice-chairman, Capital Chapter, Minnesota Society of Professional Engineers, 1957-58.

WILLIAM N. LIPSCOMB, JR. served as member, U. S. National Committee for Crystallography; member, Fellowship Committee, National Science Foundation; and holds research grants from the National Science Foundation, the Office of Naval Research, the Office of Ordnance Research, the Air Force Office of Scientific Research, and the Upjohn Company.

ROBERT S. LIVINGSTON was invited to present a paper at the 8th Annual Meeting of the Société de Chimie Physique in Paris, France, June 1958.

RUFUS L. LUMRY was recipient of research grants from the Louis W. and Maud Hill Family Foundation, the National Science Foundation, and the Office of Naval Research.

JAMES L. LUNDY served as contributing editor, *The Engineering Economist*, American Society for Engineering Education, 1957; was elected president, Minnesota Society of Industrial Engineers, 1958; and was recipient of a Ford Foundation Doctoral Dissertation Fellowship, 1956-57.

RICHARD H. LYON was joint recipient of a research grant from the U. S. Air Force, 1958.

ARTHUR J. MADDEN was awarded a Guggenheim Fellowship, 1956-57; and served as vice-chairman, 1957, and chairman, 1958, Twin Cities Section, and member, National Program Committee, 1958, American Institute of Chemical Engineers.

GAYLE W. McELRATH served as associate editor, *The Engineering Economist*, American Society for Engineering Education, 1956; national director, American Society for Quality Control, 1957-58; and as expert, Ordnance Management Engineering Training Agency, Department of the Army, Rock Island, Illinois, 1957-58.

ARTHUR N. MILGRAM was joint holder of research grant from the Office of Naval Research, 1956-58.

HAROLD M. MOONEY was principal investigator, Origin of Natural Potentials in Sulphide Ores, Atomic Energy Commission, 1956-58; chairman, Publications Committee, Geophysical Subdivision, and member, Executive Board, Geology, Mining and Geophysics Division, American Institute of Mining and Metallurgical Engineers, 1956-58; and member, Peele Award Committee, 1956-58.

ALLAN H. MORRISH was awarded a Guggenheim Fellowship for study at Oxford University, England, 1957; and the continuation of a research grant by the U. S. Air Force, 1957.

THOMAS E. MURPHY was elected secretary, Twin City Section, American Rocket Society, 1957-58.

EDWARD P. NEY served as member, Technical Panel on Cosmic Rays, U. S. Program for the International Geophysical Year, 1956-58; chairman, Stratolab System Advisory Panel, 1956-58, principal investigator, Cosmic Ray Program, Contract Nonr-710 (19), 1956-58, and co-principal investigator, Atmospheric Physics Program, Contract Nonr-710 (22), 1956-58, Office of Naval Research.

MORRIS E. NICHOLSON served as chairman, Program Committee, 1956-57, member, Committee on Scope, 1957-58, chairman, Program Policy Committee, 1957-58, and member, Committee on Metal Fabrication, 1957-58, Metallurgical Society for the American Institute of Mining and Metallurgical Engineers; chairman, Educational Lecture Series, chairman, Committee on Arrangements for Visiting Lectureship, and vice-chairman, Minnesota Chapter, 1957-58, and member, Committee on Educational Statistics (national), American Society for Metals. He directed research for the Atomic Energy Commission, 1956-58.

ALFRED O. C. NIER served as member, Council, American Physical Society, 1956-58; member, Advisory Committee for Mathematical, Physical and Engineering Sciences, National Science Foundation, 1956-58; member, Advisory Committee, Stable Isotope Production Division, Oak Ridge National Laboratory, 1956-57; member, Subcommittee for Nuclear Geophysics, 1956-58, and member, Subcommittee for Nuclear Constants, 1956-57, National Research Council; member, Advisory Committee for Department of Physics, Princeton University, 1956-58; chairman, Technical Advisory Committee, Panel on Atomic and Radiation Physics, National Bureau of Standards, 1956-58; member, Advisory Committee to Physics Division, Argonne National Laboratory, 1958; member, Board of Trustees, Science Museum, City of St. Paul, 1956-58; member, Governor's Advisory Committee on Atomic Development Problems, 1957-58; chairman, Advisory Committee on Science Education, State Board of Education, 1957-58; and was awarded the Day Medal of the American Geological Society, 1957.

EDWIN NORBECK, JR. was awarded the James M. Yard Brotherhood Award for the City of Chicago, National Conference of Christians and Jews, 1956.

WAYLAND E. NOLAND was awarded a Research Corporation grant, 1956.

WILLIAM E. PARHAM was awarded research grant, Office of Ordnance Research, 1957; was elected honorary member, Phi Beta Kappa; and served as member, Canvassing Committee, divisional councilor, 1956-57, chairman, Divisional Officers Group, 1956-57, and secretary-treasurer, 1956-58, American Chemical Society.

LYLE P. PEDERSON served as instructor, Summer Surveying Camp, Minnesota Highway Department, 1957.

EUGENE P. PFLEIDER was co-editor, *Sixth Annual Drilling and Blasting Symposium*, 1956, co-editor, *Seventeenth Annual Mining Symposium*, 1957,

and co-editor, *Seventh Annual Exploration Drilling Symposium*, 1957, University of Minnesota Center for Continuation Study; chairman, Education Committee, Society of Mining Engineers, American Institute of Mining and Metallurgical Engineers, 1956-57; member, Committee on Raw Materials, Materials Advisory Board, National Academy of Sciences, 1957-58; member, Inspection Committee for Mining Engineering, 1957-58; and member, Student Development Committee, Engineers Council for Professional Development, 1957-58.

EDGAR L. PIRET was named Chevalier de la Legion d'Honneur, France, 1958. He served as editor, *Chemical Engineering Around the World*, 50th Anniversary Volume, American Institute of Chemical Engineers; director, Project on Chemical Products from Peat, Iron Range Resources and Rehabilitation Commission, and member, Peat Exchange Mission to the USSR, Iron Range Resources and Rehabilitation Commission, State of Minnesota, and U. S. State Department; member, Editorial Advisory Boards, *Journal of American Institute of Chemical Engineers* and *Chemical Engineering Progress*; consultant, Mechanics Division, Naval Research Laboratory, Washington, D. C.; member, International Relations Committee, Engineers Joint Council; member, Symposium Committee, Industrial and Engineering Division, American Chemical Society; and member, National Program Committee, American Institute of Chemical Engineers. He was awarded research grants by the National Science Foundation.

STEPHEN PRAGER was awarded a Fulbright Scholarship and a Guggenheim Fellowship, 1958; and received a Research Corporation grant, 1957.

RALPH E. RAPSON was appointed chairman, Editorial Board, *Northwest Architect*; member, National Awards Committee, American Institute of Architects; secretary, Minneapolis Planning Commission; member, Board of Directors, Walker Art Center; and member, Committee on Visual Arts and Architecture, Minnesota Statehood Centennial Commission. He was one of a group of architects and planners selected to visit West Germany at the request of the West German Government.

WARREN L. REYNOLDS was awarded a grant by the Atomic Energy Commission, 1958.

JOHN F. RIPKEN was member, Committee on Hydromechanics, American Society of Civil Engineers.

PAUL C. ROSENBLOOM was Visiting Professor of Mathematics, Harvard University, 1956-57; was appointed member-at-large, Council of the American Mathematical Society, January, 1958; and held (jointly) a research grant from the Office of Naval Research, 1956-58.

JAMES J. RYAN served as chairman, Governor's Committee on Automotive Safety, 1956-58; national director, National Society of Professional Engineers, representing the Minnesota Society of Professional Engineers, 1956-58; director, Minnesota Section, American Society of Mechanical Engineers, 1957-58; vice president, 1956-57, and director, 1957-58, Minnesota Federation of Engineering Societies; elected fellow, American Association for the Advancement of Science, 1956; and was recipient of research grant from Air Force Missile Development Center, Aero Medical Laboratory, Holloman Air Force Base, New Mexico, 1956-58.

ERNEST B. SANDELL was named fellow, Geological Society of America, 1958; and served as contributing editor, *Microchemical Journal*, 1957.

GEORGE J. SCHROEPPER was named chairman, Constitution Committee, was awarded the Harrison Prescott Eddy Medal for outstanding research, and the Arthur S. Bedell Award for outstanding service in the field of sanitary engineering, Federation of Sewage and Industrial Wastes Associations, 1956-57; and received the George W. Fuller Award for leadership in the profession, American Water Works Association, 1958. He served as member, Advisory Board on Sanitary Engineering Research, Robert Taft Sanitary Engineering Center, Cincinnati, Ohio, 1956-58; member, Study Section on Sanitary Engineering and Environmental Health, U. S. Public Health Service, 1958; and advisory consultant on the sewage and industrial waste problem, City of Rio de Janeiro, Brazil, at the request of the International Cooperation Administration.

L. ALBERT SCIPIO was elected to the Academy of Sciences, New York, 1957; and received a research grant from the U. S. Air Force, 1958.

DEZSO D. SEKELY was coordinator, Design Research Team in Industrial Arts and Engineering, which received grant from the Ford Motor Company for preparation and publication of work on design research for Industrial Arts teachers.

JAMES B. SERRIN, JR. served as member, Editorial Board, *Journal of Mathematics and Mechanics*, 1958; and was recipient of a research grant from the Office of Scientific Research, U. S. Air Force, 1956-58.

WILLIAM G. SHEPHERD served as chairman, Colloquium on Secondary Electron Emission (Minneapolis), in cooperation with Electronic Components Laboratory, Wright Air Development Center, Ohio, 1958; chairman, U. S. Commission 7, 1956, and president, International Commission VII, 1957, International Scientific Radio Union; chairman, All-University Committee on Computer and Tabulating Facilities, University of Minnesota (instrumental in arranging for financing and acquiring major computer installation), 1957; member, Advisory Group on Electron Tubes, U. S. Department of Defense, 1958; member, Administrative Committee, Institute of Radio Engineers—Professional Group on Electron Devices, 1956; member, Editorial Board, Committee on Electron Tubes, Institute of Radio Engineers, 1956; and member, Honorary Advisory Board, Pergamon Institute, 1957. He was awarded continuation of research contracts by the U. S. Bureau of Ships and by the U. S. Air Force, 1956.

EDWARD SILBERMAN was elected to Sigma Xi, 1957. He served as member, Fluid Dynamics Committee, Engineering Mechanics Division, 1957-58, and member, Task Force on Friction Factors in Open Channels, Hydraulics Division, 1957-58, American Society of Civil Engineers.

JOHN M. SIVERTSEN was awarded a special research grant, Office of Naval Research, 1958; and was elected to membership, British Institute of Metals.

ATHELSTAN F. SPILHAUS served as United States representative, Executive Board of UNESCO, 1956-58, and as member, U. S. National Commission for UNESCO, 1956-58; chairman, Advisory Panel on General Sciences to Assistant Secretary of Defense (Research and Engineering), 1956-58; member, Research and Development Advisory Council, Army Signal Corps, 1956-58; member, Scientific Advisory Board, 1956-58, and member, Advisory Committee, Air Weather Service, U. S. Air Force, 1958; member, Arctic Glossary Board of Consultants, U. S. Air Force, Headquarters Air University, 1956-58; member, U. S. National Committee for the International Geophysical Year, 1956-58; member, Committee on Oceanography, 1957-58, and member, Committee on Polar Research, 1958, National Academy of Sciences—National Research Council; member, U. S. National Committee Technical Panel on Earth Satellite, International Geophysical Year, 1956-58; member, Special Study Group, National Academy of Sciences—Air Research and Development Command, 1957; member, Pacific Science Board, 1956-58, and chairman, Standing Committee on Meteorology, 1956-57, Pacific Science Association; member, Committee on Extent of Air Space, International Astronautical Federation, 1957-58; member, Comité Mondial, L'Université à l'Usine, Paris, France; member, Honorary Editorial Advisory Board, *Planetary and Space Physics*; member, Board of Trustees, and chairman, Scientific Advisory Committee, Woods Hole Oceanographic Institution, 1956-58; member, Permanent Subcommittee on Station Instruments and Exposure, Commission on Instruments and Methods of Observation, International Meteorological Organization, 1956-58; member, Visiting Committee, Department of Aeronautical Engineering, 1956-57, and member, Visiting Committee on the Earth Sciences, 1958, Massachusetts Institute of Technology; member, Committee on Education, American Geophysical Union, 1957-58; member, Committee on Problems of Foreign Technical Cooperation, Association of Land-Grant Colleges and Universities, 1956-58; member, Committee on International Relations, Engineering College Administrative Council, The American Society for Engineering Education, 1957-58; member, Advisory Commission, State Department of Business Development, 1956-57; member, Governor's Committee of 100, State of Minnesota, 1956-58; member, Board of Trustees, and member, Museum Committee, Saint Paul Institute; was elected fellow, American Rocket Society, 1957; vice chairman and member, United States Delegation to the Ninth General Conference of UNESCO in New Delhi, 1956; and member, United States Delegation to Ninth Pacific Science Congress in Bangkok, 1957.

EUGENE STOLARIK was elected member, Sigma Gamma Tau (national honorary aeronautical society), 1956; and served as student adviser, Institute of Aeronautical Sciences, 1956-58.

LORENZ G. STRAUB served as member, Permanent Council, International Association for Hydraulic Research, 1956-58; member, Committee on Regulation and Stabilization of Rivers, American Society of Civil Engineers, 1958; member-at-large, Division of Engineering and Industrial Research, 1956-58, and member, Committee on Ship Structural Design, 1956-58, National Research Council; member, U. S. Beach Erosion Board, 1956-58; member, Mississippi River Parkway Planning Commission, 1956-58; member, Upper Mississippi and St. Croix River Improvement Commission, State of Minnesota, 1956-58; member, U. S. Committee on Large Dams, 1957-58; and member, Honorary Committee for the Third Congress, International Commission of Irrigation and Drainage, 1956-57. He was recipient of research grants from the Army Corps of Engineers, Bureau of Ships—Office of Naval Research, Bureau of Yards and Docks—Navy Department, Army Signal Corps, Florida State Road Department and U. S. Bureau of Public Roads, Public Utility District No. 2 Grant County (State of Washington), and U. S. Department of Agriculture. He was consultant on projects including: Missouri River Sediment Advisory Board, Consulting Board on Control of Lower Mississippi River, Board on Santa Ana River Control, U. S. Waterways Experiment Station research, Committee on Tidal Hydraulics, 1956-58, and Passamaquoddy Tidal Power Project, 1957-58, Army Corps of Engineers; St. Lawrence Seaway for construction company, 1956; utility power supply problems, Chicago and Vancouver, B. C., 1956-58; sedimentation problems for railroad companies in Kansas, Oklahoma, and South Dakota, 1956-57; Colombia, South America government electric development, 1958; and Red River flood control problems for Manitoba, Canada, 1957-58. He was member, International Board of Consultants, High Aswan Dam, Egypt, 1956-58, hydroelectric developments in Belgian Congo, 1956-57, Iraq, 1956-58, and Iran, 1957-58, and paper processing control in Quebec, Canada, 1957-58; and was recipient of research award from the American Society of Civil Engineers, 1958.

RICHARD A. SWALIN was awarded research grants from Research Corporation, 1957-58, and Office of Naval Research, 1958; and was elected to Sigma Xi, 1957.

THEODORE W. THOMAS served as consultant on the problem of durability of concrete pavements, Minnesota Department of Highways, 1957.

JAMES L. THRELKELD was recipient of the Wolverine Award from the American Society of Refrigerating Engineers, 1956; and of a research grant from the National Science Foundation, 1956.

HUGH L. TURRITTIN received a research grant from the Office of Ordnance Research, U. S. Army, 1956-58.

ALDERT VAN DER ZIEL was elected to membership in U. S. Commission 7, International Scientific Radio Union, 1957; was granted continuation of research funds from the U. S. Signal Corps and the U. S. Air Force, 1956; and was awarded a single-quarter leave for research at the University of Utrecht, The Netherlands, 1957.

KAREL M. VAN VLIET was recipient of a Fulbright travel grant for a two-year study at the University of Minnesota, 1956.

FRANK VERBRUGGE served as secretary, American Association of Physics Teachers, 1956-58; member, Board of Directors, 1956-58, and president, 1958, Minnesota Academy of Science; member, Editorial Advisory Board, *Physics Today*, 1956-58; member, Advisory Panel, Summer Institute Programs, National Science Foundation, 1957.

WALTER K. VIVRET served as chairman, First Governor's Conference on Aging, and chairman, Citizens Council on Aging, State of Minnesota; director, Planning Study of Housing and Care Facilities for the Aging, a research project financed by the Louis W. and Maud Hill Foundation; adviser on Housing for Elderly Persons, Federal Housing Administration; member, Advisory Committee on Housing for the Elderly, Housing and Home Finance Agency, Washington, D. C.; and was named fellow, Gerontological Society.

CLIFFORD N. WALL served as member, Executive Committee, American Association of Physics Teachers, 1956-58; member, Steering Committee, Connecticut Conference on Laboratory Instruction in General Physics, 1957; and

was invited to deliver the O. M. Stewart Lecture at the University of Missouri, 1956.

STEFAN E. WARSCHAWSKI was recipient of a grant from the National Science Foundation to be used toward the acquisition of a high speed digital computer at the University, 1957; and of a research grant from the Office of Naval Research, 1956-58.

GEORGE F. WEATON, JR. served as member, Faculty Committee, Minnesota Society of Professional Engineers, 1958.

JOHN H. WILLIAMS served as president, 1956-57, member, Board, and member, Executive Committee, 1956-58, Midwestern Universities Research Association; member, Governor's Committee on Atomic Development Problems, 1957-58; member, Advisory Board, 1957-58, and member, Council of Participating Institutions, 1956-58, Argonne National Laboratory; testified at Hearings before Subcommittee on Research and Development, Joint Committee on Atomic Energy, Congress of the United States, 1958; principal investigator, Contract AT (11-1)-50, 1956-58, and director, Division of Research, 1958, U. S. Atomic Energy Commission; principal investigator, Contract Nonr-710(18), Office of Naval Research; member, Panel on High Energy Accelerators, National Science Foundation, 1956; participant, Visiting Lecturer Series in Physics, American Association of Physics Teachers, 1957; vice president, Minnesota Chapter, American Association of University Professors, 1957-58; and vice president, Minnesota Chapter, Society of Sigma Xi, 1957-58.

JOHN R. WINCKLER served as member, Panel on Upper Atmosphere, Committee on Polar Research, National Academy of Sciences, 1958; principal investigator, Program for the IGY in Cosmic Rays, National Science Foundation, 1957-58; member, Stratolab Advisory Panel, 1956-58, and co-principal investigator, Atmospheric Physics Program, Contract Nonr-710(22), 1956-58, Office of Naval Research.

HIDEHIKO YAMABE received research grant from the Alfred P. Sloan Foundation, 1956-58; and from the National Science Foundation, 1956.

DONALD H. YARDLEY served as member, Education Committee, Mining Engineering Division, American Institute for Mining and Metallurgical Engineers, 1957-58; member, Planning Committee, Seventh Annual Drilling Symposium, 1956, and member, Planning Committee, Eighth Annual Drilling Symposium, 1957, sponsored jointly by the University of Minnesota, Colorado School of Mines, and Penn State; and was consultant, Minnesota State Tax Commission, 1956-58.

Institute of Agriculture—ROLAND H. ABRAHAM served as member, International Farm Youth Exchange Advisory Committee, 1958, and vice chairman, National Policy Board, 1958, National 4-H Club Foundation; member, Joint Extension Organization and Policy (ECOP-ESOP) Committee on Agricultural and Home Economics Publications, American Association of Land-Grant Colleges and State Universities, 1956-58; administrative adviser, Publications Committee, North Central Extension Directors, 1956-58; member, Executive Committee, Livestock Conservation, Inc., 1958; and member, Board of Directors, Minnesota Council for Adult Education, 1956-58.

EMIL T. ANDERSEN was elected member, Gamma Sigma Delta, 1957.

PARKER O. ANDERSON served as member, Board of Directors, Keep Minnesota Green Committee, 1956-58; state chairman, Conservation Committee, American Legion, 1956-58; treasurer, Minnesota Forestry Association, 1956-58; and chairman, State Rural Fire Defense Committee, 1956-58. He was elected life member, Minnesota Conservation Federation.

WOODROW J. AUNAN was chairman, Research Methods Committee, 1956-57, and chairman, Pork Carcass Evaluation Committee, 1957-58, Reciprocal Meats Conference. He received the F. C. Vibrans Senior Scientist Award for study at the American Meat Institute Foundation, Chicago, 1957.

CLYDE H. BAILEY served as chairman, Fleischmann Fund Research Committee, 1956-58, and member, Scientific Advisory Committee, 1956-58, American Institute of Baking; and member, Committee on Educational Policies, Division of Biology and Agriculture, National Research Council, 1956-58.

JAMES R. BEER was recipient of research grant from the National Institutes of Health, 1956.

GLADYS I. BELLINGER was elected secretary, National Conference on Family Relations, May 1958.

GEORGE R. BLAKE served as member, Awards Committee, American Society of Agronomy, 1957; and member, Physical Analysis Committee, Soil Science Society of America, 1957-58.

DAVID R. BRIGGS received research grant from the National Science Foundation, 1956-58.

GRACE D. BRILL served as chairman-elect, 1956-57, and chairman, 1957-58, Minnesota State Nutrition Council.

RODNEY A. BRIGGS was elected secretary, Minnesota Chapter, Society of Sigma Xi, 1958; secretary, Minnesota Chapter, Soil Conservation Society of America, 1958; program chairman and chairman, Seed Production and Technology Division, American Society of Agronomy, 1958; chairman, National Silage Evaluation Committee, 1956-58; secretary, Minnesota Crop Improvement Association, 1956-58; and crops judge, Minnesota State Fair, 1956-58.

JAMES I. BROWN served as chairman, Printing Committee, National Convention, National Council of Teachers of English, 1958.

RONALD M. BROWN was recruiter, U. S. Forest Service and other federal agencies, State Forest Service, and private industries, 1956-58.

CHARLES H. BURNHAM was recipient of National Science Foundation grant for travel to International Genetics Symposia in Japan, Taiwan, Philippines, and Hawaii, 1956.

PAUL M. BURSON served as adviser in soils, Seoul National University of Korea in the cooperative project sponsored by the U. S. International Cooperative Administration and the University of Minnesota, 1956.

RICHARD S. CALDECOTT was appointed member, 1957, and chairman, Subcommittee on Need for Basic Research in the Field of Atomic Energy, 1958, Governor's Committee on Atomic Development Problems.

CLYDE M. CHRISTENSEN served as consultant, Kurth Malting Co., Milwaukee, Wisconsin, 1956-58; and member, Board of Elections, Minnesota Chapter, Society of Sigma Xi, 1957.

JONAS J. CHRISTENSEN was president, North Central Division, American Phytopathological Society, 1957; member, Flax Development Committee, Flax Institute of the United States; associate, Morris Arboretum, University of Pennsylvania, 1957-58; and consultant, Army Chemical Corps, Fort Detrick, Maryland, 1956-58.

JOHN O. CHRISTIANSON served as chairman, 1957-58, and secretary, 1958, Subcommittee on Short Courses and Conferences, American Association of Land-Grant Colleges and State Universities; member, Committee on Agriculture, chairman, Speakers Committee, and member, State Centennial Committee on Education, Minnesota Statehood Centennial Commission, 1958; member, Executive Committee, Masonic Cancer Hospital Project, 1958; chairman, Student Exchange Committee, Swedish and Danish Students, American Swedish Institute, 1956-58; member, Board of Advisers, 1958, Minnesota Organization of Blind, Inc.; and member, Board of Directors, Hennepin County Historical Society, 1956-58.

CLARENCE H. CHRISTOPHERSON was presented with a Citation by the Minnesota Association, Future Farmers of America, 1957.

WILLARD W. COCHRANE served as consultant, Agricultural Marketing Service, 1956-57, and consultant, Agricultural Research Service, 1957-58, U. S. Department of Agriculture; and chairman, Governor's Study Commission on Agriculture, State of Minnesota, 1957-58.

CLARENCE L. COLE served as assistant secretary, Minnesota Dairy Industry Committee, Minnesota Branch, American Dairy Association, 1958; dairy judge, Minnesota State Fair, 1956-57; and was recipient of research grant from the Louis W. and Maud Hill Family Foundation, 1957.

RALPH E. COMSTOCK served as U. S. representative, National Science Foundation, at the International Genetics Symposia in Tokyo and Kyoto, Japan, 1956, and delivered two lectures at the Japanese National Institute of Genetics, Misima, 1956. He was recipient of research grant from the Louis W. and Maud Hill Family Foundation, 1957-58.

EDWIN F. COOK received a research grant from the National Institutes of Health, 1956.

SAMUEL T. COULTER served as chairman, *ad hoc* Study Conference on Whole Milk Powder, Advisory Board in Quartermaster Research and Development, National Research Council, 1957; member, Standards and Research Committee, American Dry Milk Institute, 1956-58; and received research grant for work in mechanisms of deteriorative changes in milk products, 1956-58.

TROY M. CURRENCE was recipient of research grant from the Rockefeller Foundation, 1957-58.

LAURENCE K. CUTKOMP served as adviser, Office of State Entomologist, Division of Plant Industry, Minnesota Department of Agriculture, Dairy and Food, 1956-58.

WILLIAM H. DANKERS served as member, Board of Directors, Minnesota Division, American Association of United Nations, 1956-58; was representative, Specialists Exchange Division, U. S. State Department and U. S. Information Service, to lecture in Germany on cooperatives, and to participate in European Survey and Study, 1957.

SUZANNE DAVISON was technical adviser, *Journal of Home Economics*, 1957-58; and consultant in textile cases, City of St. Paul Conciliation Court, 1956-58.

JOHN D. DONKER served as consultant, Dairy Husbandry Department, University of Florida, 1957; and received research grant from Armour & Company, 1957.

GEORGE A. DONOHUE served as member, North Central Region 5 Rural Sociology Committee, 1958, and member, Subcommittee on Resident and Extension Teaching, Farm Foundation.

AUSTIN A. DOWELL served as representative, Resident Instruction Section, 1956-58, and chairman, 1958, Division of Agriculture, American Association of Land-Grant Colleges and State Universities; and was guest speaker, 50th Anniversary of the Founding of the University of Alberta, Canada, 1958.

FRANCIS E. DRAKE was chairman, Activities Committee, International Institute, St. Paul, 1958; and chairman, Hospitality Committee for the National Convention, National Council of Teachers of English, 1957.

RAYMOND S. DUNHAM received a Citation for Outstanding Contributions to Progress in Weed Control, North Central Weed Control Conference, 1956; was recipient, University short-term leave to visit centers of weed research in seven countries of Europe, 1956; and served as crops judge, Minnesota State Fair, 1956-58.

ROUSE S. FARNHAM served as vice-chairman, 1956-57, and chairman, 1957-58, Organic Soils Sub-Division, Soil Science Society of America.

THEODORE H. FENSKE served as state chairman, Agriculture Committee, Minnesota Statehood Centennial Commission, 1956-58; national vice president, Alpha Gamma Rho Fraternity, 1956-58; member-at-large, National Council, 1957, and operating vice president, Indianhead Council, 1957-58, Boy Scouts of America; member, Committee on Agriculture and Conservation, Kiwanis International, 1957-58; and was elected Honorary Minnesota Premier Seed Grower by Northwest Crop Improvement Association, 1957.

H. DONALD FERRIS was elected to Beta Phi Mu (international Library Science honor fraternity), 1958.

FRANK W. FORBES was awarded a Kellogg Foundation Scholarship.

DAVID W. FRENCH was participant in study of timber resources, Alaska Forest Research Center, U. S. Forest Service, 1957; and member, Protection Committee, Upper Mississippi Valley Section, Society of American Foresters, 1956-58.

WILLIAM F. GEDDES served as member, Subcommittee on Food Technology, Food Protection Committee, 1956-58, and member, Committee on Cereals, 1956-58, Food and Nutrition Board, National Research Council, National Academy of Sciences; general collaborator, Northern Utilization Research and Development Division, U. S. Department of Agriculture, 1956-58; editor, *Cereal Chemistry*, 1956-58, and first editor, 1956-57, *Cereal Science Today*, American Association of Cereal Chemists; received the 1958 Nicholas Appert Award for pre-eminence in and contributions to food technology, Institute of Food Technologists; and received research grants from Quartermaster Research and Development, 1956-58, Red Star Yeast and Products Company, 1956-58, and Malting Barley Improvement Association, 1956-58.

THOMAS A. GOCHNAUER received grant in apiary research, State of Minnesota Department of Agriculture, 1956-58.

RALPH S. GRANT served as secretary, Duluth Zoo Board, 1956-58.

LESTER E. HANSON was member, Committee on Nutrition, and chairman, Subcommittee on Feed Adjuvants, National Research Council, 1956-57; member, Editorial Board, *Journal of Animal Science*, and chairman, 1957, Program Committee on Non-Ruminant Nutrition, American Society of Animal Production; and member, Research Council, American Dehydrators Association. He received research grants from American Cyanamid Co., 1956-58, Abbott Laboratories, 1956-58, Merck & Co., 1956-57, and Chas. Pfizer & Co., 1957-58.

LEONARD L. HARKNESS was elected chairman, newly organized Town and Country Department, Minnesota Council of Churches, 1958.

EVELYN D. HARNE was member, Subcommittee on 4-H Recreation Development, National 4-H Department, Federal Extension Service, 1956-58.

ROGER S. HARRIS served as secretary, Minnesota Conservation Education Council, 1956-58.

HELEN HART served as past president and councilor, 1957, and member, Editorial Committee, 1958, Golden Jubilee Anniversary Volume of *Phytopathology*, American Phytopathological Society; vice president, Minnesota Chapter, Gamma Sigma Delta (honor society in Agriculture), 1958; and member, Board of Elections, Minnesota Chapter, Society of Sigma Xi, 1958. She was awarded a Citation for work with foreign students, People to People Movement for Peace.

ERMOND H. HARTMANS was member, Executive Board, National Catholic Rural Life Conference, 1957; and technical leader, European team of agricultural economists on tour in the United States, sponsored by International Cooperation Administration, 1957.

MYKOLA H. HAYDAK served as chairman, Session of Apiculture, Tenth International Congress of Entomology, Montreal, Canada, 1956.

ROBERT E. HODGSON was member, Board of Directors, Minnesota Swine Breeders Association, 1956.

ALEXANDER C. HODSON was editor, Tree Insect Section, *Biological Abstracts*, 1957-58.

FREDERICK G. HOLDAWAY was recipient of legislative grant for research on seed production; and was invited to address combined meeting, Entomological Society of Canada and Alberta Entomological Society at Lethbridge, Alberta, Canada, 1957.

ANDREW HUSTRULID served as president, Minnesota Federation of Engineering Societies, 1957-58; and adviser in Agricultural Engineering, Seoul National University of Korea, cooperative project under auspices of the University of Minnesota and the International Cooperation Administration, 1956-57.

FRANK D. IRVING was elected to Gamma Sigma Delta, 1957; and served as secretary-treasurer, Southern Minnesota Chapter, Upper Mississippi Valley Section, Society of American Foresters, 1957-58.

ROBERT JENNESS served as member, Editorial Board, *Journal of Dairy Science*, 1956-58; and was awarded research grants from the American Dry Milk Institute, 1956-58, and from the Eastern Utilization Research Branch, U. S. Department of Agriculture, 1956.

JAMES J. JEZESKI was member, Editorial Board, *Journal of Dairy Science*, 1956-58; and president, Minnesota Sanitarians Association, 1956-57.

ELMER M. JOHNSON was elected to second six-year term as municipal judge; served as member, Home Rule Charter Commission, 1956-58, and chairman, Committee on Changes and Amendments to City Home Rule Charter, City of Fridley, Minnesota; and was trustee, 1956, and secretary, 1957, Municipal Judges' Association of Minnesota.

ELTON L. JOHNSON served as president, Minnesota Poultry Industry Council, 1956-58; president, Minnesota Poultry Improvement Board, 1956-57; member, Egg Advisory Committee, Poultry and Egg National Board, 1956-57; member, Feed Survey Committee, American Feed Manufacturers Association, 1956-58; and chairman, Poultry Science Resident Teaching Award, 1958.

RUDOLPH JOHNSON was elected member, 1956, and secretary, 1958, Minnesota State Art Society.

ROBERT M. JORDAN was elected to membership, Society of Sigma Xi (Minnesota Chapter), 1958; and received research grants from Swift & Co., Inc., Chicago, 1956-58, and American Cyanamid Co., 1956-57.

FRANK H. KAUFERT served as president, 1957-58, director, 1958, Forest Products Research Society; president, Forestry History Foundation, 1956-57; president, Keep Minnesota Green, Inc., 1956-58; chairman, Conservation Film Project, Louis W. and Maud Hill Family Foundation, 1956-58; member, State Committee to Direct Land Ownership Study, 1958, American Forestry Association; and adviser on conservation matters, Minneapolis Chamber of Commerce, 1957. He served as adviser in Forestry, Seoul National University of Korea, cooperative project under auspices of the University of Minnesota and the International Cooperation Administration, 1956.

THOMAS H. KING was adviser in Plant Pathology, Seoul National University of Korea, cooperative project under auspices of the University of Minnesota and the International Cooperation Administration, 1957; member, Committee on Agricultural Pests, and chairman, Subcommittee on Biological Control of Soil-borne Plant Pathogens, National Research Council, 1957-58; member, Public Relations Committee, American Phytopathological Society, 1957-58; and chairman, Program Committee, Minnesota Chapter, Society of Sigma Xi, 1957.

TERRY B. KINNEY, JR. was elected to membership, Society of Sigma Xi, 1956.

SAMUEL KIRKWOOD received research grants from the National Science Foundation, 1956, Malting Barley Improvement Association, 1958, and Rockefeller Foundation, 1958. He delivered a lecture to the Science Association, Canadian National Research Council, 1958.

E. FRED KOLLER was awarded the honorary degree, Doctor of Laws, by Augustana College, Sioux Falls, South Dakota, 1957.

JEAN W. LAMBERT was given the honorary "Premier Seed Grower" Award (gold medal) by the Minnesota Crop Improvement Association, 1957; and served as chairman, Conference, North Central States Barley Workers, 1957-58.

RAYMOND H. LANDON was treasurer, Minnesota Archeological Society, 1957-58.

FLORIAN I. LAUER was elected member, Society of Sigma Xi, 1957.

JANE M. LEICHSENRING was recipient of research grant from the Institute of Home Economics, U. S. Department of Agriculture.

IRVIN E. LIENER was awarded a John Simon Guggenheim Memorial Fellowship for study at Carlsberg Laboratorium, Copenhagen, Denmark, 1957; was awarded a travel grant from the National Science Foundation to attend the International Congress of Nutrition, Paris, France, 1957; and received research grants from the American Dairy Association, 1956-58, Smith Kline French Foundation, 1957, and U. S. Public Health Service, 1956-58.

WALTER O. LUNDBERG served as member, State Board of Education, 1956-58; was awarded the Normann Medal from the Deutsche Gesselleschaft für Fettwissenschaft for outstanding contributions to the chemistry and biochemistry of lipides, 1957; and received research grants from Archer-Daniels-Midland Company, Spencer Kellogg & Sons, The Glidden Company, American Heart Association, O. Mayer & Co., Abbott Laboratories, and National Institutes of Health, Fish and Wildlife Service, U. S. Department of the Interior, 1956-58, U. S. Department of Agriculture, 1956-58, and U. S. Army Quartermaster Corps, 1956-58.

JOHN M. MACGREGOR was elected president, Minnesota Chapter, American Association of University Professors, 1957.

HAROLD MACY served as member, Advisory Board, National Agricultural Extension Center for Advanced Study, 1956-58; chairman, Subcommittee on Liaison with National Science Foundation, Experiment Station Committee on Organization and Policy, 1956-58; representative on Governing Board, Agricultural Research Institute, 1957-58, American Association of Land-Grant Colleges and State Universities; member, Board of Directors, 1956-58, and vice president, 1957-58, Rotary Club of St. Paul; president, Dairy Council of the Twin Cities, 1956-58; consultant, Public Health Service, U. S. Department of Health, Education and Welfare, 1957-58; vice-chairman, State Soil Conservation Committee, 1956-58; member, Executive Committee, Minnesota Safety Council, 1956-58; member, Hormel Institute Board, 1956-58; and member, Advisory Committee, Quetico-Superior Wilderness Research Center, 1956-58. He

was awarded Honorary Membership in the Minnesota State Veterinary Medical Society in recognition of service to veterinary medicine, 1958.

PHILIP W. MANSON served as chairman, Subcommittee VI of Committee C-13, Concrete Pipe, American Society for Testing Materials, 1956-58; and received research grants from American Concrete Agricultural Pipe Association of Chicago, Chicago Fly Ash Co., Minnesota Department of Conservation, and U. S. Department of Agriculture.

WILLIAM H. MARSHALL served as member, Editorial Board, *Journal of Wildlife Management*, 1957-58; and member, Board of Directors, Minnesota Academy of Science, 1957-58. He received research grants from the State of Minnesota Conservation Department, 1956-58, Louis W. and Maud Hill Family Foundation, 1957, Louis W. and Maud Hill Family Foundation and National Science Foundation, 1957, and National Science Foundation, 1957-58. He was recipient of the Robert G. Green Award from the Minneapolis Junior Chamber of Commerce for contributions to conservation in Minnesota, 1958.

WILLIAM P. MARTIN was named president, Minnesota Chapter, Soil Conservation Society of America, 1956-57; fellow, American Society of Agronomy, 1956-57; American secretary, Section III (Soil Microbiology), International Society of Soil Science, 1957-58; and vice-chairman, Section III (Soil Microbiology), Soil Science Society of America, 1957-58.

HAROLD C. MATSON was one of ten individuals to win an award in the Lincoln Arc Welding National Contest, 1956. He served as president-elect, Minnesota Trade and Industrial Instructors, 1957-58; and member, Waseca Public School Board of Education, 1957.

GERALD R. MCKAY was honored as Eminent Citizen of the Community of St. Anthony Park, St. Paul, by the American Legion, 1957.

ROBERT J. MEADE served as executive secretary, Minnesota Swine Producers' Association, 1957-58. He received a research grant from Merck and Co., Inc., 1957-58.

CLARENCE E. MICKEL was adviser in entomology, Seoul National University of Korea, cooperative project under auspices of the University of Minnesota and the International Cooperation Administration, 1957.

RALPH E. MILLER served as member, Board of Directors, 1958, and chairman, Centennial Committee, 1958, St. Paul YMCA; chairman, Ramsey County Historical Society, 1957-58; and vice president, Chelsea Heights Parent-Teachers Association, 1958. He received the All-University Congress Faculty Award for Outstanding Student Service, 1958.

HOWARD A. MORRIS served as adviser, Minnesota Cheese Industries Association, 1956-58; member, Interview Board, Minnesota State Civil Service for selection of agricultural products inspectors, 1956-58; judge, cheese contests, State Department of Agriculture, State Fair Board, and Minnesota Cheese Industries Association, 1956-58; member, Committee on Minnesota Centennial Conference on College Teaching, Association of Minnesota Colleges, 1957-58; secretary, Minnesota Dairy Technology Society, 1957-58; plans and training officer, 5007th Research and Development Unit, U. S. Army Reserve, 1956-58; promoted to Lt. Colonel, 1958; and was assigned as Foods Adviser, Quartermaster General's Office, Washington, D. C., 1956-58.

WILL M. MYERS served as member, Board of Directors, Minnesota Crop Improvement Association, 1956-58; member, General Certification Committee, and Grass Certification Committee, International Crop Improvement Association, 1955-58; vice president, 1957, and president, 1958, American Society of Agronomy; head, U. S. Delegation to Seventh International Grassland Congress, 1956; member, Board of Agricultural Consultants, Rockefeller Foundation, 1953-58; member, Advisory Committee, National Seed Storage Facility, 1957-58; member, Advisory Board, Soybean Crop Improvement Council, 1956-58; crops judge, Minnesota State Fair, 1956-58; and received research grant from the Rockefeller Foundation, 1956-58.

DORIS E. NELSON served as member, Teachers' Advisory Committee for Summer Workshops, Minneapolis School of Business, 1957.

JOSEPHINE B. NELSON served as recording secretary, Minnesota State Nutrition Council, 1956; was elected to membership, Minnesota Branch, National League of American Pen Women, 1956; and received Excellent Rating for News Service, awarded by the American Association of Agricultural College

Editors, 1957. She was member, Radio Committee, National 4-H Conference, Washington, D. C., 1958.

THEODORE M. NELSON was elected secretary, Young Men of Minnesota (recently organized civic and public service group), 1958; and elected to Phi Delta Kappa (national education fraternity), 1958.

RALPH G. NICHOLS was member, Committee on Language Arts and Related Humanities, Minnesota State Board of Education, 1958; member, Advisory Committee on ROTC Instruction, U. S. Air Force, 1957.

ISABEL T. NOBLE served as member, Board of Directors, National Health Council, 1956-58; and received research grant from Agricultural Research Service, Household Economics Research Division, U. S. Department of Agriculture.

ROBERT E. NYLUND was elected chairman, Research Committee, North Central Weed Control Conference, 1956.

JOHN H. OHMAN was chosen Caleb Dorr fellow, 1957-58.

JOSEPH C. OLSON, JR. was awarded the Certificate of Achievement by the Minnesota Sanitarian's Association, 1956; was elected fellow, American Academy of Microbiology, 1957; served as expert witness before Subcommittee on Health and Science, House Committee on Interstate and Foreign Commerce, Washington, D. C., on behalf of bill to provide milk sanitation standards, 1958; technical adviser, Minneapolis and St. Paul Milk Quality Control Committee, 1956-58; associate editor, *Journal of Milk and Food Technology*, 1957-58; and chairman, South and East White Bear Lake Planning Committee, 1958.

SCOTT S. PAULEY served as chairman, Committee on Forest Tree Improvement, Society of American Foresters, 1956-58; director, Forest Genetics Research Foundation, 1956-58; member, Advisory Board, Forest Science, 1957-58; member, Advisory Board, Quetico-Superior Wilderness Research Center, 1956-58; and was awarded a research grant by the Louis W. and Maud Hill Family Foundation, 1958.

HAROLD C. PEDERSON was secretary, 1956-57, and vice president, 1957-58, Minnesota Federation of County Fairs; member, Farm Section, Minnesota Safety Council; member, Marketing Committee, Minnesota Crop Improvement Association, 1957; and member, Board of Directors, Minnesota Economic Club, 1957-58. He received the Gilmore Valley Watershed Project Recognition Award from the Agricultural Committee, Winona Chamber of Commerce, 1957; and received recognition for service performed on Committee on Arrangements which organized tour of Minnesota farms for Asiatic, African, and South American clergymen, Lutheran World Federation Assembly, 1957.

WILLIAM E. PETERSEN received an Award for Teaching, American Dairy Science Association, 1956; and the Morrison Award, American Society of Animal Production, 1956. He was member, Agricultural Board, 1956-57, and chairman, 1956, Animal Health Committee, National Research Council.

ALLAN G. PETERSON served as chairman, Program Committee, Twelfth Annual Conference, North Central Branch, Entomological Society of America, 1957. He received research grants from Velsicol Corporation, 1957-58, American Cyanamid Company, 1957, and Union Carbide and Carbon Chemicals Company, 1958.

ROBERT A. PHILLIPS served as editor, weekly column on ornamental horticulture, *St. Paul Pioneer Press*, 1956-58; northern editor, *Flower and Garden Magazine*, 1956-58; and received research grant from the Minnesota Nurserymen's Research Corporation.

ROSELLA H. QUALEY was chairman, Minnesota Farm and Home Safety Committee, 1956-58; and recording secretary, Minnesota Home Economics Association, 1956-58.

PHILIP M. RAUP was consultant, and alternate member, Governor's Minnesota Tax Study Committee, 1956-57; consultant, St. Paul City Planning Board, 1958; and received research grant from the Bureau of Public Roads, Department of Commerce, State of Minnesota, 1957-58.

WILLIAM E. REMPEL served as secretary, Inbred Livestock Registry Association, 1956-58; and received research grants from U. S. Public Health Service, 1956-58, and Louis W. and Maud Hill Family Foundation, 1956-57.

A. GLENN RICHARDS was member, *ad hoc* Panel on Parasitism Courses, Committee on Educational Policies, Division of Biology and Agriculture, National Academy of Sciences—National Research Council, 1957. He was awarded

the John Simon Guggenheim Memorial Fellowship, 1957-58, and the Fulbright Award, 1957-58.

ERNEST H. RINKE was named agricultural officer, and served as coordinator and consultant on European and Mediterranean maize program, Food and Agricultural Organization of the United Nations, 1956-57.

HARLUND G. ROUTHE was member, Subcommittee on Tenure and Credit, North Central Farm Management Extension Committee, 1957-58.

SKULI RUTFORD served as member, Committee on Foreign Technical Cooperation, 1956-58, member, Subcommittee on Agricultural Service, 1956-58, and chairman, Advisory Committee to American Institute of Cooperation (a subcommittee of Extension Organization and Policy Committee), 1956-58, American Association of Land-Grant Colleges and State Universities; chairman, Conference Committee, and member, National Agricultural Policy Program Planning Committee, North Central Extension Directors, 1956-58; and member, State Soil Conservation Commission, 1956-58.

AUGUST B. SALMELA was elected to membership in Sigma Xi and Gamma Sigma Delta.

ALOIS R. SCHMID served as chairman of coaches, National Collegiate Crops Judging Contests, 1957.

EDWIN L. SCHMIDT was chairman, Soil Microbiology Section, Society of American Bacteriologists, 1956-57; member, Editorial Board, *Journal of Applied Microbiology*, 1956-58; and was elected fellow, American Academy of Microbiology, 1957-58.

MAX O. SCHULTZE received research grants from U. S. Atomic Energy Commission, 1956-58, and U. S. Public Health Service, 1956-58.

ARTHUR J. SCHWANTES served as chairman, Farm Conference, 1957-58, and member, Board of Directors, 1957-58, National Safety Council.

HAROLD R. SEARLES judged and classified dairy cattle and advised on dairy management in Colombia, South America under sponsorship of Brown Swiss Cattle Breeders Association of America and Colombia Brown Swiss Cattle Breeders Association; and received the DeLaval Extension Award of the American Dairy Science Association, 1957.

PAUL J. SEYMOUR was communications consultant on educational development, Agricultural Extension Workers, 1957; and was elected to Alpha Epsilon Rho (honorary radio and television fraternity), 1958.

ROBERT N. SHOFFNER served as chairman, Technical Committee, Regional Poultry Breeding Project, 1956-57; program chairman, Annual Meeting, 1957, and director, 1957-58, Poultry Science Association; and member, Subcommittee on Random Sample Performance Testing, Minnesota Turkey Breeders Association, 1956-58.

DOROTHY SIMMONS was member, Subcommittee on In-service Training, 1956-58 and member, Task Force on "The Extension Service Today," 1958, Extension Committee on Organization and Policy; member, Subcommittee on the Development of a National Staff Training Project, 1958, and member, 1956-57, Extension Committee on Organization and Policy, American Association of Land-Grant Colleges and State Universities.

HUBERT J. SLOAN was named fellow, Poultry Science Association, 1957.

FRED SMITH received research grants from National Science Foundation, 1957; Northern Utilization Research Branch, U. S. Department of Agriculture, 1957; Office of Ordnance Research, U. S. Army, 1958; and Corn Industries Research Foundation, 1956-58.

LLOYD L. SMITH, JR. served as chairman, Aquatic Life Advisory Committee, Ohio River Valley Water Sanitation Commission, 1956-58; and member, Institute for Fishery Research Biologists, 1958. He received research grants from U. S. Fish and Wildlife Service, 1956-58, National Science Foundation, 1956-58, and State of Minnesota Department of Conservation, 1956-58.

LEON C. SNYDER was secretary, Great Plains Section, American Society for Horticultural Science, 1957; member, Executive Committee, Minnesota State Horticultural Society, 1956-57; and received research grants from Greater University Fund, Louis W. and Maud Hill Family Foundation, and Minnesota State Horticultural Society.

RAYMOND B. SOLAC was elected to membership in Kappa Chapter, Society of Phi Zeta, 1958.

ELVIN C. STAKMAN was awarded the Otto Appel Medal for outstanding service to agriculture through basic scientific studies in the field of plant pathology, at the IV International Crop Protection Congress, Hamburg, Germany, 1957. He was special consultant for agriculture, The Rockefeller Foundation, 1957-58; collaborator, Plant Pest Control Division, Agricultural Research Service, U. S. Department of Agriculture, 1957-58; and member, Executive Committee of Agricultural Board, National Academy of Sciences—National Research Council, 1957-58. He was named honorary fellow, Botanical Society of Edinburgh, 1957; honorary member, Vereinigung Deutscher Pflanzenärzte E.V., 1957; and honorary life member, Student Union, Aligarh University, India, 1957.

LOUISE A. STEDMAN served as chairman, Home Economics Research Administrators, North Central Region, American Association of Land-Grant Colleges and State Universities, 1956-58.

HAROLD B. SWANSON served as chairman, Reuben Brigham Awards Committee, 1956-57, and member, Nominating Committee, 1957-58, American Association of Agricultural College Editors; member, Advisory Committee to National Project in Agricultural Communications, American Association of Land-Grant Colleges and State Universities, 1958.

MILO H. SWANSON was member, 1956-57, and chairman, 1958, Technical Advisory Committee, Poultry and Egg National Board; and secretary-treasurer, Minnesota Poultry Industry Council, 1957-58.

ERNEST C. THOMPSON was communications consultant, Educational Development, Agricultural Extension Workers, 1957.

PHILLIP J. TICHENOR was publicity chairman, National 4-H Dairy Conference in Chicago, 1957.

SHIRLEY R. TRANTANELLA served as member, Minnesota State Nutrition Council, 1956-58; and co-investigator, research grants from the Bakelite and H. P. Smith Companies.

DEANE A. TURNER served as associate editor, *The Ag Man*, publication of Minnesota Vocational Agriculture Instructors Association, 1956-57; secretary-treasurer, 1956-57 and vice president, 1957-58, Minnesota Vocational Association; was elected to Gamma Sigma Delta (honorary agriculture), 1956, and to Phi Delta Kappa (honorary education fraternity), 1956.

ORRIN C. TURNQUIST was director, Potato Association of America, 1956-58; and secretary, Minnesota Vegetable Growers Association, 1956-58.

WALTER B. WALLIN served as chairman, Upper Mississippi Valley Section, Forest Products Research Society, 1958; member, Budget Finance Committee, and host at national meeting, Forest Products Research Society, 1958; member, International Fraternity of Lumbermen, 1956-58; Cub Scout leader, Boy Scouts of America, 1958; and member, Boards, Island Lake Elementary School and Edgewood Junior High School Parent-Teachers Associations, 1957-58.

PAUL E. WEIBEL was president, Twin City Nutrition Seminar, 1956-57; and director, Midwest Goose Producers Association, 1958.

RALPH W. WAYNE was member, Breeds Relation Committee, American Dairy Science Association, 1957-58; and secretary, Minnesota Pure Bred Dairy Cattle Association, 1956-58. He received the Superior Service Award, U. S. Department of Agriculture, 1958.

RICHARD E. WIDMER was recipient of research grant from Minnesota Nurserymen's Research Corporation.

JAMES D. WINTER received the bronze plaque for leadership and service to the frozen food locker industry, awarded by the National Institute of Locker and Freezer Provisioners, 1957. He was elected member, Executive Committee, Minnesota Chapter, Institute of Food Technologists, 1958; secretary-treasurer, Minnesota Fruit Growers Association, 1957; and chairman, Fruit List Committee, Minnesota State Horticultural Society, 1956-58. He received research grants from Bakelite Company, and H. P. Smith Paper Company, Chicago, 1957.

College of Veterinary Medicine—ROBERT K. ANDERSON served as member, Executive Board, Minnesota Public Health Conference, 1957-58; member, Executive Board, National Conference of Public Health Veterinarians, 1956-58; civilian consultant, U. S. Public Health Service, Department of Health, Education and Welfare, 1956-57; chairman, Public Health Committee, Minnesota

State Veterinary Medical Society, 1958; and was elected to membership, New York Academy of Sciences, 1957, and to Phi Zeta (honorary veterinary medical), 1957. He was recipient of special research grant from the Agricultural Research Service, U. S. Department of Agriculture.

DONALD M. BARNES was elected member, Phi Zeta (honorary veterinary medical), 1956.

HELENE P. BRUMFIELD was elected to the New York Academy of Sciences, 1957.

JOHN M. HIGBEE was elected member, Board of Trustees, Minnesota State Veterinary Medical Society, 1956; and was elected member, Phi Zeta (honorary veterinary medical), 1958.

HARVEY H. HOYT was elected chairman, North Central Regional Technical Committee on Shipping Fever of Cattle, 1956-57; and member, North Central Regional Technical Committee on Mucosal Diseases of Cattle, 1956-58. He received special research grants from the Upjohn Company, U. S. Public Health Service, National Institutes of Health, and General Mills, Inc.

HOWARD C. H. KERNKAMP was elected president, Minnesota Chapter, Society of Sigma Xi, 1957-58; and was consultant on Diseases of Swine, University of Florida, 1958. He received a special research grant from the Upjohn Company.

RALPH L. KITCHELL was member, Committee on Animal Products, Advisory Board on Quartermaster Research and Development, Committee on Foods, and Subcommittee on Animal Products, National Academy of Sciences—National Research Council, 1957. He was recipient of a special research grant from the U. S. Public Health Service; and was granted a U. S. Public Health Post-Doctoral Fellowship, 1957-58, for electrophysiological studies at the Royal Veterinary College, Stockholm, Sweden, and the Royal Veterinary College, London, England.

ROBERT K. LINDORFER was elected member, Phi Zeta (honorary veterinary medical), 1957; and secretary-treasurer, Henrici Society, 1958.

DONALD G. LOW was elected secretary, Metropolitan Animal Hospital Association, 1958; and was recipient of a special research grant from the U. S. Public Health Service, National Institutes of Health.

GEORGE W. MATHER was elected chairman, Committee on Ophthalmology, American Animal Hospital Association, 1957-58; chairman, Public Relations Committee, Minnesota State Veterinary Medical Society, 1957-58; secretary, Twin City Veterinary Medical Society, 1956-58; and received a special research grant from the U. S. Public Health Service, National Institutes of Health.

ORIN H. OSBORN was elected to Sigma Xi, 1958.

BENJAMIN S. POMEROY was elected secretary-treasurer, Minnesota State Veterinary Medical Society, 1956-58; chairman, Minnesota Turkey Breeder Hen Committee (as a public service to Minnesota), 1956-58; member, State Advisory Committee to Selective Service, 1956-58; and was elected to membership in the American Academy of Microbiologists, 1957. He was recipient of special research grants from Agricultural Research, U. S. Department of Agriculture, Commercial Solvents Corporation, Eaton Laboratories, Hess and Clark, Inc., Lederle Laboratories, Minnesota Turkey Growers Association, Inc., and Dr. Salsbury's Laboratories.

JAY H. SAUTTER was elected to membership in the New York Academy of Sciences, 1957; and received special research grants from the U. S. Atomic Energy Commission and the U. S. Public Health Service, National Institutes of Health.

ALVIN F. SELLERS was recipient of a special research grant from the Agricultural Research Service, U. S. Department of Agriculture, 1957-58; and of a Guggenheim Fellowship, 1957-58, for studies in the Physiological Laboratory, Cambridge University, England, and the Rowett Research Institute in Scotland.

DALE K. SORENSEN served as chairman, Section on General Practice, San Antonio meeting, American Veterinary Medical Association, 1956; and received a grant for special work at the Brookhaven National Laboratories, Atomic Energy Commission, 1957-58.

FRANCIS A. SPURRELL served as secretary-treasurer, American Veterinary Radiology Society, 1956-57; and member, Committee on Aims and Objectives, Educators in Veterinary Radiologic Science, 1957-58.

CLARENCE M. STOWE was recipient of special research grants from the North Central Regional Committee on Bloat; Merck, Sharp and Dohme Research Laboratories; and Smith, Kline and French Laboratories.

MELVIN W. STROMBERG was recipient of a special research grant from the U. S. Public Health Service.

PADMANABHA SUBRAMANYAM was elected member, State Branch of Phi Zeta (honorary veterinary medical), 1958; and was awarded the John Cowles Fellowship, 1956-57.

WILLIAM T. S. THORP was elected president, National Board of Veterinary Medical Examiners, 1957; vice president from Zone 1, American Veterinary Medical Association, 1957-58; member (representing American Veterinary Medical Association), Task Force on Personnel Training and Utilization, American Medical Association, 1958; special consultant, Division of Research Grants, National Institutes of Health, U. S. Public Health Service, 1957; research collaborator and consultant, Brookhaven National Laboratories, Atomic Energy Commission, 1957; member, Executive Committee, American Association of Land-Grant Colleges and State Universities, 1957; chairman, National Education and Research Projects Committee, Animal Care Panel, 1957-58; chairman, Committee on Regulatory Education in Veterinary Medicine, U. S. Livestock Sanitary Association, 1958; chairman, Committee on Public Health, 1956-57, and member, Advisory Committee to Selective Service, 1956-58, Minnesota State Veterinary Medical Society; and member, Minnesota World Health Organization Centennial Health Committee, 1958. He received a special grant from the U. S. Public Health Service, National Institutes of Health.

JACK T. TUMLIN was elected to Phi Zeta (honorary veterinary medical), 1958; to Sigma Xi, 1958; and to Gamma Sigma Delta, 1958.

ALVIN F. WEBER was named president-elect, Society of Phi Zeta (honorary veterinary medical), 1957-58.

DONALD A. WILLIGAN was elected to membership in the New York Academy of Sciences, 1956.

RAIMUNDS ZEMJANIS was elected member, Minnesota Chapter, Society of Sigma Xi, 1958; and received a special research grant from the Louis W. and Maud Hill Family Foundation.

College of Education—FREDERICK P. ABEL was elected member, Board of Directors, 1956-58, and member, Correspondence Study Committee, Minnesota Association of Secondary School Principals; was member, Book Review Committee, Minnesota Education Association *Journal*; and secretary-treasurer, Hennepin County area, Minnesota Association of School Administrators, 1956-57.

ROBERT A. ANDERSON served as the University's representative on committee to organize program for "Youth Physical Fitness Day" in Minneapolis, 1958; organizer and director, State High School League's championship track meets, 1956-58; and member, Committee on "Young Life," St. Paul.

CLIFFORD P. ARCHER served as chairman, Minnesota State Committee on the Study and Improvement of Instruction, 1956-57; chairman, Committee on Rural Life and Education on the World Scene, Department of Rural Education, National Education Association, 1956-58; chairman, Host Committee for 1958 National Conferences, Department of Rural Education and National Association of County and Rural Area Superintendents; and was elected president, Minnesota Society for the Study of Education, 1957-58.

WILLIAM BAGWELL, JR. organized the Red Wing Art Association; and was viola soloist in various performances, Minneapolis Unitarian Chamber Players.

GERTRUDE M. BAKER served as national chairman of necrology, 1956-58, and was recipient of honor award as fellow, 1957, American Association for Health, Physical Education, and Recreation.

LADDIE J. BICAK was awarded a fellowship to the National Science Foundation Institute at Kansas State Teachers College, Emporia, 1957; and was elected to membership, Phi Delta Kappa, Eta Chapter, University of Minnesota, 1958.

EMMA M. BIRKMAIER was one of a group of professional women on cultural mission to the Soviet Union to study its educational system; was invited by the West German Government to study the new Germany, its education and cultural aspects, in recognition of services in the promotion and development of teaching materials in German at the elementary and secondary school levels; and was recipient of an Award from Purdue University for meritorious services rendered as educational counselor on the Old Masters Program. She served as consultant on Education Bill, U. S. Office of Education; member, Regional Committee on selection of candidates for Fulbright and International Educational Exchange Programs, 1956-58; president, Central States Modern Language Teachers Association, 1956-58; consultant and conference member, Modern Language Association; consultant, Modern Language Audio-Visual Project, and participant, pilot studies in French, Wayne State University, 1957-58; consultant, and member, Conference on Seminar on Modern Languages in the High Schools, U. S. Office of Education; invited member, Conference on the Academically Talented, and International Council for Exceptional Children, National Education Association; chairman, Special Conference on Research in the Modern Language Field, Modern Language Association of America, 1957; and chairman, Foreign Languages in the Elementary School, Association for Supervision and Curriculum Development, 1957-58.

CLARENCE H. BOECK served as member, Committee to plan Science Curriculum Guide, Minnesota State Department of Education, 1958; member, Twin Cities Science Fair Committee 1957-58, and State Science Fair Committee, 1957-58, Minnesota Academy of Science; member, Executive Committee, 1958, co-chairman, Committee on Review of Science Education Research, 1957-58, and member, Committee to Prepare Fourth Digest of Investigation in Teaching of Science, 1958, National Association for Research in Science Teaching; member, Research Committee, 1956-58, chairman, Clinic Session, 1958, Denver meeting, National Science Teachers Association; and official representative, National Science Teachers Association, at Shattuck School Centennial, 1958. He served as consultant for pre-school Workshops in communities of the state; and consultant, High School Science Teachers Conference, Southeast Louisiana College, 1957.

NELSON L. BOSSING was member and chairman, Executive Committee, 1956-58, chairman, Convention Panel Section, 1958, National Conference on Core Teaching; member, Board of Directors, National Association for Supervision and Curriculum Development, 1956-58; member, Commission on Core Curriculum, chairman, Commission on International Education, Phi Delta Kappa (national), 1956-58; member, Board of Directors, Minnesota Secondary School Principals Association, 1956-58; and member, Committee on Study and Improvement of Minnesota School Programs, Minnesota State Department of Education, 1956-58. He was recipient of Citation for Distinguished Service to Secondary Education, Shattuck School Centennial.

JEAN A. BURGESS served as member-at-large, 1957-58, and member, Public Relations Committee, 1957-58, National Section on Dance, American Association for Health, Physical Education, and Recreation.

NAOMI C. CHASE was named director, 1956-58, chairman, Section Program for National Convention, 1957, and chairman, Nominating Committee, Elementary Section, 1958, National Council of Teachers of English; and member, Minnesota State Curriculum Committee for Elementary English, 1957-58.

RAYMOND O. COLLIER, JR. was awarded post-doctoral fellowship in statistics, National Science Foundation, 1958; and post-doctoral fellowship, Social Science Research Council, 1958.

JAMES R. CURTIN was member, 1958 Yearbook Committee, Association for Supervision and Curriculum Development, National Education Association; president, Minnesota Elementary Principals Association, 1958; consultant, Philadelphia meeting, National Elementary Principals Association, 1958; member, Yearbooks Committee, Association for Student Teaching, 1957-58.

DON DAVIES served as member, Executive Committee, member, Research Committee, Tri-State Unit, and general editor, Association for Student Teaching; consultant member, Commission on Teacher Education and Professional Standards, Minnesota Education Association; member, Minnesota State Advisory Committee on Teacher Education; chairman, Committee to Evaluate Elementary Education Program at Gustavus Adolphus College, and member,

similar committee at St. Scholastica College, both for the State Department of Education; and member, Sub-Committee on Educational Television, Minneapolis Citizens Committee on Public Education.

OTTO E. DOMIAN served as consultant, Committee on Education, Legislative Council of Kansas; consultant, Minnesota Association of School Administrators; and president, Minnesota Society for the Study of Education.

RICHARD J. DONNELLY served as chairman, Research Section, Central District, American Association for Health, Physical Education, and Recreation, 1957-58; and co-chairman, Planning Committee, Governor's Workshop on Physical Fitness.

WILLIS E. DUGAN completed seven years' service as member, Minnesota State Board of Examiners of Psychologists; was appointed member, Committee on development and improvement of guidance and counseling services, American Association for the Advancement of Science, 1958; was member, Editorial Board, *Personnel and Guidance Journal*, 1956-58, and member, Research Awards Committee, American Personnel and Guidance Association, 1958; member, Minnesota Advisory Committee on Guidance, State Board of Education, 1958; and was awarded the March of Dimes Service Award by the National Foundation for Infantile Paralysis for service as Minnesota state chairman of the March of Dimes from 1948 to 1957.

RUTH E. ECKERT served on the Educational Policies Commission, 1956-58, and on Committee on Recruitment of College Teachers, 1957-58, National Education Association; member, Research Advisory Committee, U. S. Office of Education, 1956-58; and member, Committee to Evaluate the Program of Grants for Utilization of College Teaching Resources, The Fund for the Advancement of Education, 1956-58.

MARGARET A. ELLEFSON was elected to Pi Kappa Lambda (national music honorary); served as assistant director of music, Hope Lutheran Church; and area chairman, International Society for Music, Worship and the Arts. She composed musical score for "Minnesota Morning" presented by the Paul Bunyan Theatre, Bemidji.

FREDERICK E. ELLIS served as chairman, Committee on Church and State, Minnesota Branch, American Civil Liberties Union.

NED A. FLANDERS was awarded a Fulbright Research Scholarship to the New Zealand Council for Educational Research, 1957-58; was elected president, Association for Improving Teaching, Minneapolis, 1956-57; member, Program Committee in charge of a closed circuit television demonstration, National Conference of Core Teachers, 1956; consultant, Minneapolis Public Schools Curriculum Committee, 1956-57; and consultant, Minneapolis Public Schools Principals' and School Consultants' Workshop, 1958. He received a two-year research grant from the U. S. Office of Education, 1958.

ROXANA R. FORD was member, State Advisory Board for Vocational Education; member, State Citizens Committee on Public Education; and was co-recipient of research grant from U. S. Office of Education.

PAUL FREED was soloist with the Minneapolis Civic Orchestra, 1958; and with the Minneapolis Unitarian Chamber Players, 1958. He was vice president, Alpha Sigma Chapter, Pi Kappa Lambda.

CLIFTON A. GAYNE served as chairman, Accreditation Committee, National Art Education Association, 1957-58; chairman, Committee on Standards for the Preparation of Art Teachers, National Art Education Association, College Teachers of Art Education, 1957-58; chairman, College Teachers of Art Education Section, Western Arts Association, 1956-57; representative, Committee on Collegiate Problems of Teacher Education, coordinated with the American Association of Colleges for Teacher Education, 1957-58; representative, Commission on Teacher Education and Professional Standards, National Education Association Conference, 1958; chairman, Committee for Evaluation and Improvement of Instruction in Art, Dramatics, and Music, Minnesota State Department of Education; member, Board of Directors, International Institute of St. Paul; and member, Board of Directors, St. Paul Council of Arts and Sciences.

CARL V. GOOSSEN served as member, Accreditation Team at Hamline University, State Department of Education; and as consultant, Department of Elementary School Principals, National Education Association Conventions, 1957 and 1958.

W. REID HASTIE was elected president, 1957, and served as chairman, Executive Committee and Council, 1957-58, chairman, Steering Committee, Commission on Education in the Arts, 1957-58, and chairman, College Teachers of Art Education Section, 1956-57, National Art Education Association; member, Planning Board for National Conference on Art and the Adolescent, Los Angeles, 1957; chairman, Research on Creativity, Western Arts Association, 1956; member, Advisory Board and Selection Committee, Research and Experimental Program with Universities and Colleges, International Graphic Arts Society, 1957-58.

HELEN P. HAUPTFUEHRER served as state coordinator, Women's National Rating Board, 1956-57, and secretary, Central District Division, Girls' and Women's Sports, American Association for Health, Physical Education, and Recreation, 1956-57; secretary-treasurer, Tri-State Unit, Association for Student Teaching, 1956-57.

WILLIAM W. HEUSNER served on Planning Committee, Governor's Conference on Physical Fitness; secretary-elect, Aquatic Section, and member, Research Council, National Association for Health, Physical Education, and Recreation.

PAUL S. IVORY served as president, Minnesota Music Educators Association, 1956-57; associate editor, *Journal of Research in Music Education*; member, Committee on Research, Commission on Higher Education, and member, Golden Anniversary Committee, Music Educators National Conference. He was elected to Pi Kappa Lambda, 1958.

ELOISE M. JAEGER served as chairman, State Committee on Improvement of Instruction in Health, Physical Education, and Recreation, 1956-58; and member, Research Committee, National Association for Physical Education of College Women, 1956-57.

DONOVAN A. JOHNSON served as vice president, 1956-58, chairman, Twenty-Sixth Yearbook Committee, *Evaluation of Achievement in Mathematics*, and program chairman, 1957, National Council of Teachers of Mathematics; and was consultant, Tulsa Conference on Education, 1958.

ROBERT J. KELLER served as director, Governor's Committee on Higher Education, State of Minnesota, 1956-58; director, Research Project on Use of Closed Circuit Television in Teacher Education, Fund for the Advancement of Education, 1956-58; director of Research, Legislative Commission on Higher Education, 1958; Carnegie visiting professor, University of Hawaii, fall 1957-58; consultant, Education Committee, Legislative Council, State of Kansas, 1957; member, Commission on Secondary Schools, 1956-58, and member, Minnesota State Committee, and chairman, Visiting Committees for Accreditation of Mahtomedi High School, Bethany Lutheran College, and Mankato High School, 1957-58, North Central Association of Colleges and Secondary Schools; member, Advisory Committee on Junior Colleges, Minnesota State Board of Education, 1958; member, Board of Directors, Minnesota Association of Secondary School Principals, 1956-58; member, Department of Ministerial Relations, Presbyterian Church, U. S. A., Columbus, Ohio, 1956-58; member, Administrative Council, Commission on Higher Education, National Council of Churches, 1958; member, Board, and chairman, Personnel Committee, Westminster Foundation, Synod of Minnesota, Presbyterian Church, U. S. A.

HARRY W. KITTS served as Mayor of Roseville, Minnesota, 1956-57; member, Governor's Advisory Committee on Suburban Problems; member, Organization Committee, Metropolitan Planning Commission; member, special committee to organize Metropolitan Mosquito Abatement District; member, Executive Committee, Association of Ramsey County Municipal Officials; member, Official Board, and chairman, Membership Committee, Centennial Methodist Church; ex-officio member, Minnesota State Legislative Interim Committee on State and Federal Highways; member, Governor's Interim Committee on Taxation; member, Governor's Interim Committee on Public Utilities; member, Advisory Committee, Editorial Board, *Successful Farming Magazine*; chairman, Lake Owasso Boy Scout Committee; chairman, Ways and Means Committee, Alexander Ramsey High School; and was recipient of special research grant, U. S. Office of Education, 1957-58.

PAUL R. KNOWLES was soloist with the Minneapolis Symphony Orchestra.

HELMI KOIVISTO was elected president, Epsilon Chapter, Pi Lambda Theta.

MARY B. LAMPE served as director, Workshop for Classroom Teachers, St. Paul Public School Elementary Teachers, 1957-58.

WILLARD R. LANE served as chairman, Evaluation Committee, Robbinsdale, Minnesota High School, North Central Association of Colleges and Secondary Schools, 1958; chairman, Discussion Group, National Conference on Rural Education, Denver, 1957; director, Workshop for Faculty, Fredonia State College, Fredonia, N. Y., 1956; member, Board of Directors, 1958, and director, Winter Workshop, 1957, Minnesota Association of Secondary School Principals; acting executive secretary, School Study Council, Minneapolis-St. Paul Suburban Schools, 1957-58; and director, In-service Workshop for St. Paul Principals, 1958.

WARREN G. MEYER served as teacher-trainer for Distributive Education, Minnesota State Department of Education; chairman, Policy and Planning Committee for Distributive Education, representative, Research and Publications Committee, and member, Special Committee on Audio-Visual Materials, American Vocational Association; member, Advisory Council on Distributive Education for North Central Region, U. S. Office of Education; chairman, Committee on Policy and Planning, member, Advisory Council, Minnesota Vocational Association; member, Executive Board, Minnesota Business Education Association; adviser, Minnesota Vocational Coordinators Association; member, Planning Committee, member, Faculty, Northwest Retailers Forum; member, Planning Committee, member, Faculty, Institute for Instructors of Cosmetology and Licensed Operators; chairman, Committee on Sales Demonstration Event, Minnesota Diversified Vocations Club; and editor, Distributive Education feature issue, *Business Education Forum*.

WILLIAM J. MICHEELS was named honorary member, Future Automotive Technicians of America, 1958; member, National Advisory Board, Ford Industrial Arts Awards, 1956-57; member, Advisory Committee on Junior Colleges, Minnesota State Department of Education, 1958; and member, Research Committee, American Council on Industrial Arts Teacher Education, 1958.

GORDON M. A. MORK served as president, Minnesota Education Association, 1956-58; chairman, Education Committee, Governor's Council on Children and Youth, 1958; member, Science and Mathematics Advisory Committee, Minnesota State Department of Education, 1958; and was awarded the Centennial Citation for Contribution to Secondary Education by Shattuck Academy, 1958.

HOWARD F. NELSON was elected trustee, National Association of Industrial Teacher Educators, 1957-58.

R. NORINE ONLAND was named chairman for section program, National Convention, National Council of Teachers of English, 1957.

ROGER G. OLSTAD was awarded research scholarships by the National Science Foundation and the Louis W. and Maud Hill Family Foundation.

MAURICE E. OSTRANDER served as president, Minnesota Physical Education Association, 1957-58.

NEVILLE P. PEARSON served as member, and vice chairman, Executive Committee, Audio Visual Board, Augustana Lutheran Church; member, Executive Committee, Audio Visual Coordinators Association of Minnesota; scout master, Troop 77, Boy Scouts of America; member, 1958, National Program Planning Committee, member, Equipment Standards Committee, and member, Committee on Teacher Education, Department of Audio Visual Instruction, National Education Association; visualizer, National Convention, Educational Film Library Association, 1957; chairman, Local Draft Board 122 of Minnesota, U. S. Selective Service; and member, Committee of Management, University YMCA.

MILO J. PETERSON served as member, Board of Directors, Minnesota Citizens Committee for Public Education; member, State Program and Policy Committee, Rural Division, National Education Association; member, Board of Trustees, Minnesota Future Farmers of America Foundation; member, Youth Committee, American Swedish Institute; member, Advisory Council, Minnesota Association of Future Farmers of America; consultant, Minnesota Vocational Agriculture Instructors Association; president, St. Anthony Park Association; superintendent, Department of Education, Minnesota State Agricultural Society (State Fair); editor, *The Visitor*; was recipient of Fulbright Research Scholarship to Japan, 1956; and of special research grants from U. S. Office of Education, 1958, and Louis W. and Maud Hill Family Foundation.

1956-58; and was consultant, International Cooperation Association programs in rural, agricultural, and vocational education in Korea, Morocco, and Tunisia, 1956-58.

RALPH A. PIPER served as chairman, Committee on Gymnastics, National Collegiate Athletic Association, 1956; member, U. S. Olympic Committee, 1956; was awarded Fulbright Lectureship in Physical Education at the University of Rangoon, Burma, 1956-57; and was member, Board of Editors, *The Roundup*, publication of the Folk Dance Federation of Minnesota.

MAYNARD C. REYNOLDS served as chairman, Advisory Board on Handicapped, Gifted and Exceptional Children, State of Minnesota, 1957-58; member, Governing Board, and editor, Special Publications, Council for Exceptional Children, 1956-58; and member, Executive Council, Minnesota Psychological Association.

HELEN M. SLOCUM served as vice president of health, Minnesota Association of Health, Physical Education, and Recreation, 1956-58; chairman, Research Committee, Central Association for Physical Education of College Women, 1956-57; consultant on "Health Education for Elementary Teachers," Minnesota State Department of Health, State Department of Education, and Minnesota Health and Tuberculosis Association, 1957; and chairman, Study Committee for College Health Section, American Association for Health, Physical Education, and Recreation, 1958.

DORA V. SMITH was chairman, State Conference of Librarians and Teachers of the Language Arts, 1956 and 1957; member, Committee on Preparation of Evaluative Criteria in the Language Arts for Minnesota Schools, Minnesota State Department of Education, 1956-57; member, Committee on Evaluation of Results in the Language Arts in Minnesota Schools, Minnesota State School Board, 1958; chairman, Advisory Committee on Campus Ministry, Minnesota Congregational Conference, 1957-58; chairman, Long-Range Planning Committee on Relations with Campus Student Work, 1958, chairman, Committee on Selection of a Religious Education Director, 1957, and member, Religious Education Committee, 1956-58, First Congregational Church, Minneapolis; director, National Commission on the English Curriculum, National Council of Teachers of English, 1956-58; chairman, Committee on Summarization of Research in the Teaching of Grammar and Usage, National Conference on Research in English, 1958; and member, Executive Committee on Arrangements for Meeting in Minneapolis, National Council of Teachers of English, 1957. She delivered the Phi Beta Kappa address in Minneapolis, 1956, and at Indianapolis, 1957.

LORRAINE D. SUNDAL served as resource person, 1957, and member, Planning Committee for Annual Spring Conference, 1958, and secretary, 1956, Minnesota High School Press Advisers' Association; member, Convention Exhibits Committee, National Council of Teachers of English, 1957; member, Planning Committee for Winter Conference, Minnesota Counselors' Association, 1958; consultant, Minneapolis Job Conference, Minneapolis Public Schools, 1958; and was elected to Pi Lambda Theta, National Honorary for Women in Education, 1958.

GORDON I. SWANSON served as vice chairman, District Committee, Boy Scouts of America; chairman, Board of Managers, University Branch, YMCA; member, Policy and Program Committee, Rural Division, member, Committee on Publications and Constructive Studies, Rural Division, editor, 1958 *Yearbook*, Department of Rural Education, National Education Association; consultant, Cooperative Study of Secondary School Standards—1960 revision; member, Minnesota Statehood Centennial Committee; and comptroller, Phi Delta Kappa, International Education Fraternity.

WILLARD W. TENNYSON was member, Advisory Committee on Guidance, Counseling and Testing Service, State Department of Education, 1957-58; secretary, Ohio Association Counselor Trainers and Guidance Supervisors, 1956-57; and member, Oral Examining Board for Guidance Consultant, Minnesota Civil Service Department, 1957-58.

SUZANNE S. TINKER served as chairman, Educational Exhibits, National Convention, American Camping Association, 1958.

TRACY F. TYLER served as coordinator, U. S. International Cooperation Administration and the University of Minnesota program designed to strengthen Seoul National University of Korea in the colleges of agriculture,

engineering, medicine (including nursing), and public administration, 1956-58; coordinator and judge, Class 10, in-school radio programs for junior and senior high schools, Twenty-second American Exhibition of Educational Radio and Television Programs, Ohio State University, 1958; editor, *Journal of the Association for Education by Radio-Television*, 1956-57; editor and member, Editorial Board, National Association of Educational Broadcasters *Journal*, 1957-58.

EDITH WEST served as coordinator, local arrangements chairman, Council's spring meeting, and member, Committee on Professional Relations, Minnesota Council for the Social Studies.

HAROLD T. WIDDOWSON aided in planning and conducting training programs, Minnesota Department of Conservation, 1958, Minnesota Department of Highways, 1956-58, Municipal Public Utility Engineers, 1956-58, and City Manager's Institute, 1958.

MARJORIE U. WILSON served as chairman, Research Committee, Minnesota Association for Health, Physical Education, and Recreation, 1956-58; member, Relations With Other Research Organizations Committee, 1956-58, member, Research Reviews Committee, 1956-58, and member, Research Equipment Committee, 1956-57, National Research Council; member, Reviewing Board, Delta Psi Kappa (Physical Education Women's Fraternity), 1957-58; and was co-chairman, Committee for Minnesota Physical Fitness Testing, 1958.

ROBERT C. WIRT served as chairman, Advisory Committee on Special Education, 1956-58; chairman, Advisory Committee on Juvenile Crime Control, Elliot Park Neighborhood House, Minneapolis, 1958; and member, Research Advisory Committee, Minnesota State Prison and Parole Board, 1956-58.

STANLEY G. WOLD was member, Research Committee, National Art Education Association, 1957-58; and member, Executive Board, Minnesota Art Education Association, 1958.

C. GILBERT WRENN served as editor, *Journal of Counseling Psychology*, 1956-58; consulting editor, *Psychological Review*, 1957-58; member, Council of Representatives, American Psychological Association, 1956-58; member, Executive Committee, Division of Educational Psychology, 1956-58; member, Executive Committee, Division of Counseling Psychology, 1956; member, Board of Trustees, American Board of Examiners in Professional Psychology, 1956-57; member, Yearbook Committee, American Personnel and Guidance Association, 1957-58; chairman, Committee on Membership, American College Personnel Association, 1957-58; trustee, Wesleyan Foundation, Minneapolis, 1957-58; trustee, Twin City Vocational Guidance Association, 1956-58; member, Metropolitan Personnel Committee of YMCA; consultant on Ph.D. Counseling Psychology Program, Washington University, St. Louis; and consultant in Counseling Psychology in Veterans Administration Hospitals.

GENEVIEVE P. ZITO served as member, Committee to arrange spring meeting, and as assistant business manager, *Bulletin*, Minnesota Council for the Social Studies; and was awarded a Fulbright scholarship to study modern European history in Italy, 1958.

Institute of Child Development and Welfare—JOHN E. ANDERSON served as special consultant, National Institute of Mental Health and Center for Aging Research, National Institutes of Health, 1957-58; consultant on Mental Health, Minnesota State Board of Health, 1958; member, International Editorial Board, Section on Gerontology and Geriatrics, *Excerpta Medica* Foundation, Amsterdam, 1958; member, Publications Board, American Psychological Association, 1957-58; member, Committee on Ethical Standards of Psychologists, American Psychological Association, 1957-58; and chairman, Research and Fellowships Committee, Gerontological Society, Inc., 1957-58.

ROBERT A. BASSHAM served as member, Advisory Committee on the Socially and Emotionally Maladjusted Child, Division of Special Education, State Department of Education, 1957-58.

EVELYN D. DENO served as chairman, Hennepin County Forum on Mental Deficiency, 1957-58; chairman, Advisory Board, Elliot Park Day Care Center for the Retarded, 1956-58; member, Advisory Board, Sheltering Arms School and Research Center in Mental Deficiency, 1956-58; member, Board of Directors, Minneapolis Association for Retarded Children, 1958; member, Commit-

tee on Program and Policies for Emotionally Disturbed Children in the Schools, State Board of Education, 1957-58.

ELIZABETH M. FULLER served as president, Kindergarten-Primary Department, National Educational Association, 1957-58; member, Teacher-Education Committee, Association for Childhood Education, 1958; member, Legislative Committee, National Association for Nursery Education, 1958; and Minnesota editor, *Journal of Nursery Education*, 1956-58.

DALE B. HARRIS served as member, Governor's Advisory Committee on Exceptional Children, 1956-57; member and vice-chairman, Advisory Board on Exceptional Children, State of Minnesota, 1957-58; member, Advisory Committee on Young Workers, Bureau of Labor Standards, U. S. Department of Labor, 1956-58; member, Editorial Board, *Annual Review of Psychology*, 1956-58; consulting editor, *Journal of Comparative and Physiological Psychology* and *Psychological Review*, 1958; member, Board of Directors, Children's Home Society of Minnesota, 1956-58; consultant, Commission on Education, 1957-58; and secretary and member, Governing Council, Society for Research in Child Development, 1957-58. He was awarded a research grant by U. S. Office of Education, 1958.

MERRILL F. ROFF served as principal investigator, Research Contract with the U. S. Air Force, 1956-58; and principal investigator, Research Grant from the National Institute of Mental Health, 1958.

MILDRED C. TEMPLIN was awarded a research grant by the U. S. Office of Education, 1958.

College of Medical Sciences—CARL S. ALEXANDER was awarded a U. S. Public Health research grant, 1957; was elected member, American Federation for Clinical Research, 1956; and member, Trudeau Society, 1956.

RAY M. AMBERG served as civilian adviser to the Surgeon General, U. S. Navy; chairman, Federal Hospital Survey and Construction Committee, State of Minnesota; member, Committee on Licensure of Hospital Administrators, and member, Advisory Committee on Hospital Licensure, State Department of Health; member, Board of Directors, Minnesota Tuberculosis and Health Association; member, Council on Government Relations, Minnesota Hospital Association; president-elect, American Hospital Association; and chairman, Joint Committee on Health Care of the Aged, American Medical Association and the American Hospital Association.

GAYLORD W. ANDERSON served as member, Expert Committee on Training of Professional and Auxiliary Public Health Personnel, World Health Organization; member, U. S. Delegation to 11th World Health Assembly; consultant to Surgeon General, member, Heart Disease Control Committee, member, Selection Committee for Senior Research Fellowships, and member, Advisory Board to Robert A. Taft Environmental Sanitation Center, U. S. Public Health Service; consultant to the Surgeon General, U. S. Army; member, Governing Council, member, Technical Advisory Committee, and member, Committee on Communicable Disease Control, American Public Health Association; chairman, Poliomyelitis Advisory Committee, State Health Department; member, State Steering Committee for World Health Assembly; chairman, Health and Medical Care Division, and member, Executive Committee, Community Chest and Council of Hennepin County; vice president, member, Executive Committee, and chairman, Community Needs Committee, United Hospital Fund (Minneapolis); and member, Pop Concerts Committee (St. Paul).

JOHN A. ANDERSON was elected member, 1956-58, and chairman, 1957-58, Council, American Pediatric Society; member, Advisory Board, and vice president, Physicians' Council for Information on Child Health, 1956-58; member, Editorial Board, *Advances in Pediatrics*, Yearbook Publishers, Chicago, 1956-58; member, Advisory Board, Sheltering Arms School for Research in Mentally Retarded Children, Minneapolis, 1956-58; elected to Editorial Board, *Pediatrics*, journal of the American Academy of Pediatrics, 1956-58; member, Board of Directors, Minneapolis Association for Retarded Children, 1958; member, Mental Health Medical Policy Committee, Department of Public Welfare, State of Minnesota, 1957-58; member, Membership Committee, Minnesota Heart Association, 1957-58; member, Residency Review Committee, American Medical Association, 1956-58; member, Wyeth Pediatric Fellowship Committee, Wyeth Laboratories, 1957-58; and delivered the annual S. W.

Clausen Lecture, University of Rochester, 1958, and the annual Kauaikealani Children's Hospital Lectures, Honolulu, Hawaii, 1958.

JOSEPH T. ANDERSON was awarded a research grant by the National Dairy Council.

KARL W. ANDERSON served as treasurer, Minnesota Finance Committee, World Health Organization; treasurer, Minnesota State Medical Association; vice president, Minnesota Heart Association; chairman, Nursing Services, and member, Board of Directors, Minneapolis and Hennepin County Chapter, American Red Cross; member, Board of Directors, Minnesota Medical Foundation; member, Board, Life Insurance Medical Research Fund; and member, Board, United Hospital Fund, Minneapolis and Hennepin County.

WALLACE D. ARMSTRONG served as member, Board of Scientific Counselors, National Institute of Dental Research; member, Advisory Board, Division of Biology and Medicine, Argonne National Laboratory; and member, Editorial Board, *American Journal of Physiology*.

STUART W. ARHELGER was member, Board of Editors, *Minnesota Medicine*, 1956-58.

J. BRADLEY AUST was chosen as American Scholar in Cancer Research with research grant for five years, American Cancer Society, 1956.

ROBERT W. BACHMEYER was elected regent of Region 10, American College of Hospital Administrators, 1957; secretary, 1957, and president, 1958, Board of Trustees, Twin City Regional Hospital Council; member, Committee of Hospital Organization, American Hospital Association; secretary-treasurer, St. Barnabas Hospital Research Foundation, Minneapolis; vice president, 1956-57, and president, 1957-58, Junior High School Parent-Teacher Association of Edina-Morningside.

ABE B. BAKER was reappointed member, Medical Advisory Board, National Multiple Sclerosis Society, 1956-58; member, Clinical Advisory Board, United Cerebral Palsy Association, 1956-58; and member, Advisory Committee to the Psychiatry and Neurology Service, Veterans Administration, Washington, D. C., 1957-58.

ROBERT N. BARR served as member, Advisory Committee on Indian Health to the Surgeon General, U. S. Public Health Service; member, National Committee on Indian Health, Association on American Indian Affairs, Inc.; member and vice-chairman, 1956-57, Indian Affairs Committee, Association of State and Territorial Health Officers; served in advisory capacity to Minnesota Legislative Committee on Indian Affairs, 1957-58; member, State of Minnesota Inter-Departmental Committee on Aging, 1956; member, National Advisory Committee on Heart Disease Control, U. S. Public Health Service; member, Governing Council, and chairman, Health Officers Section, 1957, American Public Health Association; vice-chairman, Committee on Hospitals and Mental Health, Association of State and Territorial Health Officers, 1958; health officer, Minnesota Advisory Committee, National Advisory Committee to Selective Service System, 1957; member, Minnesota Atomic Development Problems Committee, 1957; chief medical officer, Section of Health, Medical and Special Weapons Defense, Minnesota Department of Civil Defense, 1956; and chairman, Steering Committee, Minnesota World Health Organization and Centennial Health Committee.

JACOB E. BEARMAN served as director, Minnesota Section, American Society for Quality Control; member, Constitution Committee, chairman, Nominating Committee, Twin Cities Chapter, American Statistical Association; member, Research Advisory Committee, chairman, Subcommittee on Juvenile Delinquency Statistics, chairman, Subcommittee on Social Statistics, Community Welfare Council, Hennepin County; and chairman, Committee on Evaluation of Graduate Summer Session in Public Health Statistics, University of Michigan, sponsored by Schools of Public Health of the United States.

ELLIS S. BENSON was awarded a Senior Research Fellowship from the U. S. Public Health Service, 1957-58.

REUBEN BERMAN was appointed governor for the State of Minnesota, American College of Cardiology, 1957.

JOHN J. BITTNER was awarded special research grants by National Cancer Institute, National Institutes of Health, U. S. Public Health Service; American Cancer Society, Inc.; Minnesota Division, American Cancer Society; and Elsa U. Pardee Foundation. He served as member, Fourth Congress, International

Association of Gerontology, Merano and Venice, Italy, 1957; and member, Second International Symposium on Mammary Cancer, Perugia, Italy, 1957. He delivered special lectures in cancer biology, 1957-58, at the University of Milan, the University of Zürich, and the University of Innsbruck; and was recipient of the Bertner Foundation Award in Cancer Research, 1957. He was awarded the honorary degree, Doctor of Medicine and Surgery, by the University of Perugia, Italy, 1957; and was elected affiliate member, Royal Society of Medicine, London, England, 1958.

LAWRENCE R. BOIES served as member, Special Medical Advisory Board to the Veterans Administration, Washington, D. C., 1956-58; director, and member, Executive Committee, Board of Otolaryngology, 1956-58; secretary-treasurer, American Otological Society, Inc., 1956-58; trustee, Research Fund, Central Bureau for Otologic Research, New York, 1956-58; and president, Laryngological, Rhinological and Otological Society, Inc., 1957-58. He delivered the Weiss Memorial Lecture at the University of Texas, Dallas, 1956.

RICHARD G. BOND was consultant, National Institutes of Health, U. S. Public Health Service; member, Governing Council, American College Health Association; and was certified as sanitary engineer, Industrial Hygiene, by American Sanitary Engineering Intersociety Board.

HERBERT M. BOSCH served as member, Board of Directors, U. S. Section, Inter-American Society for Sanitary Engineering; member, Governing Council, American Public Health Association; member, Commission on Environmental Hygiene, Armed Forces Epidemiological Board; member, Advisory Committee, Federal Civil Defense Administration; vice president, Minnesota State Board of Health; member, Committee on Sanitary Engineering and Environment, and chairman, Subcommittee on Waste Disposal, National Research Council; consultant to World Health Organization (Brazil, summers, 1956 and 1957, Japan, fall, 1957); and participated in regional seminar on environmental sanitation, Beirut, Lebanon, 1956.

PAUL D. BOYER was participant, International Enzyme Symposium, Tokyo, Japan, 1957.

RUTH E. BOYNTON was reappointed member, Minnesota State Board of Health; member, Minnesota WHO and Centennial Health Committee; and member, Council, and chairman, Section of Administration, American College Health Association.

S. GAYLEN BRADLEY was awarded a research grant by the U. S. Public Health Service.

JOHN P. BRANTNER served as chairman, Subcommittee on Treatment, Mayor's Advisory Committee on the City Workhouse, 1957-58.

ROBERT A. BRIDGES was awarded a fellowship by the Arthritis and Rheumatism Foundation, 1957-58; was member, Medical and Scientific Committee, Minnesota Chapter, Arthritis and Rheumatism Foundation, 1958; and was awarded research grants by the Minnesota Heart Association and the Arthritis and Rheumatism Foundation, 1957-58.

JOHN F. BRIGGS served as member, Education Board, Minnesota Heart Association; member, Commission on Tuberculosis, Minnesota State Medical Association; member, Editorial Board, *Minnesota Medicine*; member, Editorial Board, *Spanish Thoracic Journal*; chairman, Board of Regents, American College of Chest Physicians; member, Horseshoe Club, London, England; and member, American College of Cardiology.

JEROME W. BROWER was appointed chairman, Study Group on Review of Classification Problems and Development of Minimum Standardized Tabulations of Marriage and Divorce Data, Public Health Conference on Records and Statistics, U. S. Public Health Service, 1958.

ERNEST B. BROWN, JR. was chairman, Board of Managers, University Branch, YMCA; and was holder of two research contracts with the U. S. Air Force, 1956-58.

BYRON W. BROWN, JR. served as treasurer, Twin Cities Chapter, American Society for Quality Control; and biostatistical consultant, Committee on Lesions, Society for the Study of Arteriosclerosis.

JOSEF M. BROZEK served as book review editor, *Human Biology*, 1956-58; organizer and editor, *Symposium on Human Nutrition*, National Vitamin Foundation, 1957; council representative, Division 20 (Maturity and Old Age),

American Psychological Association, 1956-58; and received research grant from Tobacco Industry Research Committee, 1956-58.

JOEL G. BRUNSON was recipient of Senior Research Fellowship from the U. S. Public Health Service, 1956; recipient, research grants from the Minnesota Heart Association, 1956-58; two research grants from the U. S. Public Health Service, 1956-58 and 1957-58; and research grant from the Atomic Energy Commission, 1956-58.

JOSEPH J. BUCKLEY received research grant from the U. S. Public Health Service, 1956-58; and was named president-elect, Minnesota State Society of Anesthesiologists, 1958.

BERRY CAMPBELL received research grants from the National Academy of Sciences, and the U. S. Public Health Service, 1956-58.

JAMES B. CAREY, JR. was awarded a U. S. Public Health Service research grant; was elected member, Minnesota Academy of Medicine; member, Central Clinical Research Club; member, American Association for the Study of Liver Disease; and member, Minnesota Society of Internal Medicine.

WILLIAM O. CASTER served as member, Governor's Advisory Committee on Atomic Development; and was appointed special research fellow, U. S. Public Health Service.

H. MEAD CAVERT served as established investigator, American Heart Association, 1956-58; program director, graduate and undergraduate cardiovascular research training grants, U. S. Public Health Service, 1957-58; member, Committee of Management, University Branch YMCA, 1956-58; and was recipient of research grants from the American Heart Association and from the Minnesota Heart Association, 1956-58.

NORA F. CLINE served as chairman, Subcommittee on Nursing, 1958, and member, Training and Standards Committee, 1956-58, National Institute of Mental Health.

MYRTLE H. COE served as first vice president, and co-chairman, Committee on Economics and General Welfare, member, Joint Commission for the Improvement of the Care of the Patient, secretary, Professional and Counseling Service, official delegate, International Congress of Nurses Quadrennial Congress, Rome, Italy, 1957, and official delegate, Council on Rheumatic Fever and Congenital Heart Disease, American Nurses' Association; member, Board of Directors, American Nurses' Foundation; member, Board of Directors, member, Credit and Unit Evaluation Committee, chairman, Committee on Certification of Nurse Specialists, and member, Joint Twin City Merit Study Committee, Minnesota Nurses' Association; official representative of Third District Minnesota Nurses' Association to Committee on Education, Minneapolis Chamber of Commerce; member, School of Nursing Advisory Committee, Minneapolis General Hospital; member, Executive Committee, member, Board of Directors, and chairman, Heart Council Advisory Committee, Minnesota Heart Association; member, Editorial Board, *Journal of Chronic Diseases*; member, Scholarship Advisory Committee, Group Health Association; member, Executive Committee, member, Committee on Nutrition, Council on Community Service and Education, and member, Committee on Education, Council on Rheumatic Fever and Congenital Heart Disease, American Heart Association.

EPHRAIM B. COHEN was elected fellow, American College of Cardiology, 1958; served as consultant in Internal Medicine, Department of Rehabilitation, State of Minnesota, 1956-58; and consultant in Internal Medicine, Stillwater Prison Hospital, 1958.

MAYNARD M. COHEN was awarded a special traineeship by the National Institute for Neurological Diseases and Blindness for study in London, England, 1957-58.

JAMES R. DAWSON, JR. served as member, Research Committee, Minnesota Division, American Cancer Society; and member, Board of Directors, St. Paul Science Museum. He was elected to honorary membership, Kappa Chapter, Society of Phi Zeta, 1958; and was recipient of two research grants from the U. S. Public Health Service, 1956-58.

KATHARINE J. DENSFORD served as second vice president and chief representative to Tenth Anniversary Commemorative Session and Eleventh Meeting, Minneapolis, World Health Organization, International Council of Nurses, 1958; member, Committee on Nursing in International Affairs, Ameri-

can Nurses' Association; member, National Nursing Advisory Committee, American Red Cross; member, Women's Committee of One Hundred, Minnesota Statehood Centennial Committee; member, Committee on Legislation, member, Committee on World Health Organization, chairman, Minnesota Centennial Committee, and member, Board of Directors, Third District, Minnesota Nurses' Association.

IRENE M. DONOVAN served as member, Subcommittee on Community Planning, and member, Committee on Service in the Work House, St. Paul; and was elected vice president, Minnesota League for Nursing.

FRANCES E. DUNNING was elected secretary, Department of Baccalaureate and Higher Degree Programs, 1957-58, and vice-chairman, 1956-57, Division of Nursing Education, Minnesota League for Nursing; and member, Executive Committee, Educator, Administrator, Consultant, and Teacher Section, Minnesota Nurses' Association, 1956-58.

EDWARD J. DVORAK was elected chairman, Section of Health Education, American College Health Association, 1958; and received the Outstanding Student Service Award from All-University Congress, 1958.

STEPHAN EPSTEIN was elected honorary member, French Allergy Society, 1956.

GERALD T. EVANS was awarded three research grants by the U. S. Public Health Service, 1957 and 1958.

ABRAHAM FALK served as chairman, Sanatorium Committee, Minnesota Trudeau Society; and member, Executive Committee, Veterans Administration—Armed Forces Committee on the Chemotherapy of Tuberculosis.

JOHN G. FEE served as examiner, Civil Aeronautics Administration; secretary-treasurer, Minnesota State Association of Internists; and president, St. Paul Society of Internal Medicine.

WILLIAM J. L. FELTS received research grants from the U. S. Public Health Service, 1956-58, and from the Minnesota Division, American Cancer Society, 1956-57.

EJVIND P. K. FENGER served as member, Committee on Fellowship, 1956, member, Membership Committee, 1956-58, secretary and treasurer, 1957-58, American Trudeau Society; second vice president, 1957, first vice president, and program chairman, 1958, and editor, *Bulletin*, Hennepin County Medical Society; and chairman, Committee on Radiation, Hazards or Effects, and member, Board, Hennepin County Tuberculosis Association. He delivered the first annual Arthur T. Laird Lecture, 1957.

EDMUND B. FLINK served as visiting professor in medicine, Seoul National University under the auspices of the University of Minnesota—U. S. International Cooperation Administration, 1957; and was elected fellow, American College of Physicians, 1957.

IVAN D. FRANTZ served as member, Board of Directors, American Society for the Study of Arteriosclerosis; and was elected to membership, Central Society for Clinical Research and to Society for Experimental Biology and Medicine.

ESTHER F. FREIER was associate editor, *American Journal of Medical Technology*, 1956-58; chairman, Research and Paper Writing Committee, 1956-57, and president-elect, 1957-58, Minnesota Society of Medical Technologists; and received the Scientific Products Foundation Award in Chemistry and Educational and Procedural Techniques, and the Registry of Medical Technologists Award.

RAMON M. FUSARO was recipient of the Bronze Award for Scientific Exhibit, American Academy of Dermatology and Syphilology, 1957; and of special research grants by Upjohn, American Cancer Society (2), and U. S. Public Health Service (2).

NEAL L. GAULT, JR. served as secretary-treasurer, Minnesota Medical Foundation, 1957-58; editor, University of Minnesota *Medical Bulletin*, 1957-58; member, Board of Editors, *Minnesota Medicine*, 1957-58; member, Board of Editors, *Journal-Lancet*, 1956-58; member, Professional Education Committee, Minnesota Division, American Cancer Society, Inc., 1958; general chairman, Scientific Program Committee for Clinical Meeting, American Medical Association, 1958; member, Board of Directors, and member, Medical and Scientific Committee, Minnesota Chapter, Arthritis and Rheumatism Foundation, 1958; judge, Unico Scholarship Award, 1958; member, Medical Scholarship

Advisory Committee, Group Health Association, 1957-58; zone medical director, Zone 5, Minneapolis Civil Defense, 1956-58; and captain, Community Chest, 1958. He was awarded the University of Minnesota "Oscar."

ERNST GELLHORN was invited to lecture at the Sorbonne in Paris, France on the occasion of the meeting of the Haut-College International, 1957.

SIGRID GILBERTSON served as director, School Board, District 16, Anoka County, 1957-58.

DAVID GLICK served as consultant, Biological Warfare Division, U. S. Army; editor, *Methods of Biochemical Analysis*; member, Editorial Board, *Proceedings of the Society for Experimental Biology and Medicine*.

BERNARD C. GLUECK, JR. served as member, Advisory Committee on Sexual Psychopath Laws, Public Welfare Laws, Minnesota Interim Legislative Commission, 1957-58; treasurer, American Psychopathological Association, 1956-58; consultant to State Probation and Parole Boards, 1956-58; was elected to the Society of Sigma Xi, 1958. He was awarded a research grant by Sandoz Pharmaceuticals, 1957-58.

ROBERT W. GOLTZ was awarded special research grants by the Minnesota Division, American Cancer Society, 1956-58, and by the U. S. Public Health Service, 1957-58; was recipient of the Bronze Award for Scientific Exhibit, American Academy of Dermatology and Syphilology, 1957; and served as treasurer, 1956-58, and secretary, 1958, Minnesota Academy of Occupational Medicine and Surgery.

LORRAINE GONYEA was chairman, Nominations Committee, Twin Cities Society of Medical Technologists, 1957-58.

ROBERT A. GOOD was member, Board of Directors, chairman, Committee on Rheumatic Fever, and secretary, Minnesota Heart Association; program chairman, Northwestern Pediatric Society; member, Scientific Council and Basic Science Section, American Heart Association; chairman, Scientific Advisory Committee, and member, Board of Directors, Minnesota Chapter, Arthritis and Rheumatism Foundation; member, Hematology Study Section, U. S. Public Health Service; council member, Central Society for Clinical Research; associate editor, *Journal of Diseases of Children*, American Medical Association; member, Editorial Board, *Journal of Clinical Investigation*; member, Committee on Rheumatology and Rheumatic Diseases, Minnesota State Medical Association; associate editor, *Journal of Laboratory and Clinical Medicine*; corresponding editor, *International Archives of Allergy and Applied Immunology*; member, Editorial Board, *Modern Medicine*; member, Editorial Board, *Arthritis and Rheumatism*; vice president, Parent-Teacher Association, Motley School, Minneapolis; member, Committee of Management, Southeast Branch, YMCA, Minneapolis; and member, Unitarian Service Commission Medical Exchange Team with France, Germany, Switzerland, and Czechoslovakia. He was elected fellow, New York Academy of Science; and was recipient of research grants from the U. S. Public Health Service, the Helen Hay Whitney Foundation, the American Heart Association, the Minnesota Heart Association, the Minnesota Chapter, Arthritis and Rheumatism Foundation, and the Louis W. and Maud Hill Family Foundation.

JOHN R. GORDON was secretary-elect, Minnesota State Society of Anesthesiologists, 1958.

MARGARET F. GRAINGER served as president, Third District, Minnesota Nurses' Association; and member, Board of Directors, Minnesota League for Nursing.

EUGENE D. GRIM was recipient of research grants from U. S. Public Health Service, 1957-58, and Minnesota Heart Association, 1957-58.

RUTH E. GROUT served as consultant in health education, World Health Organization, Regional Office for Europe, 1956-57; consultant, Work Conference on Health, Education for Yugoslavia, 1957; member, Joint Committee on Health Problems in Education, National Education Association and American Medical Association, 1956-57; vice-chairman, Minnesota Council for Adult Education, 1956-57; member, Board of Trustees, Northwestern Hospital; and member, Editorial Committee, *Healthful School Living*.

PAUL S. HAGEN was awarded two special research grants from Eli Lilly and Company, 1956-58.

FRANZ HALBERG served as member, Committee on Nomenclature, International Society for the Study of Biologic Rhythms; was elected fellow, New

York Academy of Science; and was invited to participate in Symposium at Semmering, Austria, 1957.

WENDELL H. HALL served as member, Editorial Board, *Journal of Laboratory and Clinical Medicine*; secretary-treasurer, Minnesota Society of Internal Medicine; member, Allergy and Immunology Study Section, Research Grants Division, National Institutes of Health; member, Executive Committee, Minneapolis Society of Internal Medicine; chairman, Laboratory Committee, Conference of the Chemotherapy of Tuberculosis, and member, Laboratory Committee, Cooperative Study of Coccidioidomycosis, Veterans Administration—Armed Forces; member, Cooperative Study of Staphylococcic Infections, Veterans Administration; and was awarded research grant, Eli Lilly and Company; and summer research scholarship, Wyeth and Company, Philadelphia.

JAMES A. HAMILTON served as consultant, Office of the Surgeon General of the Army; chairman, Advisory Board, Hotel Superintendents Registration Law, Minnesota State Board of Health; chairman, Book Award Committee, American College of Hospital Administrators; chairman, Headmaster Selection Committee, Tilton School, New Hampshire; and member, General Committee, 200th Anniversary Development Program, Dartmouth College.

ERLING W. HANSEN served as president, Section on Ophthalmology, American Medical Association; and as president, American Academy of Ophthalmology and Otolaryngology.

J. FRANCIS HARTMANN received research grants from the U. S. Public Health Service, 1956-58; and was on sabbatical leave at the University of Kiel, Germany, 1957-58.

DONALD W. HASTINGS served as member, Ethics Committee, American Psychiatric Association, 1957-58; and member, Advisory Panel on Medical Sciences, Department of Defense, 1956-58.

STARKE R. HATHAWAY served as member, Training Committee, National Institute of Mental Health, 1956-58; and member, Medical Policy Committee, State Department of Public Welfare, 1956-58.

LYLE J. HAY was elected chairman, Professional Education Committee, 1957-58, and member, Board of Directors, 1956-58, Minnesota Division, American Cancer Society; and consultant editor, *Modern Medicine*, 1957. He was recipient of research grants from Hartford Foundation, 1956-58, and Minnesota Heart Association, 1957-58.

GORDON T. HEISTAD was awarded a research grant from the U. S. Public Health Service, 1958; and served as research consultant, Minnesota Department of Public Welfare, 1958.

HEIDE HENRIKSEN received research grant from the American Journal of Nursing Company.

HERBERT M. HIRSCH was appointed scholar in cancer research of the American Cancer Society, Committee on Growth, National Research Council, 1956; and was recipient of research grants from the U. S. Public Health Service, 1956 and 1958.

FREDERICK W. HOFFBAUER served as consultant in medicine, Research and Development Division, and member, Advisory Committee on Metabolism, Subcommittee on Liver, Office of the Surgeon General, Department of the Army; and member, Editorial Board, *American Journal of Digestive Diseases*, 1958.

KENNETH J. HOLMQUIST served as member, Advisory Committee on Hospital Superintendent Registration Law, and member, Advisory Committee, Hospital Survey and Construction Program, Minnesota Department of Health.

RUTH HOVDE served on Liaison Committee, Medical Technology Study Committee, American Society of Medical Technologists, 1956-58.

ROBERT B. HOWARD served as member, Minnesota World Health Organization and Centennial Health Committee; member, Committee on Continuation Medical Education, American Association of Medical Colleges; and member, Board of Editors, *Minnesota Medicine* and *Journal Lancet*.

MILTON M. HURWITZ served as president, Minnesota Heart Association, 1957-58; member, State Rehabilitation Committee; and was awarded research grant from the Minnesota Heart Association.

IVER A. IVERSEN was recipient of fellowship awards from National Institutes of Health and U. S. Public Health Service.

REYNOLD A. JENSEN was named honorary professor, University of San Carlos Medical School, Guatemala City, 1956; chairman, Program Committee, American Academy of Child Psychiatry, 1957; member, Legislative Committee, American Ortho-psychiatric Association; member, Research Advisory Committee, National Association for Retarded Children, 1956-58; member, Advisory Board, The American Child Guidance Foundation, 1956; president, Minnesota Chapter, American Association of University Professors, 1957-58; vice president, Minnesota Human Genetics League, 1957-58; member, Advisory Committee to Four-County Study of Mental Retardation, Minnesota State Board of Health, 1958; member, Committee to Study Revision of Laws Regarding the Mentally Retarded and Epileptic, Minnesota Department of Public Welfare, 1957-58. He was guest speaker, Third Pediatric Congress of Central America and Panama, Guatemala City, 1956.

KARL R. JOHANSSON was elected fellow, American Academy of Microbiology; and was awarded a research grant by the U. S. Public Health Service.

EUGENE A. JOHNSON served as member, Governor's Advisory Committee for Study of Traffic Accidents; consultant in biostatistics, Cambridge State School and Hospital, Cambridge, Minnesota; and consultant, Minnesota State Board of Health.

John A. Johnson was recipient of research grant from the U. S. Public Health Service.

RUTH V. JOHNSTON served as vice-chairman, Department of Baccalaureate and Higher Degree Programs, 1956-57, and member, Convention Program Committee, 1958, National League for Nursing; member, Board of Directors, 1956-58, member, Evaluation and Guidance Committee, 1956-58, representative to Minnesota Nurses' Association Committee on Careers, 1956-58, Minnesota League for Nursing; represented the National League for Nursing at Arkansas Convention, 1957; attended International Congress of Psychology, Brussels, Belgium, 1957; was elected member, American Educational Research Association, 1958; elected fellow, 1957, and served as member, Nominating Committee, 1957-58, International Council of Women Psychologists.

IRWIN H. KAISER was awarded a Louis W. and Maud Hill Foundation fellowship for study and research at Karolinska Institutet, Stockholm, Sweden.

BYRL J. KENNEDY was awarded special research grants by the U. S. Public Health Service, 1957-58, the Damon Runyon Fund, 1956-57, and the Minnesota Division, American Cancer Society, 1956-58; and was elected to membership, American College of Physicians, and Central Society for Clinical Research, 1957.

ANCEL KEYS was appointed to second 5-year term as consultant and expert panel member, World Health Organization; received award, Honorary Citizen of Gioia Tauro, Italy; and was member, Editorial Boards, *Excerpta Medica*, *Circulation Research*, *American Journal of Physiology*, and *Journal of Applied Physiology*. He delivered the Wetlard J. Stone Memorial Lecture, 1958; the Annual Emmerling-Stewart Lecture, 1958, and the Paulin Memorial Lecture, 1958.

JOSEPH T. KING was recipient in 1957-58 of research grants from the U. S. Public Health Service, Minnesota Division, American Cancer Society, and Minnesota Heart Association.

HELEN L. KNUDSEN served as administrator, statewide survey, planning and construction program, the Hill-Burton Program and the licensure program for hospitals and related care facilities, and the registration of hospital administrators, State Department of Health; member, Committee on Hospital Planning, American Hospital Association; chairman, Projects Committee, American Association for Hospital Planning; member, Public Health Nursing Committee, Minnesota State Medical Association; member, Nursing Home Committee, Hennepin County Medical Society; consultant, Nursing Home Study, Citizens' League of Greater Minneapolis; member, Advisory Board, Minneapolis Visiting Nurse Service; and was key investigator, U. S. Public Health Service research grant to Minnesota State Board of Health.

FREDERIC J. KOTTKE served as member, Minnesota Governor's Advisory Committee on Vocational Rehabilitation; member, Legislative Interim Commission on Employment of the Physically Handicapped; member, Minnesota Physical Therapist Examining Committee; consultant on Physical Medicine and Rehabilitation, Minneapolis Veterans Administration Hospital; member,

Executive Subcommittee, American Rehabilitation Foundation; member, Editorial Board, *Archives of Physical Medicine and Rehabilitation*; second vice president, 1956-57, first vice president, 1957-58, and chairman, Gold Key Award Committee, American Congress of Physical Medicine and Rehabilitation; member, American Board of Physical Medicine and Rehabilitation, and member, Residency Review Committee on Physical Medicine and Rehabilitation, Council on Medical Education and Hospitals, American Medical Association. He received research grants from the Office of Vocational Rehabilitation, Sandoz Pharmaceuticals, and Minnesota Heart Association.

CARL D. KOUTSKY served as member, Voluntary Citizens' Committee, Minnesota Mental Health Association, 1957-58.

ARNOLD J. KREMEN was appointed to Governor's Centennial Committee for World Health Organization, 1958; was elected president, Minnesota Surgical Society; and vice president, Society of Head and Neck Surgeons, 1956-58.

ARNOLD LAZAROW was elected member, Study Section, U. S. Public Health Service, 1957-58; and received research grants from American Cancer Society, 1956-58, National Science Foundation, 1956-57, U. S. Public Health Service, 1956-58, Minnesota Heart Association, 1956-58, National Fund for Medical Education, 1956-57, and Eli Lilly and Company, 1956-57.

CECELIA R. LEDIGER planned and conducted workshop, Veterans Administration Hospitals at St. Cloud, Minnesota and Sioux Falls, South Dakota; served as member, Mayor's Civil Defense Committee; chairman, Committee on Nursing Services in Disaster, Minneapolis-Hennepin County American Red Cross; member, Educator-Administrator-Consultant-Teacher Section, American Nurses' Association; member, Program Committee, Minnesota Nurses' Association; consultant, Volunteer Group, Council of Church Women, Minneapolis Branch; consultant, Board of Directors, Church Home for the Aged, St. Paul; and was resource person, Conference for Nurses, Planned Parenthood Association of Minneapolis, 1957.

EDITH M. LENTZ served as special consultant in Study of Progressive Patient Care Plan, U. S. Public Health Service; was member, Editorial Board, *Nursing Research Magazine*; and was elected to membership in Phi Kappa Phi (honorary business), Cornell University. She was awarded a research grant by the U. S. Public Health Service.

HERMAN C. LICHSTEIN was charter fellow, American Academy of Microbiology; president, Minnesota Section, Society for Experimental Biology and Medicine; member, Advisory Board, *Methods of Biochemical Analysis*; consultant, Veterans Administration Hospital, Minneapolis; member, Governor's Advisory Committee on Exceptional Children; and member, Medical and Professional Advisory Committee, Minnesota Society for Crippled Children and Adults. He was awarded research grants from the Office of Naval Research, U. S. Public Health Service, and Eli Lilly and Company.

NATHAN LIFSON served as member, Editorial Board, *American Journal of Physiology* and *Journal of Applied Physiology*; and was recipient of research grant from the U. S. Public Health Service.

C. WALTON LILLEHEI was associate editor, *Excerpta Medica*, 1957; associate editor, *Angiology*, 1958; and was recipient of the Ida B. Gould Award, American Association for the Advancement of Science, 1956, the Hektoen Gold Medal, American Medical Association, 1957, the Modern Medicine Distinguished Achievement Award, 1957, the Oscar B. Hunter Award, American Therapeutic Society, 1958, and the Purdue Frederick Medical Achievement Travel Award, International Council for Health, 1958. He delivered the James B. Herrick Memorial Lecture, Chicago, February 1957; the H. B. Schmookler Memorial Lecture, Philadelphia, February 1957; the William Harvey Tercentenary Lecture, U. S. Public Health Service, Washington, D. C., September 1957; the Oscar B. Hunter Memorial Lecture, San Francisco; and was elected "Minnesota Man of the Year," 1957.

JOHN LOGOTHETIS was awarded a U. S. Public Health Service research grant, 1957-58.

MERLE K. LOKEN was elected to associate membership, American College of Radiology, 1958; and was principal or co-investigator on research grants from the American Cancer Society, Minnesota Division of the American Cancer Society, U. S. Public Health Service, and Atomic Energy Commission.

VICTOR LORBER was member, Board of Directors, and member, Research Allocations Committee, Minnesota Heart Association.

THOMAS LOWRY served as member, Board of Censors, Hennepin County Medical Society, 1956-58.

KARL R. LUNDEBERG served as consultant to Historical Unit, U. S. Army Medical Service, Walter Reed Army Medical Center; member, Commission on National Emergency Medical Care, American Medical Association; member, Medical Advisory Committee, Federal Civil Defense Administration; and vice-chairman, Health and Medical Division, Community Chest Council.

FRANCIS W. LYNCH served as director, American Dermatologic Association, 1957; and vice president, American Boards of Dermatology, 1957.

LLOYD D. MACLEAN was named Markle Scholar in Medical Sciences, 1957; and received grants for research from the Louis W. and Maud Hill Family Foundation, the U. S. Public Health Service, and the Minnesota Heart Association.

RICHARD M. MAGRAW served as consultant, mental hygiene clinics at Crookston and Austin, Minnesota, 1957-58.

JAMES C. MANKEY was treasurer, Minnesota Medical Alumni Association; member, Board of Directors, Minnesota Heart Association; member, Executive Board, Minneapolis Society of Internal Medicine; and member, Minnesota Society for Study of Diseases of the Heart and Circulation.

JAMES H. MATTHEWS served as adviser in medicine, Seoul National University, Seoul, Korea, in the University's cooperative project with the U. S. International Cooperation Administration, 1957-58.

CARLOS MARTINEZ was recipient of research grants from the U. S. Public Health Service, 1956-58, and the American Cancer Society, 1957. He was holder of the William A. O'Brien Professorship in Cancer Research, Minnesota Division, American Cancer Society, 1956-58; and was visiting professor, Department of Pathology, Universidad degli Studi di Perugia, Italy, 1957.

JAMES F. MARVIN served as member, Governor's Advisory Committee on Atomic Development Problems.

WILLIAM F. MAZZITELLO was awarded a special research grant from the American Heart Association; and was elected to the Minnesota Society of Internal Medicine.

DONALD MCCARTHY served as area director, Professional Services in the Area Office, Veterans Administration; councilor, 5th District Executive Council, Minnesota State Medical Association; member, Executive Committee, Hennepin County Medical Society; and vice president, United Hospital Fund of Minneapolis and Hennepin County.

JAMES S. MCCARTNEY was re-elected secretary-treasurer, Minnesota Pathological Society, 1956-58; and president, Minnesota State Board of Examiners in the Basic Sciences, 1957.

JOHN L. MCKELVEY served as member, *ad hoc* Committee administering the National Study of Cerebral Palsy, Section on Neurologic Diseases and Blindness, National Institutes of Health; member, Committee on Award of Fellowships, American Cancer Society; and was visiting professor, Department of Obstetrics and Gynecology, University of Melbourne, Australia.

C. A. MCKINLAY served as president, Minnesota Tuberculosis and Health Association; and secretary, Minnesota Medical Service, Inc.

ABELARDO MENA was awarded a U. S. Public Health Service post-doctoral research fellowship, 1958.

GEORGE S. MICHAELSEN was elected president, Board of Trustees, Augsburg College and Theological Seminary; secretary, Board of Trustees, Lutheran Deaconess Hospital; corporate member, Minnesota Hospital Service Association (Blue Cross); member, Executive Committee, Campus Safety Association, Higher Education Section, School and College Division, National Safety Council; president, Upper Midwest Section, American Industrial Hygiene Association; member, Ventilation Committee, American Conference of Governmental Industrial Hygienists; member, Advisory Committee, Minnesota Poison Information Center; and was certified as sanitary engineer, Industrial Hygiene, by American Sanitary Engineering Intersociety Board.

GUY H. MILES was elected to membership in Sigma Xi, 1957.

DORIS I. MILLER was member, Minnesota Commission for Improvement of Care of the Patient, American Nurses' Association; and president, 1956-57 and member, 1957-58, Minnesota Board of Nursing.

FRANK MORRELL was elected president, Minnesota Epilepsy League, 1957-58; was awarded a U. S. Public Health Service research grant, 1957-58; elected, member, American Electroencephalography Society, 1958; elected member, American Academy of Neurology, 1958; and was certified by the Board of Qualification, American Electroencephalography Society, 1956. He was appointed diplomate, American Board of Psychiatry and Neurology, 1958.

DONN G. MOSSER served as member, Public Education Committee, and member, Professional Education Committee, Minnesota Division, American Cancer Society; member, Problems Committee, Minnesota Atomic Development; member, Conference on Cooperative Studies of Radiation Therapy, and chairman, Subcommittee on Therapy of Carcinoma of Uterine Cervix, U. S. Public Health Service; member, Cancer Committee, Hennepin County Medical Society; member, Radiation and Radioisotope Committee, Minnesota State Medical Association; and member, Commercial Exhibit Committee, Radiological Society of North America. He was principal or co-investigator on research grants from the U. S. Public Health Service, American Cancer Society, Minnesota Division, American Cancer Society, and Atomic Energy Commission.

MARION I. MURPHY served as member, National Advisory Committee on Public Health Traineeships (Title I), and member, Tuberculosis Control Advisory Committee, U. S. Public Health Service; member, Governing Council, American Public Health Association; chairman, Interorganization Committee between American Public Health Association and National League for Nursing; member, Collegiate Board of Review, and chairman, Subcommittee on Public Health Nursing Education, National League for Nursing; and served in advisory capacity to Board of Directors, Minneapolis Visiting Nurse Service.

LORENA J. MURRAY received the Wayne University Alumni Award, 1958.

J. ARTHUR MYERS received the Varrier-Jones Memorial Award, London, England, 1956; the William A. Howe Honor Award, American School Health Association, 1957; and the Doctor Francis E. Harrington Award for Outstanding Service in the Field of Public Health, Minneapolis Junior Chamber of Commerce, 1958. He delivered the Varrier-Jones Lecture, 4th International Congress on Diseases of the Chest, Cologne, Germany, 1956; and was re-elected editor, *Diseases of the Chest*, official publication, American College of Chest Physicians.

THEODORE A. OLSON served as member, Committee of the Laboratory Section, American Public Health Association; consultant in Medical Entomology and Public Health Biology, U. S. Public Health Service; and received research grants from National Institutes of Health, Minnesota Department of Health, and U. S. Public Health Service.

EARL T. OPSTAD served as secretary-treasurer, Minnesota Trudeau Society, 1957-58.

WILFORD E. PARK served as member, Minnesota Interim Commission on Alcoholism; and member, Mayor's Committee on Employment of the Handicapped, Minneapolis.

HAROLD J. PAULUS served on Agricultural Health Committee, American Conference of Governmental Health Hygienists, 1956-58; member, 1957-58, and chairman, 1958, Membership Committee, and secretary-treasurer, Upper Midwest Section, 1958, American Industrial Hygiene Association.

HAROLD O. PETERSON served as director, Instructional Courses, American Roentgen Ray Society, 1957-58; was elected to Board of Chancellors, American College of Radiology, 1958; and was elected to American Board of Radiology, 1958. He was president, Minnesota Radiological Society, 1956-57.

LAURENCE O. PILGERAM was recipient of research grants from U. S. Public Health Service, Life Insurance Medical Research Fund, and American Heart Association. He was awarded a Ciba Foundation Award for Research on Problems of Aging, 1958.

VERNA RAUSCH served as member, Standards and Studies Committee, American Society of Medical Technologists, 1956-58; chairman, Standards and Studies Committee, Minnesota Society of Medical Technologists, 1956-58; member, Board, Schools of Medical Technology, 1957-58; and was winner of the

Scientific Products Foundation Award in Chemistry and Educational and Procedural Techniques, and the Registry of Medical Technologists Award.

GEORGE C. ROTH served as member, Executive Committee, Ramsey County Tuberculosis and Health Association; and president, Minnesota Trudeau Society.

BETTY RUSPINO was co-chairman, Civil Defense Committee, Minnesota Society of Medical Technologists, 1957-58.

EVELYN J. SANBURN served as co-chairman, Planning Committee, Minnesota League for Nursing, 1958.

I. RICHARD SAVAGE served as associate editor, *Journal of the American Statistical Association*; member, Council, Institute of Mathematical Statistics; director, Summer Statistical Institute on Nonparametric Statistics, National Science Foundation and Institute of Mathematical Statistics; and co-director, contract for statistical research, Office of Naval Research.

WILLIAM F. SCHERER was awarded the John and Mary R. Markle Foundation Scholarship in Medical Sciences; and received research grant, Epidemiological Board, U. S. Armed Forces.

BURTRUM C. SCHIELE served as psychiatric consultant, St. Cloud Veterans Administration Hospital, 1956-58; and member, Board, Hennepin County League for Planned Parenthood, 1956-58.

EDWIN L. SCHMIDT served as chairman, Soil Microbiology Section, Society of American Bacteriologists, 1956-57; member, Editorial Board, *Applied Microbiology*; and was awarded research grants by U. S. Army Quartermaster and the U. S. Public Health Service.

ALVIN L. SCHULTZ was elected associate member, American College of Physicians, 1956; and member, Central Society for Clinical Investigation, 1957.

LEONARD M. SCHUMAN served as consultant to Training Branch, consultant to Epidemiology Branch, Communicable Disease Center, consultant to Air Pollution Program, Medical Branch, and consultant on Leukemia Studies, National Cancer Institute, U. S. Public Health Service; member, Advisory Committee on Oral Poliomyelitis Vaccine Studies, member, Advisory Committee on Hospital Infections, adviser, Study of Fetopathogenic Effects of ECHO-9 Infections, Minnesota Department of Health; member, Advisory Committee to Salk Vaccine Evaluation Center, member, Planning Advisory Committee for 1st National Institute on Veterinary Public Health Practice, University of Michigan; secretary, Council on Research, American College of Preventive Medicine; and member, St. Paul Area Public Health Council. He received research grants from National Institutes of Health; and was elected to membership, American Epidemiological Society and New York Academy of Sciences.

LEON SINGER was elected president, Minnesota Section, International Association of Dental Research.

DOROTHY E. SMITH served as member, Board, and chairman, Personnel Committee, University YMCA; and member, Building Committee, University Westminster Foundation.

LYLE H. SMITH was elected 1st vice president, Central States Sewage and Industrial Wastes Association.

BEN SOMMERS was elected fellow, American College of Cardiology, 1958.

WESLEY W. SPINK was elected corresponding member, Society of Internal Medicine, Buenos Aires, Argentina, 1957; honorary member, Medical Society of Santiago, Chile, 1957; fellow, New York Academy of Sciences, 1956; and was awarded research grants by the Minnesota State Legislature, Merck and Co. Inc., Geigy Chemical Corporation, Charles Pfizer Co., and Lederle Laboratories. He served as vice president, Hennepin County Medical Society, 1958; member, Minnesota World Health Organization and Centennial Health Committee, 1958; director, Brucellosis Research Center of the United States, and member, Panel of Expert Consultants on Brucellosis, World Health Organization; and chairman, Expert Committee on Brucellosis, World Health Organization and Food and Agriculture Organization, 1957. He delivered the first Phi Beta Pi Lecture, University of Texas, 1957.

E. BARBARA STOCKING served as member, Governor's Council for Children and Youth, 1958; and member, Austin (Minnesota) School Health Program Survey, 1957-58.

HORATIO B. SWEETSER was elected president, Minnesota State Medical Association, 1958; and served as co-chairman, Finance Committee, Minnesota World Health Organization and Centennial Health Committee, 1958.

WILLIAM A. SULLIVAN was member, Cancer Committee, State Medical Association, 1956-58; and received precursor grant for Cancer Detection Center, U. S. Public Health Service; and research grant from Minnesota Division, American Cancer Society.

JEROME T. SYVERTON served on the following Editorial Boards: *Bacteriological Reviews*, *Cancer Research*, *Proceedings of the Society for Experimental Biology and Medicine*, and *Year Book of Cancer*. He was consultant to the Surgeon General, U. S. Public Health Service; member, Advisory Council, National Institutes of Allergy and Infectious Diseases; member, Board of Trustees, American Type Culture Collection representing American Association of Pathologists and Bacteriologists; fellow and vice-chairman, Board of Governors, American Academy of Microbiology; member, Board of Directors, Minneapolis War Memorial Blood Bank; member, Enterovirus Committee, National Foundation for Infantile Paralysis, Inc.; member, Advisory Committee on the Etiology of Cancer, American Cancer Society; and member, Poliomyelitis Scientific Advisory Committee, Minnesota Department of Health. He was recipient of the Commonwealth Fund Senior Award for Academic Achievement, 1957-58; and was awarded research grants by the National Foundation for Infantile Paralysis, Inc.; National Cancer Institute and the National Institute of Allergy and Infectious Diseases, U. S. Public Health Service; American Cancer Society; and Lederle Division of the American Cyanamid Co.

EUGENIA R. TAYLOR served as consultant, Workshop on Practical Nursing, Sioux Falls, South Dakota, 1958; and was elected member, Sigma Theta Tau (honorary nursing) 1957.

ALAN P. THAL was recipient of the Established Investigator Award, American Heart Association, 1956.

STEWART C. THOMSON served as consultant, Commission on Accreditation of Service Experiences, American Council on Education, 1958; member, William H. Welch Medical Committee, American Association of the History of Medicine, 1956-58; treasurer and member, Executive Committee, Minnesota Public Health Conference, 1956-58; member, Committee on Health Education, American College Health Association, 1956-57; and vice president, Board of Directors, Westminster Foundation of Minnesota, 1956-58. He was elected member, New York Academy of Sciences.

DOROTHY E. TITT served as chairman, Department of Baccalaureate and Higher Degree Programs, Minnesota League for Nursing.

LOUIS TOBIAN, JR. was awarded research grants by the National Heart Institute, American Heart Association, and Minnesota Heart Association, 1956-58.

AURELIO A. TORRES was awarded a post-doctoral research fellowship, U. S. Public Health Service, 1958.

NAIP TUNA was awarded research grants by the Minnesota Heart Association, 1956-57 and 1957-58.

ROBERT A. ULSTROM was adviser to Planning Committee, Minneapolis Children's Hospital, 1956-58.

FREDERICK H. VANBERGEN served as associate editor, *Survey of Anesthesiology*, 1956-58; chairman, Subcommittee on Residency Training Programs, American Society of Anesthesiologists, 1957-58; and was elected to membership, Society for Experimental Biology in Medicine, 1957. He received a research grant from the U. S. Public Health Service, 1956-58.

RICHARD L. VARCO was member, Committee on Metabolism in Trauma, U. S. Armed Forces; received research grants from the Minnesota Heart Association, U. S. Public Health Service, and National Heart Institute; and was member of cardiovascular group which received a gold medal for exhibit, American Medical Association, 1956-58.

MAURICE B. VISSCHER was member, Advisory Committee on Personnel for Research, American Cancer Society; chairman, Research Allocations Committee, Minnesota Heart Association; member, Governor's Advisory Committee on Atomic Energy; general secretary, International Union of Physiological Sciences; official representative, Council of International Organizations of

Medical Sciences, to 10th World Health Assembly; and chairman, Board of Publication Trustees, American Physiological Society. He was awarded a research grant, U. S. Public Health Service, 1957.

HELEN M. WALLACE served as member, Advisory Committee on Clearinghouse on Research, and member, Advisory Committee on Mental Retardation, U. S. Children's Bureau; member, Public Health Conference on Records and Statistics, Study Group on Maternal and Child Health, U. S. Public Health Service and Children's Bureau; chairman, Committee on School Health, Minnesota Heart Association; secretary, Board of Directors, United Cerebral Palsy Association of Minnesota; member, Board, Minneapolis Curative Workshop; member, Professional Advisory Committee, United Cerebral Palsy Association (national); member, Advisory Committee, League for Emotionally Disturbed Children; secretary, Section on Maternal and Child Health, American Public Health Association; health chairman, National Congress of Parents and Teachers; and assistant editor, *Journal of Medical Women's Association*. She was awarded a World Health Organization Traveling Fellowship to observe maternal and child health services in South America, 1957; and was elected fellow, American Academy of Cerebral Palsy.

OWEN H. WANGENSTEEN was consultant to Surgeon General, U. S. Public Health Service; vice chairman, Miscellaneous Grants Committee, 1956-57, member, Professional Education Committee, 1956-57, and member, Research Advisory Committee on the Therapy of Cancer, 1958, American Cancer Society; member, Board of Directors, Minnesota Division, American Cancer Society, 1956-58; member, Institute Planning Committee, Association of American Medical Colleges, 1958; and received research grants and training grants for residents, U. S. Public Health Service. He was elected member, New York Cancer Society, 1957; and member, Royal Society of Medicine, London, England, 1958. He received the Cine Award, presented by Davis and Geck, Inc. for contribution to the Cine Clinic Program, American College of Surgeons, 1957; Citation, Central Surgical Association in recognition of outstanding contributions to surgery, 1958; and the Pittsburgh Surgical Society Award, Master Surgeon, Teacher and Scholar, 1958. In June, 1958, he was awarded the honorary degree, Doctor of Science, at St. Olaf College, Northfield, Minnesota. He delivered the Taub Lecture, Baylor University, Texas, 1958; and the Browning Memorial Address, Ogden Surgical Society, Utah, 1958.

LEWIS W. WANNAMAKER served as chairman, Committee on Prevention of Rheumatic Fever and Bacterial Endocarditis, American Heart Association, 1958; member, Streptococcal Commission, Armed Forces Epidemiological Board, 1956-58; member, Subcommittee on Research, Arthritis and Rheumatism Foundation, 1957-58. He was elected to membership, American Society for Clinical Investigation, 1958, and to membership, Harvey Society, 1957; and was awarded the Senior Post-doctoral Fellowship, National Science Foundation, 1956-57, and the Career Investigatorship, American Heart Association, 1958. He received research grants from the U. S. Public Health Service and the Minnesota Heart Association.

HERBERT E. WARDEN was awarded the Hektoen Gold Medal, 1957, and Certificate of Merit for exhibit on open heart surgery, 1958, American Medical Association; and received research grants from the U. S. Public Health Service, 1956-57, and the Minnesota Heart Association, 1957.

CECIL J. WATSON served as member, Board of Scientific Counselors, National Institute of Arthritis and Metabolic Diseases, National Institutes of Health, 1957-58; member, Medical Fellowship Board, National Research Council, National Academy of Sciences, 1957-58; and was recipient of the John Phillips Memorial Award for Achievement in Internal Medicine, American College of Physicians, 1957, and of the Commonwealth Fund Award, 1958. He delivered the George R. Minot Lecture, American Medical Association, 1956.

DENNIS W. WATSON served as associate member, Commission on Immunization, Armed Forces Epidemiological Board, Office of the Surgeon General; member, Poliomyelitis Scientific Advisory Committee, Minnesota Department of Health; member, Microbiology and Immunology Study Section, Department of Health, Education and Welfare, National Institutes of Health; scientific counselor, Biologics Standards, U. S. Public Health Service; and member, Nominating Committee, Society of American Bacteriologists. He was awarded

a research grant by the Medical Research and Development Board, National Institutes of Health.

LEE W. WATTENBERG was recipient, Lederle Medical Faculty Award; and received two research grants from the American Cancer Society, 1956-58.

RUTH D. WEISE served as chairman, Educator-Administrator-Counselor-and-Teacher Section, Minnesota Nurses' Association, 1957-58.

LEMEN J. WELLS received research grants from the U. S. Public Health Service, 1956-58.

JOHN P. WENDLAND served as secretary-treasurer, Minnesota Academy of Ophthalmology and Otolaryngology; and as member, Faculty of Instruction, American Academy of Ophthalmology and Otolaryngology.

ASHER A. WHITE was member, Board of Directors, of the following organizations: Community Chest and Council, Minneapolis; Hennepin County Tuberculosis Association; Minnesota Heart Association; and United Seamen's Service, New York City.

GEORGE E. WILLIAMS served as member, Board of Directors, St. Paul Community Health Council; member, Board of Directors, Minnesota Association for Mental Health; and adviser, Catholic Charities of Winona, Minnesota.

W. LANE WILLIAMS received research grants from the National Institutes of Health, 1956-58, Minnesota Heart Association, 1956-58, and Minnesota Division, American Cancer Society, 1956-58.

J. ALLEN WILSON was elected member, Minnesota Academy of Medicine, 1956.

RAGNVALD S. YLVIASAKER served as president, Minnesota Society of Internal Medicine; and president, Hennepin County Medical Society.

BERNARD ZIMMERMANN received research grants from the U. S. Public Health Service, U. S. Navy, and American Cancer Society. He served as member, Board of Directors, St. Paul Science Museum; and was elected to membership, American Surgical Association, 1957. He participated in the Stuart Maguire Memorial Lecture Series at Medical College, Richmond, Virginia.

HORACE H. ZINNEMAN was awarded two research grants by the Department of Health, Education and Welfare, U. S. Public Health Service; and was elected member, Minnesota Society of Internal Medicine, 1958.

School of Dentistry—DONNA S. AKER was elected president, 1956, corresponding secretary, 1957, and chairman, Nominating Committee, 1958, Minnesota Dental Hygienists Association; chairman, Exhibit Committee, 1956, and chairman, Subcommittee on Program, 1958, Scientific Sessions Committee, and chairman, Subcommittee on Junior Membership, Education and Licensure Committee, 1957, American Dental Hygienists' Association.

EDWARD E. ANDERSON was elected member, Omicron Kappa Upsilon, 1956.

WILLIAM F. BRAASCH was elected fellow, American College of Dentists, 1956; and president, American Interprofessional Institute, 1957.

CHARLES A. BREKKE was elected member, American Denture Society, 1957; and was member, Mid-States Odonto-Occlusal Symposium, 1957.

WILLIAM BRANSTAD served as member, Council, American Academy of Restorative Dentistry, 1956-58; member, Committee on Radiation, Minnesota State Dental Association, 1958; and program chairman, Minnesota Academy of Restorative Dentistry, 1958.

ANAND P. CHAUDHRY was member, Membership Committee, American Academy of Oral Pathology, 1958.

HENRY B. CLARK, JR. served as member, Interprofessional Relations Committee, Ramsey County Medical Society, 1957-58; president, Minnesota Society of Oral Surgeons, 1958; member, Editorial Board, *Practical Dental Monographs*, 1958; member, Committee on Faculty-Administrative Relations, American Association of University Professors, 1957; member, State Fair Exhibit Committee, 1957; and president, St. Paul Medical Club, 1957.

WILLIAM H. CRAWFORD was president-elect, 1956-57, president, 1957-58, and member, Committee on Survey of Dentistry, 1957, American Association of Dental Schools; consultant, Dental Study Section, National Institute of Dental Research, U. S. Public Health Service, Department of Health, Education and Welfare, 1956-58.

KENNETH C. ERICKSON was elected member, Omicron Kappa Upsilon (dental honorary society), 1958.

ROBERT J. GORLIN was elected secretary-treasurer, Minnesota Section, International Association for Dental Research, 1958; vice president, 1957, and secretary-treasurer, 1958, American Academy of Oral Pathology.

ANNA T. HAMPEL was elected member, Omicron Kappa Upsilon Society, 1956.

LEE C. HERMAN was member, Publicity Committee, Minneapolis District Dental Society, 1956-57.

MELLOR R. HOLLAND was member, Committee on Testing, American Association of Dental Schools, 1958.

MARMION W. HOUGLUM was appointed fellow, American Academy of Periodontology, 1957.

MELVIN C. HUMBERT was elected secretary, 1956-57, and president, 1957-58, Dakota County Dental Society.

WALTER G. IVERSON was elected secretary, 1956-57, and vice president, 1958, Minnesota Unit, American Society of Dentistry for Children.

WILLIAM M. JACOBSEN was member, Executive Council, Minneapolis District Dental Society, 1956; president, Minnesota Chapter, American Society of Dentistry for Children, 1957; and chairman, General Arrangements Committee, Central Section, Minneapolis Convention, American Association of Orthodontics, 1957.

JAMES R. JENSEN was appointed consultant in Operative Dentistry, Veterans Administration Hospital, Minneapolis, 1956-58, and St. Cloud, 1957-58; special consultant, U. S. Public Health Service, Department of Health, Education and Welfare, 1958; member, Committee on Civil Defense, American Association of Dental Schools, 1957; dental surgeon, U. S. Public Health Service, 1957; member, Committee on University Relations, Minnesota State Dental Association, 1956-57; and was elected member, Minnesota Academy of Restorative Dentistry, 1956; and fellow, American College of Dentists, 1957.

GEORGE C. LAWTHER was appointed member, Workshop for Teachers in Periodontology, 1958.

GEORGE D. MACGIBBON was elected treasurer, 1957, and secretary, 1958, Minneapolis District Dental Society.

CHARLES B. McALLISTER was named clinician, Minnesota State Dental Convention, 1958; clinician, 1957, and chairman, Subcommittee on Crown and Bridge, 1958, Committee for Mid-winter Clinic, Minneapolis District Dental Society.

MARION W. McCREA served as secretary-treasurer, and member, Executive Committee, 1956-58, member, Committee on Projects and Studies, and member, Committee on Survey of Dentistry, 1956-58, American Association of Dental Schools; representative of American Association of Dental Schools to American Council on Education, 1956-58; member, Board of Directors, Fund for Dental Education, Incorporated, 1956-58; and was awarded Honorary Membership, Korean Dental Association, 1958.

ANDREW T. MORSTAD was named consultant, Veterans Administration Hospital, St. Cloud, 1957.

WILLIAM B. NIENABER was elected to membership, Minnesota Academy of Restorative Dentistry, 1958; member, House of Delegates, Minnesota State Dental Society, 1958; and was elected to Omicron Kappa Upsilon (honorary dental society), 1957.

HAROLD J. PANUSKA was elected member, American Academy of Oral Pathology, 1957; member, American Academy of Dental Anesthesiology, 1958; and served as dental consultant, North Memorial Hospital, 1957; consultant, Oral Surgery and Oral Pathology, Cambridge State School and Hospital, 1956; and member, Committee on Civil Defense, Minneapolis Dental Society, 1956.

ERWIN M. SCHAFFER was named consultant-instructor, Post Graduate Studies, U. S. Navy, 1956; member, Program Committee, 1957, and member, Clinics Committee, 1957, American Academy of Periodontology; vice-chairman, 1957, and chairman, 1958, Periodontics Section, American Dental Association; chairman, Formulating Committee, 1957, and chairman, Constitution and By-laws Committee, 1958, Midwest Society of Periodontology; and chairman, Curriculum Time and Sequence Committee, Periodontal Workshop for Teachers, 1958.

CHARLES D. SIMPSON was elected member, American Association of Orthodontists, 1958.

SHERWOOD R. STEADMAN was named delegate from St. Paul District, House of Delegates, Minnesota State Dental Association, 1956-58; member, Constitution and By-laws Committee, 1956-58, chairman, 1956, and member, 1957-58, Nominating Committee, St. Paul District Dental Society; member, University Relations Committee, 1956-58, member, 1956, and chairman, 1957, St. Paul District Board of Trustees, Minnesota State Dental Association; treasurer, and member, Board of Directors, Minnesota Dental Foundation, 1956-57.

WILLIAM M. TRYGSTAD was member, Stevens County Dental Advisory Committee, 1957; and member, Fellowship Committee, Minneapolis District Dental Society, 1958.

HELEN M. TUCHNER was chairman, Education Committee, Minnesota Dental Assistants Association, 1957-58.

ROBERT O. UPPGAARD was member, Fellowship Committee, 1957, and chairman, Midwinter Clinic, 1957, Minneapolis District Dental Society.

JOHN W. WAKELY served as member, Midwinter Clinic Committee, 1958, secretary-treasurer, Speakers Bureau, 1957, and member, Social Research Committee, 1957, Minneapolis District Dental Society; and was elected secretary, Twin City Graduate Chapter, Delta Sigma Delta, 1956.

ROBERT W. WIETHOFF served as president-elect, 1956-57, and president, 1957-58, Minnesota Academy of Restorative Dentistry; and member, Council, Minneapolis District Dental Society, 1957-58.

HAROLD C. WITTICH served as member, University Relations Committee, Minnesota State Dental Association, 1957-58; and chairman, Minnesota Unit, American College of Dentists, 1957-58.

DOUGLAS H. YOCK was named member, Committee on Scientific Sessions, American Dental Association, 1958.

Law School—YALE KAMISAR served as chairman, Subcommittee on Police Activity, Hennepin County Citizens' League, 1957-58.

STANLEY V. KINYON served as executive secretary, Minnesota Tax Study Committee, 1956; and member, Minnesota Legislative Interim Commission on Special Problems of Alcoholism, 1956-57.

ALLAN H. MCCOY was member, Advisory Committee on Sex Psychopath Laws, Minnesota Legislative Interim Commission on Public Welfare Laws, 1958; and special consultant, Committee on Atomic Energy, Minnesota State Bar Association, 1957-58.

JOHN R. ELLINGSTON served as executive secretary, Minnesota Legislative Interim Commission on Juvenile Delinquency, Adult Crime, and Corrections, 1956-58; member, Committee to Study Hennepin County Home School for Boys at Glen Lake, 1956-58; member, Advisory Committee to appraise experimental project in use of special service teaching, Minneapolis Public Schools, 1956-58; member, Advisory Committee on special service teachers, Minnesota State Department of Education, 1956-58. He received the Page One Award for Public Service, Twin Cities Newspaper Guild, 1956.

WILLIAM B. LOCKHART served as director, Citizens' League of Greater Minneapolis and Hennepin County; chairman, Committee on Defining Sound Education Program, American Association of Law Schools, 1957-58; and trustee, Drake University, 1958.

ROBERT C. McCLURE was chairman, Legislation Committee, Governor's Human Rights Commission; counsel, Minnesota Legislative Interim Commission on Housing Discrimination and Segregation Practices; member, Board of Directors, and secretary-treasurer, Minnesota Branch, American Civil Liberties Union; member, Steering Committee, Citizens Organized for Responsible Government; member, Non-Profit Corporations Committee, Minnesota State Bar Association; member, Executive Committee, American Association of University Professors; and member, Board of Directors, University Retirement Investment Association.

College of Pharmacy—FRANK E. DiGANGI served as co-chairman, Committee on Teachers' Seminar, American Association of Colleges of Pharmacy, 1958.

EARL B. FISCHER was member, Committee on Botany and Pharmacognosy, U. S. Pharmacopeia Revision Committee, 1956-58.

WILLARD J. HADLEY is secretary, Minnesota State Pharmaceutical Association.

GEORGE P. HAGER served as member, Advisory Board, Cardiovascular Literature Project, National Research Council—National Academy of Science, 1957-58; secretary, Section on Pharmaceutical Chemistry and Biochemistry, Fourth Pan-American Congress of Pharmacy and Biochemistry, 1957; member, Editorial Advisory Board, *Journal of the American Pharmaceutical Association*, 1956-58; member, Editorial Advisory Board, *Journal of Medicinal and Pharmaceutical Chemistry*, 1957-58; member, President's Advisory Board, Minnesota State Pharmaceutical Association; chairman, Committee on Educational and Membership Standards, 1957-58, chairman, Committee on Teachers' Seminar, 1958, American Association of Colleges of Pharmacy; chairman, Scientific Section, 1956-57, and chairman, Resolutions Committee of the Scientific Section, 1957-58, American Pharmaceutical Association; member, Executive Council, The Rho Chi Society, 1957-58; and was recipient of grant-in-aid for research from the Smith, Kline, and French Foundation, 1958.

ROBERT H. MILLER served as member, Civil Service Employment Committee, State of Minnesota, 1958; and member, Membership Committee, Scientific Section, American Pharmaceutical Association, 1958.

CHARLES V. NETZ served as chairman, Board of Publications, chairman, Professional Pharmacy Section for annual meetings, 1957, 1958, and editor, *Proceedings of the 72nd and 73rd Annual Meetings*, Minnesota State Pharmaceutical Association; and was member, Oral Examining Committee for Hospital Pharmacists, Minneapolis Civil Service Commission.

TAITO O. SOINE served as member, Committee on Ebert Prize, Scientific Section, American Pharmaceutical Association, 1956-58; member, Committee on Problems and Plans, American Association of Colleges of Pharmacy, 1956-58; chairman, Committee on Research, Minnesota State Pharmaceutical Association, 1957; and was recipient of grant-in-aid for research, Rowell Laboratories, 1957.

Summer Session—E. WILLIAM ZIEBARTH served as member, Board of Directors, Hennepin County Tuberculosis Association; member, Advisory Committee, United Hospital Fund; chairman, Mariette Scholarship Committee (Hennepin County); member, Committee on Problems in Teaching the Mass Media, Speech Association of America; member, Radio and Television Committee, St. Paul Public Schools; member, Board of Directors, Radio and Television Council; member, Committee on Education, Minneapolis Chamber of Commerce; member, Program Committee, Channel 2 Corporation; and consultant in Education, Midwest Radio-Television.

Graduate School—JOHN G. DARLEY was editor, *Journal of Applied Psychology*. In the American Psychological Association he served as member, Council of Representatives, chairman, Committee on Relations with Psychiatry, member and chairman-elect, Board of Professional Affairs, member and chairman, Council of Editors, and member, Board of Publications. He served as member, Board of Directors, Minneapolis Council House for Senior Citizens; consultant, Research Project in Higher Education, University of California; consultant, U. S. Veterans Administration; member, Grant-in-Aid Committee, Social Science Research Council of New York; and consultant, University of Texas, Austin, Texas, through the Hogg Foundation.

THEODORE C. BLEGEN was elected president, Forest History Foundation, 1957-58; honorary life member, Executive Council, Minnesota Historical Society; was named "Builder" of the American Museum of Immigration; and was awarded the honorary degree, Doctor of Laws, LL.D., by Augustana College, 1957, and by Carleton College, 1958. He was delegate to the Anglo-American Historical Conference in London, 1957; and served as member, Advisory Council, Society for the Advancement of Scandinavian Study, 1957-58.

HERMANN SCHLENK received special research grants from National Institutes of Health, U. S. Fish and Wildlife Service, U. S. Atomic Energy Commission, and U. S. Office of Air Research.

RALPH T. HOLMAN served as technical editor, *Minnesota Chemist*; co-editor, *Progress in the Chemistry of Fats and Other Lipids*, Pergamon Press, London; and received research grants from the National Dairy Council, National Live-

stock and Meat Board, National Institutes of Health, U. S. Office of Naval Research, Life Insurance Medical Research Fund, and American Heart Association.

ELDON G. HILL was recipient of special research grant from the National Vitamin Foundation.

ARNOLD J. LUND served as president, Henrici Society (a Minnesota Society for microbiologists), 1957-58; and received research grant from the National Institutes of Health.

Mayo Foundation of Medical Education and Research—MARTIN A. ADSON was recipient of the Howard K. Gray Memorial Traveling Fellowship, 1956.

ALEXANDER ALBERT served as member, Endocrinology Study Section, National Institutes of Health, U. S. Public Health Service, 1957-58; editor-in-chief, *Journal of Clinical Endocrinology and Metabolism*, 1957-58; consulting editor, *American Journal of Physiology*, 1957-58; and member, Faculty, Post Graduate Assembly in Endocrinology, 1956-58.

EDGAR V. ALLEN served as member, House of Delegates, and member, Executive Committee, Section of Experimental Medicine and Therapeutics, American Medical Association; member of the following in the American Heart Association: Board of Directors, Executive Committee, Budget Committee, and chairman, Central Committee for Medical and Community Program; and was associate editor, *Circulation*.

HOWARD A. ANDERSEN was appointed member, Committee on Pulmonary Diseases in Children, American College of Chest Physicians, 1958; and member, Legislative Committee, Minnesota Trudeau Society.

MARK J. ANDERSON served as delegate, Minnesota State Medical Association.

MARKHAM J. ANDERSON, JR. was certified by American Board of Proctology, 1956.

MILTON W. ANDERSON was member, Editorial Board, *Diseases of the Chest*; and secretary-treasurer, Minnesota Chapter, American College of Chest Physicians.

ARCHIE H. BAGGENSTOSS was member, Editorial Board, *Gastroenterology*.

ROBERT C. BAHN was awarded the Certificate of Merit for exhibit, American Medical Association convention, San Francisco, 1958.

GEORGE S. BAKER served as chairman, Committee on Foreign Certification, and member, Credentials Committee, American Board of Neurological Surgery; and chairman, Cushing Memorial Committee, Harvey Cushing Society.

EDWARD J. BALDES served as member, Awards Committee, 1956-57, member, 1956 and chairman, 1957, Scientific Program Committee, and member, Advisory Editorial Board, *Journal of Aviation Medicine*, Aero Medical Association; member, Central Advisory Committee, Section on Circulation, American Heart Association; member, Editorial Board, *American Journal of Physiology* and *Journal of Applied Physiology*, American Physiological Society; president, Minnesota Academy of Science, 1956-57; councilor, and member, Board of Directors, and chairman, Fairs Committee, Minnesota Academy of Science, 1956-58.

EDWARD A. BANNER served as secretary-treasurer, The Minnesota Obstetrical and Gynecological Society; honorary member, North Dakota Society of Obstetrics and Gynecology; and district governor (District 595), Rotary International.

JACOB A. BARGEN served as member, Council and Scientific Assembly, and Minnesota State Medical Association delegate, American Medical Association; chairman, Committee on University Relations, immediate past president, and member, Council, Minnesota State Medical Association; and member, Medical Advisory Board, Sears Roebuck Foundation.

M. J. BARRY, JR. was appointed fellow, American Psychiatric Association, 1958; and was elected to Sigma Xi, 1958.

LLOYD G. BARTHOLOMEW served on Membership Committee, Southern Minnesota Medical Association.

EDWIN D. BAYRD was awarded the Certificate of Merit for exhibit, American Medical Association.

OLIVER H. BEAHRs was secretary-treasurer, Minnesota Surgical Society, 1957-58.

JOSEPH R. BERKSON continued as member, Committee on Statistical Research, American Cancer Society; member, Council, Institute of Mathematical Statistics; member, subcommittee, Committee on Growth—Committee on the Epidemiology of Cancer, National Research Council; member, U. S. Subcommittee on Hospital Statistics, World Health Organization; consultant, School of Aviation, Medical Department, U. S. Army Air Force; and was named honorary fellow, International Institute of Statistics.

PHILIP E. BERNATZ was certified by American Board of Thoracic Surgery, 1956.

WILLIAM H. BICKEL served as member, Residency Review Committee for Orthopedic Surgery, American Medical Association; examiner, chairman, Residency Training Committee, and representative to the Advisory Board of Medical Specialties, American Board of Surgery; vice president, American Board of Orthopedic Surgery; member, Committee for Advancement of Automobile Safety, American Academy of Orthopedic Surgeons; member, Committee on the Relationship of General Trauma to Orthopedic Surgery, American Orthopedic Association; member, Committee on Trauma, member, Subcommittee on Automobile Safety, and member, Advisory Council on Orthopedic Surgery, American College of Surgeons.

REGINALD G. BICKFORD was chairman, Committee on Instrument Specifications, American Electroencephalography Society.

B. MARDEN BLACK served as 2nd vice president, American Goiter Association; member, Executive Committee, Motion Picture Commission, American College of Surgeons; member, Editorial Board, *American Journal of Surgery*; and member, Committee on Scientific Assembly, Minnesota State Medical Association.

CHARLES M. BLACKBURN was chairman, Committee on Androgen Therapy, Breast Cancer Group, National Cancer Institute.

JESSE L. BOLLMAN served as chairman, Research Committee, American Gastroenterologic Association, 1958; member, Physiology Study Section, National Institutes of Health, 1956-58; and member, Minnesota State Advisory Committee on Mental Health, 1956-58.

DAVID A. BOYD, JR. continued as director, and secretary-treasurer, American Board of Psychiatry and Neurology; chairman, Committee on Standards, Advisory Board for Medical Specialties; fellow, American Psychiatric Association; and member, Committee for Research, Veterans Administration, 1957.

ROBERT O. BRANDENBURG was member, Committee on Student Education and Student Recruitment, American Heart Association.

JOE R. BROWN was member, Neurology Graduate Training Grant Committee, National Institute of Neurological Diseases and Blindness; member, Medical Advisory Board, National Multiple Sclerosis Society; trustee, American Academy of Neurology; member, Editorial Board, *Neurology*; consultant, Veterans Administration; member, Committee on Nervous and Mental Diseases, Minnesota State Medical Association; and member, Medical Advisory Board, Ability Building Center of Rochester.

LOUIS A. BRUNSTING served as member, Editorial Board, *Archives of Dermatology*, American Medical Association; representative of the American Academy of Dermatology on the American Board of Dermatology, 1957-58; honorary foreign member, British Association of Dermatology; and corresponding member, Dermatological Societies of Israel, Argentina, and Venezuela.

A. H. BULBULIAN served as president, American Academy of Maxillo Prosthodontics, 1956-58; editor, *Journal of the American Academy of Maxillofacial Prosthodontics*; and was recipient of award certificates for exhibits, American Medical Society, 1957 and 1958.

HOWARD B. BURCHELL continued as member, Scientific Advisory Board to Chief of Staff, U. S. Air Force; and delivered the St. Cyres Lecture, June 1958.

E. O. BURGERT was elected to membership, Omaha Midwest Clinical Society, 1956-57.

EDMUND C. BURKE served as chairman, Committee on the Handicapped Child, Minnesota Chapter, American Academy of Pediatrics.

HUGH R. BUTT served as member, Executive Committee, Scientific Council, Section on Experimental Medicine and Therapeutics, member, Council on

Medical Education and Hospitals, and member, Editorial Board, *Archives of Internal Medicine*, American Medical Association.

JAMES C. CAIN served as member, Minnesota State Board of Medical Examiners, 1957-58; member, Editorial Board, *Yearbook of Cancer*, 1956-57; and member, Editorial Advisory Board, *Excerpta Medica* Foundation.

JOHN A. CALLAHAN was co-author of exhibit which received the Billings Gold Medal, American Medical Association convention in San Francisco.

DAVID T. CARR served as chairman, Committee on Respiratory Diseases, National Tuberculosis Association; chairman, Committee on Program Activities, American Trudeau Society; member, Editorial Board, *American Review of Tuberculosis and Pulmonary Diseases*; member, Radio and TV Committee, Minnesota State Medical Association; member, Board, Olmsted County Tuberculosis and Health Association; and member, Board, Olmsted County Cancer Society.

HADDON M. CARRYER was member, Audio-Visual Committee, American Academy of Allergy; speaker, House of Delegates, member, Executive Committee, Public Health Education Committee, *ex officio* member, Council, and chairman, Statewide Congressional Committee (First District), Minnesota State Medical Association.

DONALD S. CHILDS, JR. was awarded a special certification in Nuclear Medicine, 1956, and was guest examiner in Nuclear Medicine, September 1957 and May 1958, American Board of Radiology; member, Program Committee, Radiological Society of North America; member, Program Committee, American Radium Society, 1957; member, Commission on Education, and chairman, Committee to Prepare Index for Radiotherapy, American College of Radiology; member, Advisory Committee on Isotope Distribution, and member, Subcommittee on Human Use, Atomic Energy Commission.

NORMAN A. CHRISTENSEN was co-author, exhibit winning the Billings Silver Medal, American Medical Association Convention in New York, June 1957; and first prize for exhibit, Annual Industrial Health Conference in Atlantic City.

O. THERON CLAGETT served as member, Advisory Membership Committee, The American Surgical Association; chairman, Membership Committee, American Association for Thoracic Surgery, 1956-57; member, Cancer Committee, and member, Judiciary Committee for the State of Minnesota, American College of Surgeons; member, Examinations Committee, and member, Credentials Committee, The Board of Thoracic Surgery. He was honorary member of the following: Royal College of Surgeons in Ireland, The Thoracic Society (England), and the British Columbia Surgical Society.

EDWARD C. CLARK received an award for exhibit at the American Medical Association Convention, San Francisco, 1958.

CHARLES F. CODE served as member, Editorial Board, *Physiological Reviews*; consulting editor, *Gastroenterology* and *Annals of Allergy*; and member, Physiology Study Section, National Institutes of Health.

DANIEL C. CONNOLLY was elected member, Sigma Xi, June 1958.

KENDALL B. CORBIN continued as representative of the American Medical Association on Residency Review Committee for Psychiatry and Neurology; and associate examiner, American Board of Psychiatry and Neurology.

MARK B. COVENTRY served as member, Program Committee, American Academy of Orthopedic Surgeons; member, Traveling Fellowship Committee, American Orthopedic Association; and member, Medical Advisory Committee, Minnesota State Medical Association.

ORMOND S. CULP served as member, Executive Committee, North Central Section, and member, Registry of Genito-Urinary Pathology, American Urological Association; and secretary-treasurer, Clinical Society of Genito-Urinary Surgeons.

DAVID C. DAHLIN served as member, Cytology Committee, Minnesota Society of Clinical Pathology.

DAVID DALY served as member, Committee on Standards and Education.

GUY W. DAUGHERTY served as member, Board of Directors, Minnesota Heart Association.

GEORGE D. DAVIS served as member, House of Delegates, and chairman, Committee on Hospitals and Professional Relations, Minnesota State Medical

Association; member, Committee on Blue Cross and Blue Shield Relations, Minnesota Radiological Society; and honorary member, Detroit Roentgen Ray and Radium Society.

WILLIAM H. DEARING served as secretary, Section of Gastroenterology and Proctology, American Medical Association.

DAVID G. DECKER served as member, Board of Directors, Minnesota Division, member, Cytology Committee, and member, Research Committee, American Cancer Society.

KENNETH D. DEVINE was certified by American Board of Otolaryngology, 1956.

ROBERT A. DEVLOO was certified by American Board of Anesthesiology, 1956.

JAMES H. DEWEERD was certified by American Board of Urology, 1956.

G. ROY DIESSNER was certified by American Board of Medicine, 1956; and served as secretary-treasurer, Southern Minnesota Medical Association; member, Executive Committee, and chairman, Polio Committee, Zumbro Valley Medical Society. He was medical adviser and examiner for the Selective Service Board of Olmsted County.

MALCOLM B. DOCKERTY served as chairman, Tumor Registry, Central Association of Obstetricians and Gynecologists; honorary member, Nova Scotia Medical Society; and consultant, Armed Forces Institute of Pathology, Washington, D. C.

F. EDMUND DONOGHUE served as member, Committee on Motion Pictures, American College of Chest Physicians.

BRUCE E. DOUGLASS served as member, Committee on Organizational Structure, member, Program Activity Committee, and member, Committee on Function of American Review of Tuberculosis, American Trudeau Society, 1957-58; member, Sanatorium Consultation Committee, Minnesota Trudeau Society, 1958; member, Committee on Organizational Structure, National Tuberculosis Association; and member, Committee on Tuberculosis, County Medical Society.

JAMES W. DUSHANE served as chairman, Section on Cardiology, delegate to American Heart Association, and chairman, Committee on Rheumatic Fever and Cardiac Diseases, American Academy of Pediatrics; member, Council on Rheumatic Fever and Congenital Heart Disease, American Heart Association; and vice chairman, Rheumatic Fever Committee, Minnesota Heart Association.

JOHN A. DYER was certified by American Board of Ophthalmology, 1957.

L. MCKENDREE EATON served as chairman, Section on Nervous and Mental Diseases, American Medical Association, 1956; director, American Board of Psychiatry and Neurology, 1956-58; chairman, Ethics Committee, American Academy of Neurology, 1956; member, Advisory Board, Myasthenia Gravis Foundation, Inc.; and president, Association for Research in Nervous and Mental Diseases, 1958.

JESSE E. EDWARDS served as member, Editorial Board, *Journal of Laboratory Investigation*, and past president, International Academy of Pathology; member, Editorial Board, *Circulation*; chairman, Advisory Committee to Cardiovascular Registry, and presented the Lewis A. Conner Memorial Lecture, 1956, American Heart Association; member, Pathology Study Section, U. S. Public Health Service; and civilian consultant to the Surgeon General, U. S. Army.

EARL C. ELKINS served as member, Advisory Committee on Physical Therapy Education, Council on Medical Education and Hospitals, American Medical Association; secretary-treasurer, member, Credentials Committee, and member, Board, American Board of Physical Medicine and Rehabilitation; member, By-Laws Committee, American Academy of Physical Medicine and Rehabilitation; member, Constitution and By-Laws Committee, and member, Legislation Committee, American Congress of Physical Medicine and Rehabilitation; chairman, American Registry of Physical Therapists; and civilian consultant to Office of the Surgeon General, U. S. Army.

F. HENRY ELLIS, JR. was member, Board of Governors, American College of Surgeons.

JOHN L. EMMETT served as member, Board of Editors, *Journal of Urology*, and chairman, Committee on Post Graduate Education, American Board of Urology; and chairman, Nominating Committee, North Central Section, American Urological Association.

JOHN B. ERICH was elected to membership, American Board of Plastic Surgery, 1958; and was vice president, and member, Board of Governors, American Fracture Association.

DONALD J. ERICKSON served as third vice president, member, Board of Governors, and member, Gold Key Award Committee, American Congress of Physical Medicine and Rehabilitation; area consultant, Physical Medicine and Rehabilitation, Veterans Administration; and member, Screening Committee, Ability Building Center (Rochester).

JOHN E. ESTES served as member, Advisory Board, Section on Circulation, American Heart Association; vice president, and associate editor, American College of Angiology.

JOHN E. FABER served as chairman, Membership Committee, and member, Board of Governors, Central Association of Obstetricians and Gynecologists; district vice president, American College of Obstetrics and Gynecology; member, Maternal Mortality Committee, and member, State Maternal Welfare Committee, Minnesota Obstetrics and Gynecology Society.

ROBERT L. FAUCETT was member, Committee on Social Work, Group for Advancement of Psychiatry; chairman, Advisory Committee, Community Mental Health Association; and member, Minnesota Welfare Committee in charge of Grant-in-Aid Program.

ALBERT FAULCONER, JR. served as director, member, Committee on Credentials and Residency, and member, Joint Committee on Residency Accreditation with American Medical Association Council, American Board of Anesthesiology; member, representing American Board of Anesthesiology, Advisory Board for Medical Specialties; fellow, and past governor, American College of Anesthesiologists; director, American Society of Anesthesiologists; past president, Association of University Anesthesiologists; member, Subcommittee on Anesthesiology, National Research Council; and civilian consultant in anesthesiology to the Surgeon General, U. S. Army.

DEWARD O. FERRIS was member, Committee on Applicants for District 2 of Minnesota, American College of Surgeons; president, 1956-57, and chairman, Membership Committee, 1958, Minnesota Surgical Society.

EUNICE V. FLOCK served as member, Award Committee, American Chemical Society.

WARD S. FOWLER served as member, Editorial Committee, *American Journal of Physiology* and *Journal of Applied Physiology*, American Physiological Society; and member, Editorial Committee, *Journal of Clinical Investigation*, American Society for Clinical Investigation, 1956-58.

SHERVERT H. FRAZIER was certified by American Board of Psychiatry and Neurology, 1956.

ALLEN A. FRETHERM served as member, Committee on Information for Diabetics, American Diabetes Association, 1957-58.

CLIFFORD F. GASTINEAU served as member, Committee on Education, American Diabetes Association.

JOSEPH E. GERACT served as member, Committee on Antibiotics and Chemotherapy, American College of Chest Physicians.

JOSEPH A. GIBILISCO served as president, and counsellor, Minnesota Section, and member, National Planning Committee, International Association for Dental Research; program chairman, 1957-58, and secretary-treasurer, 1958, Rochester Dental Society; and was elected honorary member, Milwaukee Dental Forum, 1957.

MARY E. GIFFIN was recipient of bronze medal for best paper presented at meeting of Southern Minnesota Medical Society, September 1957.

RAY W. GIFFORD, JR. was member, Advisory Board, and member, Nominating Committee, Section on Circulation, American Heart Association.

G. ALLEN GOOD was member, Board of Trustees, American Board of Radiology; secretary, member, Executive Council, member, Program Committee, and representative on American Board of Radiology, American Roentgen Ray Society; vice-chairman, Credentials Committee, and member, Commission on Public Relations, American College of Radiology; honorary member, Detroit Roentgen Ray and Radium Society; and honorary member, Rocky Mountain Radiological Society.

ROBERT J. GORES was certified by American Board of Oral Surgery, 1958; and was member, Membership Committee, Minnesota Society of Oral Surgeons, 1958.

JOHN H. GRINDLAY served as vice-chairman, and treasurer, Joint Committee for Standards of Surgical Materials, American Medical Association; and chairman, Committee on Use of Synthetic Materials in Surgery, American College of Surgeons.

VIRGINIA B. HARTRIDGE was member, Arrangements Committee, Minnesota Society of Anesthesiologists.

ALVIN B. HAYLES served as alternate to House of Delegates, Minnesota State Medical Association.

LOWELL L. HENDERSON served as member, Committee on Airborne Allergens, American Academy of Allergy; and was subcertified in allergy, American Board of Internal Medicine, 1957.

ALBERT B. HAGEDORN was recipient of Certificate of Merit for exhibit, American Medical Association convention, San Francisco, June 1958.

OLAV E. HALLBERG was elected to honorary fellowship, Louisiana-Mississippi Ophthalmological and Otolaryngological Society; and was honorary member, North Dakota Academy of Ophthalmology and Otolaryngology.

DAVID G. HANLON served as medical adviser, County Board of Selective Service.

LLOYD E. HARRIS served as chairman, Committee on the Handicapped Child, State Chapter, American Academy of Pediatrics.

FORDYCE R. HEILMAN was elected fellow, American Academy of Microbiology, 1958; member, Editorial Board, *Antibiotics and Chemotherapy*; and member, Editorial Board, *Antibiotic Medicine and Clinical Therapy*.

EDWARD D. HENDERSON was associate editor, *Orthopedics*; examiner, Part I (Rochester) American Board of Orthopedic Surgery, April 1958; and was selected as one of a group of orthopedic fellows to go to Great Britain, April-June 1957.

JOHN W. HENDERSON was section editor, *Survey of Ophthalmology*.

EDGAR A. HINES, JR. served as chairman, Section on Circulation, 1956-57, and member, Executive Committee, American Heart Association; and member, Editorial Board, *Circulation*.

CORRIN H. HODGSON served as chairman, Insurance Liaison Committee, member, Tuberculosis Committee, and member, Executive Committee, Minnesota State Medical Association; and chairman, Medical Advisory Committee to the Division of Vocational Rehabilitation.

ROBERT W. HOLLENHORST was assistant editor, *Archives of Ophthalmology*, American Medical Association; head, Section of Perimetry and Neurophthalmology, Home Study Course, American Academy of Ophthalmology and Otolaryngology; honorary member, North Dakota State Academy of Ophthalmology; chairman, Committee of Ophthalmology, Minnesota State Medical Association; and was elected member, American Ophthalmological Society, 1958.

WILLIAM H. HOLLINSHEAD was honorary member, Kansas City Anatomical Society; honorary member, St. Louis Medical Society; and was recipient of Certificate of Merit, American Medical Association, 1957.

ARTHUR B. HUNT was chairman, Public Relations Committee, American College of Obstetrics, 1956; president, Central Association of Obstetrics and Gynecology, 1957; delegate, and member, Program Committee, 1956, Minnesota State Medical Association; and was recipient of Carleton College Alumni Achievement Award, 1957.

JOHN C. IVINS was chief, Section IX, Trauma Committee, American College of Surgeons; member, Committee on Trauma, and member, Committee for Military Affairs, Minnesota State Medical Association.

RAYMOND J. JACKMAN served as member, State Health Relations Committee, member, Committee on Medical Economics, and member, Reference Committee, Minnesota State Medical Association; and delivered the William Beaumont Lecture at the Annual Meeting, Michigan State Medical Society, October 1957.

JOSEPH N. JANES was recipient of a grant from the Orthopedic Research Society to carry on work with experimental osteogenic sarcoma; and was examiner (Rochester), American Board of Orthopedic Surgery, April 1958.

THE PRESIDENT'S REPORT

EINER W. JOHNSON, JR. served as member, Scientific Exhibits Committee, American Academy for Cerebral Palsy; and was examiner, Part I (Rochester), American Board of Orthopedic Surgery, May 1958.

VICTOR JOHNSON served as deputy president, chairman, Program Committee, Second World Conference on Medical Education, and member, Board of Directors, U. S. Committee, World Medical Association; member, Board of Trustees, American Medical Education Foundation; member, Advisory Council, National Fund for Medical Education; member, Board of Directors, National Society for Medical Research; consultant to Education and Training Division, Office of Surgeon General, U. S. Army; and received the honorary degree, Doctor of Science, from Rockford College, Rockford, Illinois.

EDWARD S. JUDD served as member, District Advisory Committee, member, State and Regional Credentials Committee, and member, Advisory Committee on Arrangements, American College of Surgeons; member, Executive Council, Central Surgical Association; was elected honorary member, Minneapolis Surgical Society; and honorary member, Kansas City Surgical Society.

ALFRED G. KARLSON served as member, Committee on Fellowships, member, Research Council, and member, Editorial Board, *American Journal of Veterinary Research*, American Veterinary Medical Association; secretary-treasurer, Conference of Research Workers in Animal Diseases; consultant, Radiobiological Laboratory, U. S. Air Force and University of Texas, Austin, Texas; associate member, Committee on Tuberculosis, Minnesota State Medical Association; and member, Board of Directors, Olmsted County Tuberculosis and Health Association.

F. RAYMOND KEATING, JR. served as member, Program Committee, and member, Membership Committee, Central Society for Clinical Research; member, Program Committee, and member, Nominating Committee, Endocrine Society; and delivered the MacArthur Lecture, University of Edinburgh, May 27, 1958.

ROGER L. J. KENNEDY served as member, Editorial Board, *Journal of Diseases of Children*, American Medical Association, 1956-58; and chairman, Advisory Committee on Medicare, Minnesota State Medical Association, 1957-58.

JAMES W. KERNOHAN served as member, Board of Governors, 1956-57, and was recipient of the Scientific Products Foundation Award, October 1957, College of American Pathologists; member and president, 1957-58, Examining Board, American Board of Pathology; associate editor, *American Journal of Neuropathology and Experimental Neurology*, and associate editor, *Journal of the American Association of Clinical Pathology*.

J. M. KIELY was elected member, Sigma Xi, 1958; and associate member, American College of Physicians, 1957.

ROBERT R. KIERLAND served as member, Advisory Committee on Dermatologic Vehicles from the Academy to the Council on Pharmacy and Chemistry, American Medical Association; secretary-treasurer, and member, Board of Directors, American Academy of Dermatology and Syphilology; member, Editorial Board, *Journal of Investigative Dermatology*; corresponding member, Sociedade Brasileira de Dermatologica e Sifilografia, and Asociacion Argentina de Dermatologia y Sifilologia; honorary member, Sociedad Venezolana de Dermatologia, Venereologia y Leprologia; and special consultant, U. S. Public Health Service.

GILES A. KOELSCH served as secretary, 1956-57, and 1st vice president, 1957-58, American College of Allergists, Inc.; fellow, American College of Chest Physicians, 1957; and member, Scientific and Educational Council, Allergy Foundation of America.

FRANK H. KRUSEN served as chairman, Council on Medical Physics, chairman, Committee on Rehabilitation, member, Committee on Medical Rating of Physical Impairment, and was recipient of Distinguished Service Award, 1958, American Medical Association; treasurer, and *ex officio* member, Finance Committee, American Congress of Physical Medicine and Rehabilitation; president-elect, International Congress of Physical Medicine; member, Physical Education Committee, National Board, National Council of the YMCA; member, Committee on Rehabilitation, American Heart Association; consultant, Minnesota Rehabilitation Association; member, International Board of Editors, *Excerpta Medica*; member, Editorial Board, *International Review*

of *Physical Medicine*; editor, *Iberia Journal*; consultant in Restorative Medicine, U. S. Public Health Service; member, Presidents' Committee on Employment of the Physically Handicapped; member, National Advisory Council on Vocational Rehabilitation; member, Medical and Professional Advisory Committee, and member, Rehabilitation and Employment Committee, Minnesota Society for Crippled Children and Adults; president, Minnesota State Board of Health; vice president, Staff of the Mayo Clinic, 1957-58; and honorary member of the following; Brazilian Society of Physical Medicine, The All-India Occupational Therapists' Association, Sigma Xi Honorary Society, Blue Key National Honor Fraternity, and Howitt Club.

WALTER F. KVALE was fellow, Central Advisory Committee, American Heart Association; member, Board of Directors, Minnesota Heart Association; and was recipient of the Gold Medal Award for exhibit, American Medical Association.

EDWARD H. LAMBERT served as president, 1956-58, American Association of Electromyography and Electrodiagnosis.

ROBERT E. LEE was certified by American Board of Radiology, 1957.

PAUL R. LIPSCOMB continued as chairman, Membership Committee, and member, Executive Committee, Orthopedic Research Society; member, Program Committee, American Orthopedic Association; and member, Instructional Courses Committee, American Academy of Orthopedic Surgery.

EDWARD M. LITIN was secretary-treasurer, Minnesota Psychiatric Society; and honorary member, Milwaukee Dental Forum.

T. J. LITZOW was certified by American Board of Plastic Surgery, 1956.

GEORGE B. LOGAN served as member, Sub-Board of Allergy, American Board of Pediatrics, 1957-58; member, Council on Allergy, Advisory Board of Medical Specialties, 1957-58; chairman, School Health Committee, and member, Executive Committee, Minnesota Chapter, American Academy of Pediatrics; chairman, Section of Health, Governor's Council on Children and Youth; member, School Health Committee, Minnesota Chapter, American Heart Association; and secretary-treasurer, Alumni Association, The Mayo Foundation.

J. GRAFTON LOVE was honorary member, Italian Society of Neurosurgery; and honorary member, North Carolina Medical Society.

STANLEY A. LOVESTEDT served as chairman, Committee on Health Relations, American College of Dentists; chairman, State Hospital Service Committee, and chairman, Grants-in-Aid Committee, Minnesota State Dental Association; chairman, Program Committee, and president-elect, Minnesota Society of Oral Surgeons; and was certified by American Board of Oral Surgery, 1958.

JOHN S. LUNDY was member, Board of Directors, Olmsted County Tuberculosis and Health Association; corresponding fellow, Association of Anesthetists of Great Britain and Ireland; president-elect, Academy of Anesthesiology; president, Anesthesia Memorial Foundation; commissioner, Board, Mineral Springs Sanatorium, Cannon Falls; consultant in Anesthesiology to Shriners Hospital for Crippled Children; consultant to the Surgeon of the Fifth Army, U. S. Army; member, Medical Advisory Committee, American National Red Cross; chairman, Committee on First Aid and Red Cross, and chairman, Committee on Blood and Blood Banks, Minnesota State Medical Association; member, Civil Defense and Disaster Blood Program Committee, State of Minnesota; and was recipient of the Award of Merit, Horace Wells Club of Connecticut, 1957. He is honorary member, Cuban National Society of Anesthesiology.

COLLIN S. MACCARTY served as member, Absenteeism Committee, Harvey Cushing Society; and program chairman, Neurological Society of America.

THOMAS B. MAGATH served as American representative, International Association of Hydatidology; American representative, International Congress of Hydatid Disease; associate editor, *American Journal of Clinical Pathology*; honorary member of Faculty, University of Chile; and member, Cancer Committee, Minnesota State Medical Association.

GORDON M. MARTIN served as member, Advisory Committee, American Academy of Physical Medicine and Rehabilitation; chairman, Committee on Constitution and By-Laws, and president, Executive Council, American Congress of Physical Medicine and Rehabilitation; and received the Alumni Achievement Award, Nebraska Wesleyan University, 1957.

DON R. MATHIESON was member, Council on Immunohematology, American Society of Clinical Pathologists; and member, Board of Directors, Minnesota Association of Blood Donors.

CHARLES W. MAYO served as member, Advisory Medical Board in America, American Hospital of Paris; honorary patron, Aligarh Hospital Trust, Aligarh City, India; overseas representative in Minnesota, The Postgraduate Committee in Medicine, University of Sydney (Australia); member, U. S. Committee, International Society for Welfare of Cripples; trustee, University of Pennsylvania; state chairman, Minnesota World Health Organization; state chairman, Centennial Health Committee; delegate to World Health Assembly (Minneapolis); assistant chief medical adviser, Rehabilitation Medical Advisory Board, American Legion; member, Board of Directors, Minnesota Tuberculosis and Health Association, Minnesota State Medical Association; member, Board of Regents, University of Minnesota; member, Board of Trustees, Carleton College; member, Advisory Committee, Gideon Seymour Memorial Lecture Series; member, Aviation Committee, Chamber of Commerce, Rochester, Minnesota; medical adviser, Northwest Airlines; editor-in-chief, *Postgraduate Medicine*; member, Committee on Publications, *Surgery*; member, Editorial Board, *The American Surgeon*; chairman, Board of Judges, C. C. Criss Award (Mutual of Omaha); member, Editorial Board, *Elseview Press*; honorary president, member, Board of Directors, and member, Executive Committee, American Association for United Nations; elector, Hall of Fame; and honorary member of the following: Seaboard Medical Association of Virginia and North Carolina, Mississippi Valley Medical Association, Philadelphia Proctologic Society, American College of Hospital Administrators, Societa Italiana di Chirurgia (Rome), The Medical Institution, Liverpool, England, The Horse-shoe Club of England. He received the *Wisdom Magazine* Award, December 1956; *Modern Medicine* Award, January 1957; Honorary Award to *Postgraduate Medicine*, American Medical Writers' Association, September 1957; and Grand Lodge, Free and Accepted Masons of State of New York Award (for distinguished achievement), May 6, 1958.

HAROLD L. MASON served as assistant editor, *Chemical Abstracts*, American Chemical Society; member, Editorial Board, *Journal of Clinical Endocrinology and Metabolism*, Endocrine Society; vice president, 1956-57, and president, 1957-58, The Mayo Foundation Chapter, Sigma Xi.

WALLACE A. MERRITT was member, Editorial Board, Medical Economics Committee, Minnesota State Medical Association; and chairman, Necrology Committee, Southern Minnesota Medical Association.

ROLAND D. MILLER served as member, Committee on Physiologic Therapy, American College of Chest Physicians; and member, Editorial Board, *Minnesota Medicine*.

CLARK H. MILLIKAN served as member, Field Investigations Committee, National Institute of Neurological Diseases and Blindness; and delivered the James Mawer Pearson Memorial Lecture, Vancouver, British Columbia, May 6, 1958.

GEORGE D. MOLNAR served as member, Nursing Research Study Section, National Institutes of Health.

HAMILTON MONTGOMERY was vice chairman, Section on Dermatology in San Francisco, and chairman, Committee on Exhibits, American Medical Association; and vice president, American Dermatological Association, 1957-58.

GERALD M. NEEDHAM was elected fellow, American Academy of Microbiology, 1958; and president, Northcentral Branch, Society of American Bacteriologists, 1958.

HOWARD M. ODEL was member, Board of Directors, Minnesota Heart Association.

KENNETH N. OGLE was member, American Committee on Optics and Visual Physiology, American Medical Association; member, Advisory Committee on Optical Aids for Sub-normal Vision, American Foundation for the Blind, Inc.; member, Research Executive Council, National Society for the Prevention of Blindness; member, Committee on Standardization of Tests for Stereoscopic Vision, Pan-American Association of Ophthalmology; member, Executive Council, and chairman, Working Group III on Visual Factors in Automobile Driving, Committee on Vision, Armed Forces—National Research Council; member, Sensory Diseases Study Section, National Institutes of

Health, as special consultant to the U. S. Public Health Service; consultant, Study of Visual Stereoscopic Acuity, Institute of Optics, University of Rochester (New York); associate editor, *Journal of the Optical Society of America*; secretary-treasurer, The Mayo Foundation Chapter, Sigma Xi; member, 1957, and chairman, 1958, Award Committee for the Tillyer Medal. He received the Beverly Myers Nelson Achievement Award, Educational Foundation in Ophthalmic Optics, American Board of Opticianry, October 14, 1957.

ARTHUR M. OLSEN served as member, Board of Regents, chairman, Committee on Broncho-Esophagology, member, Committee on Medical Services, and member, Membership Committee, American College of Chest Physicians; member, Council on Research, American Broncho-Esophagological Association; secretary-treasurer, American Gastroscopic Society; member, Board of Directors, and member, Executive Committee, Minnesota Tuberculosis and Health Association.

CHARLES A. OWEN, JR. was member, Committee on Radiation, Minnesota State Medical Association; program chairman, Minnesota Society of Clinical Pathologists; and editor, *American Journal of Clinical Pathology*. He was recipient of the honorary degree, Doctor of Science, from Monmouth (Illinois) College, June 1958.

JAIME PARIS was elected member, Sigma Xi, 1957; and was certified by the American Board of Internal Medicine, 1957.

ROBERT L. PARKER served as member, Professional Education Committee, American Heart Association; and vice president, Minnesota Society of Internal Medicine.

THOMAS W. PARKIN was certified in subspecialty, cardiovascular disease, Advisory Board for Medical Specialties, 1957.

ROBERT T. PATRICK served as member, Program Committee, American Society of Anesthesiologists; associate member, Board of Governors, American College of Anesthesiologists; member, Executive Committee, and secretary-treasurer, Minnesota Society of Anesthesiologists; and consultant in anesthesiology for St. Paul area, Veterans Administration.

J. S. PEARSON was president, Minnesota Council for the Gifted, Minnesota Psychological Association, 1956-57; president, Minnesota Human Genetics League, 1956-58; and was member, Minnesota Board of Examiners of Psychologists, 1956-57.

GUSTAVUS A. PETERS served as member, Committee on Drugs, and member, Subcommittee on Insect Allergens, The American Academy of Allergy; and member, Board of Public Health and Welfare, Rochester, 1957-58.

HOWARD F. POLLEY was member, Executive Committee, American Rheumatism Association; and received the Alumni Award, Ohio State University College of Medicine, April 1958.

MARSCHELLE H. POWER was member, Board of Editors, *Clinical Chemistry*.

JOSEPH H. PRATT was named honorary member, Obstetricians and Gynecologists Societies of Florida and Arkansas, and of the Oregon Society of Obstetricians and Gynecologists.

JAMES T. PRIESTLEY served as member, Board of Regents, chairman, Committee on Nursing Education and Nursing Service, member, Committee on Professional and Public Relations, member, Building Committee, member, Committee on Congress and Sectional Meeting Programs, member, Board of Directors, Surgical Publishing Company (Chicago), and associate editor, *Surgery, Gynecology and Obstetrics*, American College of Surgeons; and member, Board of Directors, Franklin H. Martin Memorial Foundation. He received the honorary degree, Doctor of Laws, University of Alberta, Edmonton, Canada, 1956.

RAYMOND D. PRUITT was secretary, Sub-Specialty Board of Cardiovascular Disease, 1956-58; associate editor, Division of Clinical Conferences, *Circulation*; member, Committee on Intern and Residencies Programs, American Association of Medical Colleges; secretary, Minnesota Committee for Selection of Rhodes Scholars; member, Midwestern Regional Committee for Selection of Rhodes Scholars; and trustee, Minnesota Medical Foundation. He received the honorary degree, Doctor of Science, from Baker University, 1956.

DAVID G. PUGH was past president, Minnesota Radiological Society.

LAWRENCE M. RANDALL was director, assistant secretary, and chairman, Residency Review Committee for Obstetrics and Gynecology, American Board

of Obstetrics and Gynecology; member, Editorial Board, *American Journal of Obstetrics and Gynecology*; and foreign corresponding member, Societe Royal Belge de Gynecologie et d'Obstetrique.

RAYMOND V. RANDALL received the Certificate of Merit for exhibit, American Medical Association convention, June 1958.

HOWARD P. ROME served as president, Mental Health Film Board, American Sociologic Society; member, Council, and member, Executive Committee, American Psychiatric Association; member, Membership Committee, American Psychopathological Association; member, Council, National Institute of Mental Health; consultant, Advisory Board, Psychiatry and Neurology, and vice-chairman, Special Medical Advisory Group, Veterans Administration; consultant, Surgeon General, Department of the U. S. Army; member, Board of Directors, Citizens Mental Health Association; and chairman, Medical Policy Committee, Division of Social Welfare, State of Minnesota.

GRACE M. ROTH was member, Section on Circulation, American Physiological Society; secretary, Council on Circulation, American Heart Association; and member, Committee for Symposium on Peripheral Vascular Disease, Minnesota Heart Association, 1957.

ROBERT Q. ROYER was chairman, Anesthesia Committee, and member, Liaison Committee, American Society of Oral Surgeons; and member, Local Arrangements Committee, Minnesota Society of Oral Surgeons.

C. WILBUR RUCKER served as member, Program Committee, Section on Ophthalmology, American Medical Association.

EDWARD H. RYNEARSON was member, Committee on Dietetics, Minnesota State Medical Association; and past president, The Endocrine Society.

WILLIAM G. SAUER was member, Committee on Scientific Exhibits and Motion Pictures, World Congress of Gastroenterology, 1958.

CARL F. SCHLOTTHAUER was certified by American Board of Laboratory Animal Medicine, 1957; and received the Mark L. Morris Foundation Award, 1958.

HERBERT W. SCHMIDT served as member, Editorial Committee, Minnesota State Medical Association; and chairman, Executive Committee, Minnesota Trudeau Society.

DONALD A. SCHOLZ was elected fellow, American College of Physicians, April 1958.

HAROLD H. SCUDAMORE was elected member, International Society of Internal Medicine, 1957; senior member, American Federation for Clinical Research, 1958; and associate, American Gastroenterologic Association, 1958.

THOMAS H. SELDON was member, Board of Trustees, International Anesthesia Research Society; editor, *Anesthesia and Analgesia—Current Researches*, American Society of Anesthesiologists; and chairman, Committee on Anesthesiology, Minnesota State Medical Association.

JOHN T. SHEPHERD was member, Committee, The Physiological Society of Great Britain, 1957; Anglo-French medical exchange bursar, Paris, awarded by L'Institut National d'Hygiene, 1957; and was awarded the honorary degree, Doctor of Science, by The Queen's University of Belfast, July 1956.

RICHARD M. SHICK was member, Section on Circulation, American Heart Association; and diplomate, American Board of Internal Medicine.

KINSEY M. SIMONTON served as member, Committee on Conservation of Hearing, American Academy of Ophthalmology and Otolaryngology; chairman, Committee on Conservation of Hearing, and chairman, Minnesota Advisory Committee to Selective Service System, Minnesota State Medical Association; and president, 1957-58, and member, Council, 1958, Minnesota Academy of Ophthalmology and Otolaryngology.

RANDALL G. SPRAGUE served as member of Council, Endocrine Society; and member, Editorial Board, *Diabetes*, Journal of the American Diabetes Association; and honorary member, Endocrine Section, Royal Society of Medicine. He delivered the Eben J. Carey Memorial Lecture, Marquette University Medical School, Milwaukee, April 24, 1957; and received a Merit Award from Northwestern University Alumni Association, June 1957.

EDWARD C. STAFNE was honorary member, American Academy of Dental Medicine, 1956; member, Committee on Fellowships, American Academy of Oral Roentgenology, 1956-58; honor guest, Annual Meeting, 1957, and member,

Committee on Irradiation Hazards, 1958, Minnesota State Dental Association; and received the Callahan Award, Ohio State Dental Association, 1956.

GRIER F. STARR was certified by American Board of Pathology, 1958.

MAURICE H. STAUFFER was elected member, American Gastroenterological Association, 1958.

GEORGE G. STILWELL served as member, National Advisory Council, member, Board of Editors, *American Journal of Clinical Pathology*, and chairman, Historical Committee, American Society of Clinical Pathologists; member, Board of Directors, and member, Education Committee, American Medical Writers' Association; secretary-treasurer, councilor, and chairman, Editorial Committee, Minnesota Society of Clinical Pathologists; and was awarded Certificate for course on "Medical Writing," Medical Library Association, June 1958.

CHARLES F. STROEBEL was past president, 1957-58, and member, Executive Committee, Southern Minnesota Medical Association.

CHARLES R. SULLIVAN was certified by American Board of Orthopedic Surgery, 1956.

HENDRIK J. SVIEN served as member, Liaison Committee, Neurosurgical Society of America; treasurer, Harvey Cushing Society, 1957-58; and past president, Congress of Neurologic Surgeons.

HAROLD J. C. SWAN was member, Advisory Council, Section on Circulation, American Heart Association.

W. N. TAUXE was certified by American Board of Pathology, 1958.

GERSHOM J. THOMPSON was regent for Minnesota, International College of Surgeons, 1956-58; chairman, Section of Urology, International College of Surgeons; was elected member, Clinical Society of Genito-Urinary Surgeons, 1957; and president, Mayo Clinic Staff, 1958.

JAN H. TILLISCH served as chairman, Committee on Aviation, American Medical Association; member, Board of Preventive Medicine, 1958; member, Medical Committee, International Air Transport Association; consultant to Surgeon General, U. S. Air Force; member, Board of Visitors, Air University, 1957-58; and member, Judicial Committee, Minnesota State Medical Association.

LLOYD H. TRUAX was elected president, Rochester Dental Society, August 1956.

ALFRED UHLEIN was member, Graduate Training Committee, American College of Surgeons.

JOHN A. ULRICH was named fellow, American Academy of Microbiology, 1958; and member, Microbiology Study Section, National Institutes of Health.

LAURENTIUS O. UNDERDAHL was member, Committee on Professional Education, and member, Committee on Scientific Programs, American Diabetes Association; president, 1957-58, Central Clinical Research Club; and member, Diabetes Committee, Minnesota State Medical Association.

MARTIN VAN HERIK served as member, Publications Committee, American Radiology Society.

ELMER G. WAKEFIELD was honorary vice president, Medical Library Association, 1958.

KHALIL G. WAKIM served as member, Editorial Board, *American Journal of Physical Medicine*; member, Circulation Section, American Physiological Society; consultant, Army Medical Center, Walter Reed Hospital, and consultant on Basic Medical Education for the Armed Forces, Office of the Surgeon General.

EDWARD B. WALDMANN was elected to Mayo Foundation Chapter, Society of Sigma Xi, June 1958; and was senior naval flight surgeon, Naval Air Reserve, Minneapolis.

WALTMAN WALTERS served as chief editor, *Archives of Surgery*, American Medical Association; member, Advisory Panel on Medical Sciences, Research and Engineering, Department of Defense; chief editor, *Lewis-Walters' Practice of Surgery*; and received the Dartmouth Alumni Award, 1957. He delivered the Rowntree Lecture at the University of Miami, 1956.

EMMERSON WARD was member, Membership Committee, Program Committee, and Committee on Evaluation of New Therapeutic Agents, American Rheumatism Association.

CHARLES H. WATKINS was member, Advisory Board, National Foundation for Leukemia; assistant editor, *Cancer Yearbook*; and member and alternate delegate, Military Affairs Committee, Minnesota State Medical Association.

JOHN M. WAUGH served as representative of Surgical Section, American Medical Association, on American Board of Surgery, 1956-57; governor, representing American Surgical Association, and chairman, Nominating Committee, Board of Governors, American College of Surgeons; member, Editorial Board, *Cancer and Surgical Abstracts*; member, Editorial Advisory Board, *Journal of Diseases of the Colon and Rectum*; elder, First Presbyterian Church, Rochester; member, Board of Directors, Tarkio College, Missouri; director, Board, YMCA (Rochester); guest speaker, Annual Stated Meeting, Toronto Academy of Medicine, February 1958; and member, Commission on Ecumenical Mission and Relations, General Assembly, United Presbyterian Church of the United States of America, June 1958. He received the honorary degree, Doctor of Humane Letters, from Tarkio College, May 1957.

HARRY M. WEBER was director, Section on Instruction, American Roentgen Ray Society, 1956; member, House of Delegates, and member, Medical Ethics Subcommittee, Committee on Medical Economics, Minnesota State Medical Association, 1956-58. He was the Fred Jenner Hodges Lecturer, Inaugural Lecture, University of Michigan, April 1958.

LYLE A. WEED served as member, Council on Microbiology, American Society of Clinical Pathologists; member, Editorial Board, *American Journal of Clinical Pathology*; consultant in pathology, Biological Warfare Laboratories, U. S. Army; and chairman, Executive Committee, Minnesota Society of Clinical Pathology.

JACK P. WHISNANT was certified by American Board of Neurology and Psychiatry, 1957; and served as member, Governor's Advisory Committee on Atomic Development Problems.

MARVIN M. D. WILLIAMS served as guest examiner in physics, and member, Physics Credentials Committee, American Board of Radiology; member, Commission on Education, and chairman, Committee on Education of Radiation Physicists, American College of Radiology; member, Council, Associated Midwest Universities; and research associate, Argonne National Laboratories.

ROBERT B. WILSON was member, Board of Directors, and chairman, Awards Committee, American Society for the Study of Sterility.

RICHARD K. WINKELMANN was certified by American Board of Dermatology, 1957; was awarded the Gold Medal for exhibit, American Academy of Dermatology; the Certificate of Merit for exhibit, American Medical Association; and received a research grant, U. S. Public Health Service.

ERIC E. WOLLAEGER served as member, Subspecialty Board of Gastroenterology, American Board of Internal Medicine; member, Education Committee, American Gastroenterologic Association; and member, Committee on Hospitals and Medical Education, Minnesota State Medical Association.

EARL H. WOOD was president-elect, Basic Science Section, American Heart Association; member, Editorial Board, *American Journal of Physiology* and *Journal of Applied Physiology*; member, Editorial Board, *Circulation*; member, Program Committee, Circulation Section, American Heart Association; and member, Research Allocations Committee, Minnesota Heart Association. He delivered the Tenth Anniversary Celebration Lectures, Hospital dos Servidores, Rio de Janeiro, Brazil, 1957; the Battro Memorial Lecture, Buenos Aires, Argentina, September 1957; and the lecture series for the Peruvian Society of Cardiology, Lima, Peru, September 1957.

LEWIS B. WOOLNER served as member, Program Committee, Minnesota Society of Clinical Pathology, 1957-58.

ROBERT E. YOSS was certified by the American Board of Psychiatry and Neurology, 1958.

P. E. ZOLLMAN was certified by the American Board of Laboratory Animal Medicine, 1958; and was member, Agricultural Committee, Rochester Chamber of Commerce; and member, Executive Board (Rochester), Izaak Walton League.

School of Business Administration—FRANCIS M. BODDY served as member, Governor's Minnesota Tax Study Committee, 1956-58; chairman, Library Committee, Minneapolis Citizens' League, 1956-58; member, Board of Directors,

Minnesota Council for the Gifted, 1957-58; member, Committee of Research on Economic Census Data, Social Science Research Council, 1957-58; member, National Council, American Association of University Professors, 1957-58; member, Universities-National Bureau of Economic Research Committee, 1956-58; director, Ford Foundation Summer Research Seminar for Liberal Arts Teachers of Economics, 1958.

OSWALD H. BROWNLEE served as consultant, Joint State Government Commission, Commonwealth of Pennsylvania; consultant, Bureau of Agricultural Economics, U. S. Department of Agriculture; member, Editorial Board, *American Economic Review*; and member, Governor's Minnesota Tax Study Committee. He was awarded the Ford Foundation Faculty Research Fellowship, 1957-58.

JOHN S. CHIPMAN was awarded the Ford Foundation Faculty Research Fellowship, 1956-57; appointed associate editor, *Econometrica*, 1956; elected fellow, Econometric Society, 1956; member, 30-man Air Force Seminar on Planning and Designing Research Proposals in the Behavioral Sciences, Air Force Office of Scientific Research, 1957; member, Program Committee, Philadelphia meetings, Econometric Society, 1957; and was recipient of research grant from the Office of Naval Research, 1958.

EDWARD COEN was recipient of a \$500 prize for one of the 50 best papers submitted in a competition sponsored by the Committee on Economic Development.

DONALD V. HARPER was granted research funds by the Minnesota Department of Employment Security, 1958.

WALTER W. HELLER served as tax adviser to the Governor of Minnesota, 1956-58; consultant to the Commissioner of Taxation, State of Minnesota, 1956-58; member, Advisory Committee on State and Local Government Statistics, U. S. Census Bureau, 1958; consultant, Department of Economic Affairs, United Nations, 1956-58; member, Governor's Minnesota Tax Study Committee, 1956-57; chairman, National Screening Committee, Ford Foundation Faculty Research Fellowship Program, 1957; member, Board of Directors, 1958, and member, Committee on Fiscal Research, National Bureau of Economic Research; seminar director, Ford Foundation Faculty Research Summer Seminar in Economics, 1957; and was invited witness before Congressional Joint Economic Committee, its Subcommittee on Fiscal Policy, and the House Ways and Means Committee.

ROBERT G. HENEMAN served as chairman, Advisory Committee, State of Minnesota Department of Employment Security; chairman, St. Paul Fair Employment Practices Commission; editor, *1959 Research Volume*, Industrial Relations Research Association; auditor, Industrial Relations Program, Department of Health, Education, and Welfare; and secretary-treasurer, University of Minnesota Chapter, American Association of University Professors. He received the Outstanding Achievement Award and Lifetime Membership, Labor-Management Committee, Minneapolis Junior Chamber of Commerce, 1958.

ROBERT J. HOLLOWAY served as consultant on vacation travel survey, Minnesota Arrowhead Association, 1958; consultant on economic area study, Mayor's Committee, LeSueur, Minnesota, 1958; consultant to St. Paul Planning Board, 1958; vice president, Minnesota Chapter, American Marketing Association, 1957-58; and member, Educational Committee, Twin City Association of Purchasing Agents, 1957-58.

RICHARD L. KOZELKA served as national president, Beta Gamma Sigma (honorary commerce society), 1956-58; chairman, Committee on Standards, American Association of Collegiate Schools of Business, 1956-58; member, Board of Directors, National Bureau of Economic Research, 1956-58; member, Commission on Uniform Requirements for the C. P. A., American Institute of Accountants, 1956-57; economic adviser, Upper Midwest Research and Development Council, 1958; member, Scholarship Committee, Minneapolis Rotary Club, 1956-58; and member, Education Committee, Minneapolis Chamber of Commerce, 1956-58. He was appointed member, Joint Business-Academic Committee to review findings of Survey of College and University Programs in Business Administration, sponsored by the Carnegie Corporation, 1958.

EDWIN H. LEWIS received research grant from McGraw-Hill Publishing Company, 1957-58.

JOHN NETER served as consultant to Minnesota State Tax Commission; vice president and president, Twin Cities Chapter, American Statistical Association; was awarded Ford Foundation Faculty Research Fellowship, 1957-58; and participated in training program for Navy Officers, U. S. Naval Postgraduate School, Monterey, California.

I. RICHARD SAVAGE served as member, Council of the Institute of Mathematical Statistics; director, Summer Statistical Institute on Nonparametric Statistics sponsored by the Institute of Mathematical Statistics and the National Science Foundation, 1958; associate editor, *Journal of the American Statistical Association*; and co-director, Office of Naval Research Contract for Statistical Research, 1958.

HARLAN M. SMITH was awarded fellowship, Harvard Seminar on Religion, Ethics, and Business Policy Decisions, 1957.

JOHN G. TURNBULL served as public member, State Advisory Council on Unemployment Insurance; adviser, Conference, International Association of Personnel in Employment Security.

C. ARTHUR WILLIAMS, JR. served as member, Advisory Committee, Minnesota Compensation Insurance Board, 1956-58; member, Board of Editors, *The Review of Insurance Studies*, 1956; member, Editorial Board, *The Journal of Insurance*, 1958; vice president, The American Society for Insurance Research, 1956; and was awarded a Ford Foundation Faculty Research Fellowship, 1956-57.

DALE YODER was chairman, Committee on the Family as an Economic Unit, Social Science Research Council, 1956-58; president, Industrial Relations Research Association, 1957; member, Steering Committee, chairman, Committee on the Coverage of Unemployment Insurance, and chairman, Committee on Improper Payments, Federal Advisory Council on Employment Security (Advisory to the Secretary of Labor).

General College—ALLEN P. BLOMQUIST served as director, Minnesota Centennial Exhibit, American Swedish Institute of Minneapolis, 1958.

HENRY BOROW was chairman, International Relations Committee, American Personnel and Guidance Association; member, Board of Trustees, Twin City Vocational Guidance Association; and consultant, Vocational Counselor Training Program, U. S. Veterans Hospital.

DOROTHY M. BURROWS was member, Finance and Budget Committee, 47th Annual Convention, National Council of Teachers of English, Minneapolis, 1957.

DOUGLAS M. DEARDEN was recipient of a Tozer Foundation grant, 1957.

F. FAITH FINNBERG served as member, Budget and Finance Committee, 47th Annual Convention, National Council of Teachers of English, Minneapolis, 1957.

JEROME E. GATES was member, Subcommittee, Joint National Committee for Mortuary Education.

FORREST J. HARRIS was member, Committee on the Role of the Negro in Minnesota History, Minnesota Historical Society.

JAMES M. HARRIS served as chairman, Minneapolis Chapter, 1956, and treasurer, Minnesota Branch, 1957-58, United World Federalists.

VIRGINIA M. KIVITS was member, Budget and Finance Committee, 47th Annual Convention, National Council of Teachers of English, Minneapolis, 1957.

HORACE T. MORSE served as consultant on General Education, University of Delhi and the Ministry of Education of India, 1957; member, Executive Board, Viking Council, Boy Scouts of America; and member, Advisory Committee on Junior Colleges, Minnesota State Board of Education.

DEAN L. PHELPS was awarded the Danforth Foundation Fellowship.

MERRILL P. RASSWEILER served as secretary, Joint Committee for Improvement of Science Teaching in Secondary Schools, American Association of Physics Teachers and American Physical Society, 1956-58.

LEON REISMAN served as member, Advisory Board, Twin City Film Society; member, National Executive Committee, Conference on College Composition and Communication, 1956-58; and chairman, Budget and Finance Committee, 47th Annual Convention, National Council of Teachers of English, Minneapolis, 1957.

FREDERIC R. STEINHAUSER was recipient of the Tozer Foundation Award, 1957.

WILFRED O. STOUT was elected trustee, Alumni Association, St. Paul Academy; and president, Northwest Princeton Alumni Association.

THOMAS F. STOVALL was member, Curriculum Committee, National Council for the Social Studies; and member, Committee on the Role of the Negro in Minnesota History, Minnesota Historical Society.

Duluth Branch—FRED J. ANDERHOLM was Lieutenant Commander, U. S. Naval Reserve; and Supply Corps Officer, Duluth Area, for Commandant Ninth Naval District, 1956-58.

CLARENCE N. ANDERSON was grand president, Pi Delta Epsilon (honorary journalism fraternity), 1957-58.

ROBERT E. BEVERLEY was member, Duluth Symphony Orchestra, 1956-58.

ROBERT W. BRIDGES served as member, Citizens' Advisory Committee on Civic Design, 1956-58, and member, Citizens' Advisory Committee on Major Streets, 1956-58, Duluth Comprehensive Plan of City Planning Commission.

MERLE BRYANT served as state vice president, Delta Kappa Gamma (honor society for teachers), 1956-58.

THOMAS W. CHAMBERLIN was member, Citizens' Advisory Committee on Land Use and Zoning, 1957-58; member, Duluth Public Library Board, 1956-58; and was awarded the honorary Doctor of Pedagogy Degree from Eastern Illinois State College, 1956.

HUAI C. CHIANG was recipient of a Guggenheim fellowship, 1956-57.

EDWARD J. COWLES served as chairman, Building Fund Campaign, 1957-58, and director, Lake Superior Section, 1958, American Chemical Society.

RAYMOND W. DARLAND served as vice president, Board of Directors, Marshall H. and Nellie Alworth Memorial Fund, 1956-58; chairman, Subcommittee on Higher Education, Committee on Education, Minnesota Statehood Centennial Commission, 1957-58; member, Board of Directors, Duluth Chamber of Commerce; chairman, Rotary Foundation Fellowships, Duluth Rotary Club; member, Board of Directors, Duluth Symphony Association; and member, Advisory Board, The Salvation Army, 1956-58.

EMMETT DAVIDSON was member, 1956-58, and chairman, Drafting Subcommittee, 1956-58, Duluth Charter Commission.

JOHN A. DETTMANN was recipient of annual Delta Pi Epsilon research award for outstanding dissertation in the field of business education, 1956.

IVAN DOSEFF, JR. served as chairman, Education Committee, Duluth Lions Club, 1956-58; and member, American Society of Training Directors, 1956-58.

ALLEN L. DOWNS was choir director, First Methodist Church, Duluth, 1956-58.

ANNA M. DUVAL was secretary-treasurer, Lake Superior Section, American Chemical Society, 1956-58; and member, Board of Directors, Northeast Minnesota League for Nursing, 1956-58.

JOHN J. DWYER served as chief of staff, Miller Memorial Hospital, Duluth, 1956-58; and epidemiologist, Duluth Health Department, 1956-58.

HENRY J. EHLERS was member, State Executive Committee, Minnesota Branch, American Civil Liberties Union, 1956-58.

ROBERT J. FALK was elected president, Northeast Division, Minnesota Counselor's Association, 1957-58.

PACY FRIEDMAN was elected member, Board of Directors, Minnesota Speech and Hearing Association, 1958.

PHILIP L. FRIEST served as member, Organizing Committee, member, Constitutional Committee, member, Board of Directors, and treasurer, Duluth Blood Assurance Association, 1956-58.

ELEN A. FROGNER was co-recipient of grant from the Regional Writing Fellowship, 1956; was elected to National Conference on Research in English, 1957; director-at-large, National Council of Teachers of English, 1957; president, Beta Chapter, member State Executive Board, and member, International Committee on Educator's Book Award, Delta Kappa Gamma (international honorary society for teachers), 1956-58.

ORAZIO FUMAGALLI was member, Committee on Art, Minnesota Statehood Centennial Commission, 1958.

F. JAMES GLICK served as chairman-elect, Lake Superior Section, American Chemical Society, 1957-58.

ROBERT H. HAAKENSEN was Commanding Officer, U. S. Naval Reserve Surface Division 9-107(M), Duluth, 1956-58; member, Board of Trustees, and editor, *Channel 8 Newsletter*, Duluth-Superior Area Educational Television Corporation, 1957-58; vice-chairman, National Convention Programs, Radio-Television-Film Interest Group, Speech Association of America, 1957-58; member, Scholarship Award Committee, Central Cooperatives, Inc., 1958; and member, Lutheran Education Aid Fund Committee, First Lutheran Church, Duluth, 1958.

FRANK W. HANSEN was chairman, Governor's Conference on Exceptional Children, 1958.

HOWARD G. HANSON was recipient of research grant, Army, Air Force and Office of Ordnance Research, 1956-58; was awarded Research Participant Fellowship in Applied Nuclear Physics, Oak Ridge National Laboratory, 1958; served as scientific adviser, Radiological Division, Duluth Fire and Police Departments, 1957-58; and member, Report Committee to Louis W. and Maud Hill Family Foundation on work of Anderson C. Hilding, St. Luke's Hospital, 1956-58.

HARRIET J. HARRISON was member, Board of Directors, St. Luke's Hospital, 1956-58.

HAROLD L. HAYES was elected president, North Central Theatre Association, American Educational Theatre Association, 1957-58.

EARL H. HOBE served as president, Rotary Club of Duluth, 1956-57.

PERSHING B. HOFSLUND served as chairman, Duluth Zoo Board, 1957-58; editor, *The Flicker*, publication of the Minnesota Ornithologists' Union, 1957-58; chairman, Arrowhead Zoological Society, 1957-58; and member, Executive Board, Wilson Ornithological Society, 1957-58.

ROBERT W. HOUSE was member, 1956-58, and chairman-elect, 1958, Music Education Research Council; national coordinator for Commission I (Basic Concepts in Music Education), Music Educators National Conference, 1956-58; editorial associate, *Journal of Research in Music Education*, 1958; member, Music Committee, Minnesota Statehood Centennial Commission, 1957-58; and member, Board of Trustees, Duluth Symphony Association, 1956-58.

MARK M. KEITH received research grant, Society of Sigma Xi, 1958; and National Science Foundation stipend, 1958.

J. DORRANCE KISER served as member, 1956-58, and member, Board of Trustees, 1957-58, Duluth Art Institute Association; and member, Award Jury, Art Show of the North St. Louis County Fair, Hibbing, 1957.

KENNETH J. KRAFT was awarded a National Science Foundation study grant at Oregon Institute of Marine Biology, 1958.

BLANCHARD O. KROGSTAD was secretary-treasurer, Minnesota Academy of Science, 1956-58; secretary-treasurer, Society of Sigma Xi, 1956-58; vice president, Parent-Teacher Association, Lester Park School, Duluth, 1957-58; and treasurer, Duluth Public Library Association, 1956-58.

HENRY LEPP was elected secretary-treasurer, Institute on Lake Superior Geology, 1957-58; and program chairman, Fourth Annual Institute on Geology at Duluth, 1958.

HUBERT M. LOY was chairman, Research Section, Tri-State Association for Student Teaching, 1957-58; and vice president, Board of Directors, Wesley Foundation, 1956-58.

JAMES F. MACLEAR served as fellow, Newberry Library, 1957; and fellow, Folger Shakespeare Library, 1957.

WILLIAM R. MORGAN was director, Duluth Community Playhouse, 1957-58; and adviser, Alpha Psi Omega (national honorary dramatic fraternity), 1958.

DANIEL H. MUNDT was chairman, Juvenile Detention Committee, City of Duluth, 1956-58.

JAMES C. NICHOL was research participant, Biology Division, Oak Ridge National Laboratory, 1958; project associate in chemistry, University of Wisconsin, summers 1956 and 1957; and was elected vice president, Society of Sigma Xi, Duluth Chapter, 1958.

THERON O. ODLAUG was vice-chairman, Arrowhead Zoological Society, 1957-58; member, Board of Directors, Duluth Blood Assurance Association,

1957-58; and consultant, U. S. Public Health Service Lake Superior Study, 1956-58.

RUTH PALMER served as chairman, Minnesota Dietetics Association Delegates to the American Dietetics Association, 1956-58; member, Minnesota Home Economics Teacher Educators Committee, Vocational Division, State Department of Education, 1956-58; and member, Advisory Council, Minnesota Home Economics Association, 1956-58.

MOSES PASSER served as member, Technical Peat Exchange Mission to the U.S.S.R., sponsored by the Iron Range Resources and Rehabilitation Commission, the U. S. Bureau of Mines, and the University of Minnesota, 1957; head, Duluth Section, "Chemical Products from Peat" Project, sponsored by the Iron Range Resources and Rehabilitation Commission, 1956-58; panel member, State of Minnesota Second Governor's Conference on Resources, 1958; councilor, Lake Superior Section, American Chemical Society, 1956-58; chairman, Duluth Chapter, Society of Sigma Xi, 1956-57; panel chairman, Coal Conference, Gordon Research Conferences, American Association for the Advancement of Science, New Hampshire, 1956; and abstractor, *Chemical Abstracts*, 1956-58.

A. NEIL PEARSON served as communications officer, Wing Staff 81, U. S. Naval Air Service, Naval Air Ready Reserve, Minneapolis, 1956-58; participant, National Resources Conference, San Antonio, Texas, 1957; communications officer, Naval Air Transport Squadron VR 813, out of Port Lyautey, Morocco, 1958; and consultant, Board for Fundamental Education, Indianapolis, 1956-58.

ROBERT F. PIERCE served on Advisory Committee on the Speech Defective, 1956-58, and chairman, Advisory Committee on the Deaf and Hard of Hearing, 1958, Division of Special Education, State Department of Education; and chairman, Board of Directors, Duluth Mental Hygiene Clinic, 1958.

VALWORTH R. PLUMB was elected vice president, Minnesota Association for Supervision and Curriculum Development, 1958; and first vice president, Duluth Lions Club, 1956-58.

RUTH H. RICHARDS served as secretary and member, Executive Board, Central Association of Physical Education for College Women, 1956; recorder for discussion groups, National Convention, National Association for Physical Education of College Women, 1958; secretary, and member, Executive Board, Duluth Division, Minnesota Association of Health, Physical Education, Recreation and Safety, 1957-58; and member, Scholarship and Social Committees, chairman, World and Community Committee, 1956-58, secretary, and member, Executive Board, 1958, Kappa Chapter, Delta Kappa Gamma.

LEWIS J. RICKERT served as member, Committee for the Compilation of State Curriculum Bulletin #21, 1956-57; elected fellow, 1957, and treasurer, 1958, American School Health Association; chairman, Legislative Committee, Minnesota Association for Health, Physical Education, Recreation and Safety, 1956-58; and chairman, Physical Education Committee, and member, Board of Directors, Duluth YMCA, 1956-58.

RICHARD O. SIELAFF served as chairman, Annual Convention, Minnesota Economic Association, 1957; chairman, Social Sciences Section, Conference on College Teaching, State Department of Education, 1958; member, National Committee on Retail Store Management, American Marketing Association, 1958; director of research, Port Authority of Duluth, 1956-58; director of research, Minnesota Arrowhead Association Vacation-Travel Survey sponsored by the Iron Range Resources and Rehabilitation Department, 1958.

FRANCES E. SKINNER served as member and secretary, Fair Employment Practices Commission, City of Duluth, 1956-58.

JAMES E. SMITH was assistant concertmaster, Duluth Symphony Orchestra, 1956-58; and co-director, Statewide Clinic Meeting, Minnesota Unit, American String Teachers Association, 1958.

ALBERT TEZLA served as member, Governor's Committee on Displaced Persons, 1957-58.

WILLIAM P. VAN EVERA was chairman, Fair Employment Practices Commission, City of Duluth, 1956-58.

THOMAS W. WALTON was member, Planning Committee, State Convention, Minnesota Vocational Association, 1958; chairman, Finance Committee, and

chairman, Judging Committee, Head of Lake's Student Craftsmen's Fair sponsored by Ford Foundation, 1958.

ELLIOT H. WEINBERG served as vice president and president, Minnesota Chapter, American Association of Physics Teachers, 1956-58.

WARD M. WELLS was adviser, Ski Rules Committee, 1957, and scored National Intercollegiate Ski Meet at Dartmouth, National Collegiate Athletic Association, 1958; and was elected president, Duluth Section, Minnesota Association for Health and Physical Education, 1958.

FREDERICK T. WITZIG was elected to membership in the Society of Sigma Xi, 1958.

CHESTER W. WOOD served as chief, Education Division, with administrative responsibility for over-all program of educational reconstruction in Korea under the Office of the Economic Coordinator, International Cooperation Administration, United States Government, 1956-57; was awarded citation by Ministry of Education, Korean Government, 1957; awarded honorary LL.D. degree from Sung Kyun Kwan University, Seoul, Korea, 1958; awarded annual citation for Distinguished Service, Huron College Alumni Association, Huron, South Dakota, 1957; and served as general chairman, Financial Drive, Duluth Red Cross, 1958.

General Extension Division—FRED E. BERGER was member, Board, American Youth Hostels; member, Executive Board, and treasurer, National Council on Family Relations; member, Board, Citizens Club Community Center; member, Board of Trustees, University Lutheran Church of Hope; honorary member, Mid-West Fleet Safety Supervisors Association, honorary member, National Association of Assessing Officers; and member, Committee on Liberal Education, National University Extension Association.

ROBERT P. BOYLE served as member, Program Acceptance Committee, National Association of Educational Broadcasters.

ELIZABETH CLESS was member, and recording secretary, Arts Committee, and member, Planning Committee, Brighton Canyon (Utah) Workshop on the Arts, National University Extension Association.

ALBERT M. FULTON was vice president, Missouri Valley Adult Education Association, 1956; and chairman, Terminal Education Committee, National University Extension Association, 1958.

BETTY T. GIRLING served as member, National Board of Governors, Anti-Defamation League, B'nai B'rith, New York City, 1956-58; national adviser (for life) Alpha Epsilon Rho (honorary fraternity in Radio and Television); was awarded Honorable Mention Citation, Institute for Education by Radio-TV, Ohio State University, 1957; and received research grants from National Association of Educational Broadcasters, 1956-57, and 1957-58, National Educational Television Center in Ann Arbor, and Louis W. and Maud Hill Family Foundation, 1958.

F. LLOYD HANSEN served as member, Administrative Committee, 1956-57, member, 1956-57, and chairman, 1957-58, Correspondence Study Division, and chairman, Subcommittee on Radio and Television, 1956-57, National University Extension Association. He received the plaque and award of Distinguished Service from the Minnesota Funeral Directors Association for "his inspiring and active leadership in mortuary education," 1958.

CLARENCE C. LUDWIG served as executive secretary, League of Minnesota Municipalities; editor, *Minnesota Municipalities*; member of the following state committees: Governor's Civil Defense Advisory Committee, State Aeronautics Advisory Committee, Governor's Advisory Committee on Children and Youth, Governor's Anti-recession Inter-agency Committee, Governor's Advisory Committee on Suburban Problems, Minnesota Motor Vehicle and Traffic Laws Committee, and Executive Committee, Minnesota Safety Council; member, and chairman, 1957-58, Twin Cities Metropolitan Planning Commission; and member Citizens League Committee on Metropolitan Parks.

HUNTINGTON MILLER was chairman, Committee on Reports and Business Practices, National University Extension Association, 1956-58.

HELEN P. MUDGETT served as member, Sponsoring Committee, Students-in-Industry Summer Projects, YWCA; Counselor on human relations, Dramatic Division, National Recreation Association; and was invited by the Vice Presi-

dent of the United States to attend a Workshop Conference (Washington, D. C.) of the President's Committee on Government Contracts.

JULIUS M. NOLTE served as member, Minnesota Statehood Centennial Commission, 1957-58; member, Armed Forces Educational Program Committee, U. S. Department of Defense, 1956-57; member, U. S. National Commission for UNESCO, 1956-57; secretary-treasurer, National University Extension Association, 1956-58; member, Executive Committee, Council on General Extension, American Association of Land-Grant Colleges and State Universities, 1957-58; and staff member, Michigan Legislative Study Committee on Higher Education, 1957-58.

BURTON PAULU was elected president, National Association of Educational Broadcasters, 1957-58; and member, Joint Council on Educational Television, 1957-58.

WILLIAM C. ROGERS was appointed chairman, Committee on World Affairs, National University Extension Association, 1956-57; chairman, Section on International Affairs, 1956-57, and chairman, International Liaison Committee, 1958, Adult Education Association.

ELEANOR M. SALISBURY served as chairman, Editorial and Publications Committee, 1957-58, and assistant editor, *The Spectator*, 1956-58, National University Extension Association; state treasurer, League of Women Voters of Minnesota, 1956-58; secretary and member, Governor's Committee on Legislative Apportionment, 1957-58; and member, Minnesota World Health Organization and Centennial Health Committee, 1958.

ROBERT C. SLATER was member, Joint Committee on Mortuary Education (national); member, Committee of Examiners in Mortuary Science, Minnesota State Board of Health; member, Pathologist Autopsy Committee, Minneapolis Funeral Directors Association; and was elected honorary associate member, Minnesota Funeral Directors Association.

BARBARA J. STUHLER was member, Foreign Policy Committee, and member, Board of Directors, 1958, League of Women Voters of the United States; member, Governor's Advisory Committee on Atomic Development Problems, 1957-58.

WALTER H. UPHOFF served as consultant, Minnesota Labor Committee on Human Rights, 1956-58; member, Planning Committee for Seminar on Union Communication at Antioch College, American Labor Education Service, 1957; member, Education Committee, Minnesota Association for Mental Health, 1957-58; and member, Advisory Committee on Mental Health, National Institute of Labor Education, 1958.

ERWIN C. WELKE served a second term as president, and member, Board of Directors, Educational Film Library Association, Inc., 1956-58; and advisory member, Board of Directors, Audio-Visual Coordinators Association of Minnesota.

THE WORK OF THE UNIVERSITY

Colleges and Schools

COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS

The chief characteristic of the biennium 1956-58, as far as the College of Science, Literature, and the Arts is concerned, is growth. The college has grown in terms of student enrollment, in terms of actual student credit hours taught, in terms of number of staff members, and in terms of research activities and expenditures.

For the past four years the college's figures with regard to enrollment and student credit hours taught are as follows:

	Enrollment	Student credit hours taught
1954-55	5,428	293,698
1955-56	6,298	345,460
1956-57	6,847	332,534
1957-58	6,749	345,542

The figures for 1956-57 show a decrease in the number of student credit hours taught, even while enrollment in the college increased. This is explained by the fact that the Department of Physics in that year was transferred administratively to the Institute of Technology, and the student credit hours taught by that department were therefore absent from these totals for the College of Science, Literature, and the Arts for the first time. It is interesting to note that even though the college experienced a slight decline in enrollment in 57-58, the actual credit hours taught by members of the faculty in the college increased significantly.

As in the past few years, the enrollment increase has been a steady one, and has not produced crises in the college because of the size of the increase. As a result, orderly arrangements have been made, rather than frantic last minute arrangements, to provide for increased number of students. Thus, while the total number of staff declined in 56-57, from 413 the previous year to 394 in 56-57, due to the transfer of the Physics Department to the Institute of Technology, in 57-58 the staff increased to 412 in terms of full-time equivalent.

The orderly increase in enrollment is reflected to a certain extent in one other measure of the activities of the college, the number of credit hours taught per instructor. These figures for the past six years are as follows:

1952-53	259
1953-54	254
1954-55	261
1955-56	290
1956-57	297
1957-58	297

While the figure has increased steadily since 1950, the increase during the past three years has certainly not been alarming, and indicates that so far the enrollment increases have been absorbed into the college without unusual pressure.

Curricular changes—The major change in the college's program was the change adopted in graduation requirements, replacing the former two plans for meeting distribution requirements with a single plan required of all students, and requiring diversification of undergraduate work into the following five areas: English, foreign languages, humanities, social sciences, and natural sciences. The first year's experience with the new graduation requirements supports the hope that they would strengthen the liberal education of stu-

dents, while at the same time permitting wise specialization in the latter college years. In some of the specialized major areas the new program requires very careful scheduling, and is a tight program, but so far it seems to have worked with few difficulties.

The second area of continued study for the college was the area of general education. Three committees concerned with general education in each of the three major areas of knowledge—humanities, social sciences, and natural sciences—reviewed many of the college's offerings in this area, especially those courses of an interdisciplinary character. There, joint and separate deliberations culminated in a request for faculty discussion and action on the future directions to be followed in courses in general education. A meeting of the faculty in March of 1958 took a position which urged that the responsibility for interdepartmental courses in general education be shifted to all departments of the college, rather than regarded as the sole responsibility of the Department of Interdisciplinary Studies.

As is true in other years, extensive studies and reviews of the curricular offerings of the college were carried on by individual departments. Among these was a thoroughgoing revision of the Lower Division courses in the Department of Mathematics.

Noticeable during the biennium was a slight beginning in the establishment of special sections for students of high ability. For example, an experiment with such a group in Psychology 1 and 2 proved so successful that it is possible that two such sections will be established in the future.

The year 1957-58 marked the first experiment with a single Freshman English course, utilizing as lecturers to large sections distinguished members of the faculty of the Department of English, as well as other faculty members in the college. The experiment proved successful the first year, and will be continued in subsequent years.

During the year 1957-58 the college faculty also took action with respect to the English competence of students in the Upper Division of the college, and required that all students in the Upper Division show competence in theme writing before graduation would be completed.

A review of the work of the divisional councils and the Advisory Committee during the two years serves to highlight the fact that the curriculum of the college is a constantly growing and changing one, all changes made with the express intention of improving the liberal education of students in the college.

Research—A complete review of the research activities and interests of the college during the biennium would require a very complicated and extensive listing of research projects under way, articles and books published, research reports made to sponsoring institutions, as well as much scholarly activity in the library and in the study, devoted to equipping the faculty member for productive scholarship. Again, the amount of money appropriated specifically for research projects from state, federal, gift, and endowment sources shows a growing interest and concern in the college for formal research activities.

Years	No. of Grants	Amount
1952-53	44	\$1,134,008
1953-54	52	949,736
1954-55	48	845,306
1955-56	61	937,177
1956-57	48	223,407

The substantial drop from the year 55-56 to 56-57 is represented, of course, by the transfer to the Institute of Technology of the Department of Physics. If the figures for Physics were omitted for 55-56, the number of grants for the college would be 48, with a total expenditure of \$176,927.

As in previous years, it should be pointed out that the quantitative measures above give only a small indication of the research activity of the College of Science, Literature, and the Arts. One of the great strengths of a college of liberal arts is the freedom of research enjoyed by members of its faculty, and the complete independence which the established scholar has of pursuing

studies, without formal project or contract arrangement, for the advancement of knowledge in his field of competence.

The Laboratory for Research in Social Relations continues its interdepartmental and indeed inter-college activities, focusing research competence from many areas of the university upon problems of social change, particularly relations between individual and group behavior. In addition to support from the college and the Graduate School, the laboratory draws outside support from various sources for specific projects in the field of social relations.

The Minnesota Center for the Philosophy of Science continues, with support from the college, the National Science Foundation, the Graduate School, and the Hill Foundation. The Center's work in the philosophical bases of psychological concepts has brought accolades, and the Center's work now in the philosophy of physics is well along.

The year 1957-58 marked the establishment of the Minnesota Family Study Center, devoted to research and service in the area of the problems of family life. This program, supported initially by a grant from the Hill Foundation, has already resulted in strengthening the university's scholarly and teaching work in this field, and has laid the groundwork for productive research that will enrich society's knowledge of this important area.

Student Personnel Program and Student Relations—The revision of the college constitution formalized and gave official faculty approval to the practices which had developed informally over the last five years concerning the significant role of students in policy making in the college. The Student Intermediary Board, the college's student council, during the last two years has continued its careful and thoughtful study of college problems. It has been generally recognized as one of the chief instrumentalities available to students for playing a part in University affairs, and is considered by many as the most important "student government" group on campus. As a symbol of the group's status, both its president and its vice-presidents in 1958 were given the highest awards made at the annual extra-curricular recognition program.

The title of the chief administrative aide in the Upper Division office was changed to Coordinator of Senior College Advising, to make clear the duties and authority which for some years she had carried. The Placement activity had to be moved from the Upper Division Office to other quarters nearby, so great had demands for that service become during the last two years.

The college's program of special faculty advising for the top five percent of entering freshmen was strengthened and extended during the biennium and is no longer to be thought of as experimental. It was supplemented in 1957-58 with the formation of the "95-99 Club," a weekly luncheon meeting of roughly the top one percent of entering freshmen to which various members of the faculty were invited for informal discussion. The Dean of the College presided at these meetings designed to stimulate and capture for the intellectual life these most talented of our students.

School of Social Work

Since 1917, when it was known as the Course in Social and Civic Work (in 1942 designated as the School of Social Work) the School has made significant contributions to social work education. The biennium 1956-58 has added two more eventful years to that history of education, research, and service.

Approximately 80 per cent of the graduate enrollment in the School during the biennium was from Minnesota. As in the past, however, students from other states and other countries were included in each class. There were 138 full time and approximately 30 part time graduate students enrolled in the School during the biennium, and among these were 12 students from foreign countries. During the biennium 74 Master of Social Work degrees and three Doctor of Philosophy degrees were conferred, bringing the total of graduate degrees conferred since the beginning of the School to 596. Approximately 1,900 persons have been admitted to and spent some time in resident study in the School since its inception. In addition, through the resources of the Center for Continuation Study and the General Extension Division, the School has continued its traditional educational service to employed social workers in the

state by conducting institutes, workshops, and evening classes. During the biennium more than 200 were enrolled in these courses.

Among other noteworthy achievements in the 1956-58 biennium the following may be cited: (1) Completion of significant research studies.

(2) Continued study and improvement of curriculum content has been carried forward. In a field of human study which is expanding in new knowledge so rapidly, constant attention to updating teaching content is essential.

(3) Korea Social Work Education Project—Under a plan developed by the Director, three leading Korean social workers were brought to this School for graduate study to prepare them for responsibilities involving the establishment of a professional school of social work at Seoul National University. During this biennium these men completed their graduate work, received the Master of Social Work degree, returned to Korea, and now constitute the core faculty in social work at Seoul National University.

(4) Public and Professional Service—Members of the School's faculty have continued to serve in many leadership positions in the field. Among several dozen instances the following are illustrative: (a) Member and Chairman of the Commission on Accrediting of the Council on Social Work Education; (b) President-elect of the National Association of Social Workers; (c) Chairman-elect of the Social Group Work Section of NASW; (d) Chairman of the Social Work Training Committee of the National Institutes of Mental Health.

In addition to the achievements briefly noted above it is important to draw attention to the present acute shortage of professionally qualified social workers. Every graduate of this School has had about 10 job offers each. In the face of such a demand the School has maintained sound educational standards in both admission practice and instruction. As one clue it may be noted that of approximately 250 applicants 95 were admitted for graduate work. Every effort is made to assure high quality in the graduates of this School. Graduates of this School have accepted positions in a wide variety of professional social work functions, including leadership and consultative positions. Alumni of this School hold many high-ranking positions in local, state, and national social welfare agencies.

Public Administration Center

During the 1956-58 Biennium, the 21st and 22nd classes were enrolled in the Graduate Training Program in Public Administration. There were 29 graduate students who participated in the program during 1956-57; 43 during 1957-58. These figures include 16 new students who entered the Program in 1956-57 and 33 new students who entered the Program in 1957-58.

The increase in graduate students in public administration during 1957-58 was due to the large number of Korean students. In February, 1957, the University's contract with the International Cooperation Administration which forms the basis for the Korean Project was expanded to include the field of Public Administration. The sum of \$525,000.00 was allocated for the period ending September, 1959. Under this expanded contract, 13 Public Administration participants studied at the University of Minnesota during 1957-58. Of these participants, 11 were young faculty members from Seoul National University and two were from the Office of General Affairs in the Korean Government.

All of the 13 Public Administration participants completed the course work requirements for the degree of Master of Arts in Public Administration. Nine of the 13 participants returned to Korea in July, 1958; the other four remained for additional graduate work.

In addition to participant training, the Korean Program in Public Administration provides for the sending of American faculty members to Korea. During 1957-58, a public administration adviser, a research adviser, a library adviser, and an in-service training adviser were sent to Korea. Also, about 1,500 books were ordered for special public administration libraries at Seoul National University and at the National Officers Training Institute.

A program of part-time internships with the state government and with city managers in the Twin Cities area was inaugurated in 1956-57. The internships involve 20 hours per week of service with government offices in return for compensation of approximately \$170.00 per month. Five internships were arranged with the State Government in 1956-57; two with city governments. During 1957-58, nine public administration graduate students held internships with the State Government; three with city governments.

Four public administration evening courses were offered each semester in the General Extension Division, and one new course was offered in the Correspondence Department. The Extension courses are taken primarily by employees of the federal, state, and local governments who are unable to attend daytime courses. Most of these students already have college degrees—some of them have advanced degrees.

The research activity of the Public Administration Center was devoted to a continuation of work on a series of administrative histories of departments and agencies in the Minnesota State Government. In 1956-57 the research staff worked on a history of the Department of Public Welfare; in 1957-58 the staff worked on a history of the Department of Agriculture, Dairy, and Food. Both histories require additional work before they are ready for publication.

During the 1958-60 Biennium, it is proposed to continue the current programs and activities of the Public Administration Center and to give attention to the following matters:

Begin planning for a conference to be held during 1960-61 to commemorate the 25th year of the Graduate Training Program in Public Administration.

Seek additional funds—perhaps from a foundation—to facilitate the early completion of the administrative history project and the publication of manuscripts.

Request additional funds for building up a collection of comparative public administration materials for purposes of research and instruction.

Expand the educational programs for government employees.

Explore the possibility of offering a fellowship each year from funds contributed by alumni.

School of Journalism

During the 1956-58 biennium, Ralph D. Casey, first director of the School, retired. Professor Casey's 28-year tenure was a period of remarkable growth and distinction for the School. It has become the fourth largest journalism unit in the country in student registrations and has developed a distinctive curriculum and educational philosophy. During the biennium Professor Casey served as president of the American Association of Schools and Departments of Journalism, delivered the 1958 Eric Allen Memorial Lecture at the University of Oregon, and was honored on numerous occasions by educational institutions and by professional journalism organizations. One such instance was the presentation to him in 1958 of a Distinguished Service Medallion by the University of Wisconsin. On May 2, a Recognition Banquet, attended by 300 colleagues and alumni, was held in his honor. On that occasion, Professor Casey's achievements were recounted by President Morrill and he was presented funds for an around-the-world trip by several hundred friends. Effective July 1, 1958, Professor Robert L. Jones was appointed director succeeding Professor Casey.

Curriculum Study and Revision—During 1956-58, the School continued an intensive curriculum study begun in 1954-56. Earlier emphasis centered on graduate level courses, courses in communication theory and research, and courses in broadcast journalism. In this biennium two areas, photo-journalism and advertising, received most attention.

Research Division—The Research Division completed 22 studies during the biennium. Among the more significant were: a study, in collaboration with four other universities, of press treatment of civil liberties news events; a study of the flow of Asiatic news in leading U.S. daily newspapers (sponsored by the International Press Institute); a before-after panel study of Twin City community reaction to educational television; a study of reader reactions to the 1958 St. Paul newspaper strike; and a continuation of readership and

reader attitude studies sponsored by the Minneapolis *Star* and *Tribune*. Professor Roy E. Carter was added to the staff in September, 1958, to direct the Research Division.

Professional and Public Service—During the biennium, the staff maintained an extensive and diverse program of short courses and institutes for daily newspapermen, weekly newspapermen, radio and television newsmen, industrial editors, public relations executives, and high school journalism advisers. In addition, the School co-sponsored with the Twin Cities' chapter of the American Newspaper Guild, annual memorial lectures on topics concerning the press and public affairs.

Faculty Distinctions—In 1956-58, numerous distinctions were achieved by staff members. One was elected to the highest office which a journalism educator can hold—the presidency of the Association for Education in Journalism. This staff member spent six months of the biennium, as a follow-up of an earlier Fulbright grant, studying mass communications in Italy. Another senior staff member was notified that he will be awarded a Guggenheim Fellowship for the 1959-60 academic year. Another professor was named vice president of the UNESCO-sponsored International Association for Mass Communication Research. In addition, this staff member completed a six-month trip to journalism education and communication research centers in Asia, the Middle East, and Europe on a Ford grant. A staff member took part in a Social Science Research Council inter-university summer seminar for communication researchers at Stanford University. Other staff achievements included three awards to members of the faculty for summer internships on leading national magazines and newspapers. One staff member was awarded the first public relations faculty internship set up under the auspices of a committee of the Association for Education in Journalism.

Scholarships and Grants—During 1956-58, the following scholarships were established for students in the School of Journalism: the Carroll Binder Memorial Award for a student of exceptional promise in reporting and interpreting international affairs; the Davidson Publishing Company Scholarship for promise and achievement in writing for magazines and periodicals; the T. F. Goetting Memorial Scholarship for students in advertising and/or public relations; the Northwest Council of Advertising Agencies scholarship for an outstanding advertising student; and the Harvey Yantis Memorial Scholarship for an outstanding student in agricultural journalism.

During the biennium, the Minneapolis *Star* and *Tribune* provided a grant to support, for five years, the Ralph D. Casey Journalism Seminars. This grant will permit a nationally distinguished newspaperman to be brought to the campus for several days of interchange with students and faculty.

Library School

Significant events during this biennium include the continued growth of evening classes, extension of the Graduate Library Assistantship program, establishment of the library science minor in the College of Science, Literature, and the Arts, and establishment of library science as a subject for a minor in doctoral programs.

Curriculum—Evening Program: In the Fall of 1955 when the first evening course was offered, six students registered. In the Winter term 13 attended, and 16 in the Spring term of 1956. In the Fall of 1956, 72 students registered for the evening course in Reference. That winter, 54 attended the evening course in Library Administration, and in the spring of 1957, 82 enrolled in the course in Selection of Library Materials.

SLA Minor in Library Science: In the fall of 1956 the Library School announced a new library minor for undergraduates. The first year, 50 students took courses, and about the same number in 1957-58. The courses recommended are the undergraduate courses required for students who wish to work on the professional degree at the graduate level. This program has been

highly successful in introducing students to the opportunities in librarianship while still undergraduates.

Ph.D. Minor in Library Science: The Library School faculty has long considered how to provide for advanced study for librarians, that is, beyond the minimum of the M.A. degree. In the winter of 1958 the faculty proposed to the Graduate School that library science be approved as a minor subject in doctoral programs. The Graduate School officially approved the library science minor.

More Courses Available: The addition of Professor Simonton to the full-time staff made it possible to offer two courses listed in the bulletin of the Library School, but infrequently offered. We have been able to offer Publishers and Publishing, and a seminar in Cataloging and Classification in both years of the biennium.

We have also established a new course in Research Methods in Librarianship. This course introduces methods of research in the social sciences and library research, as taught by Douglas Waples. About three-fourths of our M.A. candidates have taken the course in 1957 or 1958.

Institutes—A professional Library School is expected to offer opportunities for instruction and help to librarians in the field by holding institutes and workshops. Our school did not do this for several years, but in 1955 Professor Wezeman directed an institute on Public Library Materials, and in 1956 he conducted another on Public Library Finance. In 1957-58 we held no institute, but we have two planned for 1958-59.

Graduate Library Assistantships—There is a pronounced trend toward offering work-study opportunities for students in professional library schools, and through the cooperation of the University of Minnesota Libraries we established the Graduate Library Assistantships in 1956. This program has been very successful, and has helped eight students to earn their way through library school. In the spring of 1958 the Minneapolis Public Library agreed to participate in this program. This will not only enable more students to work their way through to the M.A., but will give the Library School the advantage of being able to offer a work-study experience to public librarians as well as to university librarians.

Scholarships—Through the interest of Mr. Raymond Jackson of Ward Springs, Minnesota, and Lauderdale-by-the-Sea, Florida, the Library School has been able to provide a \$600 Irene Fraser Jackson Memorial Scholarship in both 1956-57 and 1957-58. (Mrs. Jackson was a member of the University Library and Library School staff from 1937-41.)

Enrollment and Graduates—Enrollment in library science courses is considerably higher than in the previous biennium. However, the number of graduates has decreased, as will be clear from the following tables:

Enrollment Statistics

Individual Students Taking Library Courses

Fall 1951	115
1952	136
1953	93
1954	109
1955	96
1956	150
1957	172

Summer 1953—148 (enrolled in one eight-week session)

	First term	Second term
1954	182	100
1955	164	96
1956	141	100
1957	183	98
1958	187	109

Graduates—July 1st to June 30th

	Bachelor of Science	Master of Arts
1952-53	44	7
1953-54	29	11
1954-55	15	31
1955-56	8	35
1956-57		29
1957-58		25

Actually, in the calendar year of 1957 16 non-graduates were placed in professional library positions, and 25 M.A. graduates were placed. The demand for librarians is so acute that employers have not insisted upon completion of the degree program before appointment. Unfortunately, even the 41 students placed in 1957 did not go very far to meet the demand. The Library School received between 700 and 800 requests for librarians in each year of the biennium.

Salaries of librarians have continued to rise, with one beginning M.A. graduate in 1957 starting at \$6,000 and two non-graduates starting at \$6,000 and \$6,120. None of these had had library experience. The median salary of graduates in 1957 was \$4,517.

Center for International Relations and Area Studies

The staff of the Center for International Relations and Area Studies consists of a member of the Department of Political Science who as an additional duty acts as director, a half-time research fellow, and a full-time secretary. At the end of the biennium the status of the research fellow was changed from a nine-month to a twelve-month appointment, which will permit the continuation of some functions during the summer months. Principal activities during the biennium have included the following:

Library—Funds available for purchase of library materials have been so limited (about \$350 per annum) that it has been necessary to concentrate upon current periodicals and essential reference books. A considerable quantity of pamphlet literature, materials from government information services, and some United States and United Nations documents, are obtained gratis.

An increase in the Center's supply budget during the second year of the biennium has permitted the filling of gaps to complete runs in some of the periodical files, and the binding of these runs into annual volumes for permanent reference use.

During the first year of the biennium the secretary thoroughly renovated the pamphlet collection, discarded a considerable number of dated materials which are no longer useful, and made necessary rearrangements.

Meetings and Conferences—A full and varied program of meetings and conferences has been conducted, despite the limited budget available for such purposes. During the first year of the biennium there were four two-day symposia (the Suez Canal Seizure; the Middle East Crisis; the Post-Stalin Era; A New Look at NATO), a panel discussion of research on isolationism, an intercollegiate conference on the theme, The United Nations and Power Conflicts, and nine meetings at which individual speakers were presented. During the second year of the biennium there were four two- or three-day symposia (New Challenges for the West; National Security in the Nuclear Age; International Student Exchanges; Problems of Latin America), three panel discussions (The Role of Small Powers in the United Nations; Foreign Trade and the National Interest; the Protection of Human Rights—National and International), and nine individual lectures.

Programs in International Relations and Area Studies—The instructional programs in international relations, area studies, preparation for the Foreign Service, and intelligence research, are under the supervision of an interdepartmental committee. The Center therefore provides services for students comparable to those of a department office in replying to inquiries about admission, preparing bulletins, counseling students, and keeping student rec-

ords. As these services have been referred to in previous reports they need not be detailed here. During the second year of the biennium copy has been completed for a new edition of the special bulletin, *Programs in International Relations and Area Studies*.

Research—During the first year of the biennium the Center issued a report entitled *Employment Opportunities for Students Trained in International Relations and Area Studies* (1957, 76 pages), which contains materials and comment designed to aid graduates in finding suitable positions and lists employers and their requirements in the areas of international industry, trade, and finance; mass information media; the National Government; international and regional organizations; and non-governmental organizations in world affairs. The directory has proved extremely helpful and has been in considerable demand. It might be worthwhile to revise and reissue it at regular intervals, but the present staff of the Center is insufficient for such a project.

A large amount of material has been collected during the past three years for a bibliography of methodological materials in the social sciences relevant to the study of international relations. It is hoped that publication of this can be begun, probably in segments covering individual disciplines, during the coming year.

University Art Gallery

During the biennium of 1956-58 the faithful and devoted career of Mrs. Ruth Lawrence as Director of the Gallery was concluded by her retirement. Made Director of the Gallery in 1941, Mrs. Lawrence has brought the gallery from a struggling infant to its present healthy adolescence. The status of the gallery today is in a very real sense a tribute to her devotion.

During the biennium 1956-58 a total of 63 exhibitions was held, among them the two exhibitions arising out of the cooperation between the University of Minnesota and Seoul National University, Korea—the Korean Art Exhibit, and the University's exhibit "Minnesota to Korea." Exhibits of individual artists included John Rood, Harry Sternberg, and Antoine Bourdelle.

Loans to museums and other institutions totalled 620 objects, a substantial increase over the previous biennium, 1954-56. Among the institutions to which objects were loaned were the University of New Mexico, Louisiana State University, the Huntington Galleries, and the Brooklyn Museum. The substantial contribution of the gallery to the cultural activities of the state is illustrated by the fact that 273 objects were loaned to Minnesota agencies, not including the Tweed Gallery at the Duluth Branch.

The campus loan program continued at a high level and represented continued campus use of this cultural service of the gallery. For the biennium loans were as follows:

Loans to campus offices	1188 pictures
Rental loans to students	2255 pictures
Loans of materials for study purposes	6628

In addition to the above, extensive loans of materials for class purposes and small exhibitions directly in support of class room instruction were arranged.

Additions to the permanent collections continued to show a healthy growth as follows:

<i>Purchases</i>	<i>Number</i>	<i>Cost</i>
Original works	65	\$4332.55
Reproductions	47	880.09
Photographs	475	276.95
<i>Gifts</i>		
Original works	304	
Reproductions	4	
Photographs	115	

Notable among the purchases were items contributed from the John Rood Sculpture Fund totalling \$1936.06.

As of June 1958, the total collections of the University were as follows:

<i>University Gallery</i>	
Original works	4853
Rental collection of framed pic- tures	562
Photographs and reproduc- tions	63,500
<i>Tweed Gallery</i>	
Original works	190
Reproductions	1
<i>Institute of Agriculture</i>	
Original works	18

Thus the university's collection of original works increased from 4,692 to 5,061, while the collection of reproductions increased from 67,066 to 67,513.

Many of the Gallery's problems are common to the university as a whole—increased demands, rising costs, problems of expanding size in limited quarters. These suggest the need now for a careful reappraisal of the Gallery's program and the needs growing out of that program. And with the development of a West River expansion of the campus, a practical solution to the very difficult cramped quarters problem may be possible. With this should come a renewed emphasis on the Gallery's contribution to the University's cultural program so that the tradition so well exemplified in Mrs. Lawrence's directorship can be continued and strengthened.

Summary

The biennium 1956-58 represented for the college a foretaste of the problems to be encountered in the next decade, presenting as it did some increases in student enrollment, but in such modest numbers that constructive steps could be taken without haste. As always, the addition of staff members, to fill new positions as well as to fill vacancies, has been made with due regard to the college's concern with both teaching and research, and though positions are becoming increasingly difficult to fill, the college's traditionally high standards for appointment have been maintained.

The college's crucial problem continues to be to maintain high scholarly standards in the face of increased pressures—pressures of larger classes, increased knowledge, higher costs, and crowded quarters. The college's long devotion to self study and experimentation, plus the university's commitment to liberal education, assures a wise and constructive solution.—ERRETT W. McDIARMID, dean

Minnesota Geological Survey

In general the work of the Minnesota Geological Survey for the biennium 1956-58 has followed the pattern of previous years. Notably increased public interest in both the cultural and economic aspects of geology has led to a somewhat larger proportion of service work. Bulletin 37, "Minnesota's Rocks and Waters," has nearly sold out the first printing of 7000 and an additional 3000 have been printed with funds from the 1956-58 budgets.

Because of repeated requests a 26 page pamphlet, "Guide to the Minerals and Rocks of Minnesota," was prepared by Professors George A. Thiel and George M. Schwartz. This was distributed on request and within a few months over 7000 copies were disposed of mostly in response to individual requests.

In November, 1956, the Department of Geology and the Minnesota Geological Survey were host to the Geological Society of America and associated societies. A guidebook to field trips was prepared, partly supported by the Minnesota Geological Survey. (See list of publications).

The main projects on which work has been carried on during the biennium are as follows:

The manuscript on the geology of Cook County which will be published as Bulletin 39 was completed and turned over to the University Press for publication.

A detailed study of the geology of the Eastern Mesabi district was carried on from 1955 to date by James N. Gundersen under the supervision of the Minnesota Geological Survey. A generous fellowship was provided for the years 1955-56 and 1956-57 by the Reserve Mining Company. Field and laboratory expenses were provided from Survey funds and the resulting thesis will be published as a bulletin.

The revision of the glacial geology of Minnesota is being continued by Associate Professor Herbert E. Wright, Jr., and assistants. Dr. A. F. Schneider completed work in an area in central Minnesota and this will be published as a survey bulletin.

Professor Frederick M. Swain with the assistance of graduate students is making a detailed study of the fossil Ostracoda of the Ordovician of Minnesota. Largely from research funds but with some support from the Minnesota Geological Survey, Professor Swain has been carrying out a comprehensive survey of the sediments of Minnesota lakes.

The Office of the Commissioner of Iron Resources made a grant for a study of the commercial possibilities of marl for both years of the biennium. This project has been completed with the assistance of several departments, and a report will be published by the Office of the Commissioner.

Professors Alfred Nier and Samuel S. Goldich have been carrying on a project involving radioactivity-dating of the Precambrian rocks of Minnesota and adjacent areas. The project is financed by grants from the National Science Foundation with additional support by the Survey and the Graduate School. In this connection field work in the Rainy Lake area has also been supported by the Survey.

Assistant Professor Robert E. Sloan completed a study of the Cretaceous of Minnesota and a paper covering the work will be submitted to one of the geological journals. He has also supervised four theses on the Paleozoic area of southeastern Minnesota.

Publications—The following publications were issued by the Minnesota Geological Survey during the biennium.

George M. Schwartz and Nikola Prokopovich, Map of Mineral Resources of Minnesota. 1956.

George A. Thiel, High-Silica Sands of Minnesota, Minnesota Geol. Survey Summary Report #9. 1957. 33 pages.

Nikola Prokopovich and George M. Schwartz, Preliminary Survey of Bloating Clays and Shales of Minnesota, Minnesota Geol. Survey Summary Report #10. 1957. 69 pages.

S. S. Goldich, H. Baadsgaard, and A. O. Nier, Investigations in A^{40}/K^{40} dating, Transactions American Geophysical Union, v. 38, 547-551. 1957.

H. M. Gehman, Jr. The Petrology of the Beaver Bay Complex, Lake County, Minnesota, University of Minnesota, Ph.D. thesis, July 1956.

Wm. E. Crain, Geology of the Red Wing Quadrangle. Master's Thesis. University of Minnesota, 1957.

Graham R. Ford, The Platteville Formation in Dakota, Goodhue and Rice Counties. Master's Thesis, University of Minnesota, 1958.

S. S. Goldich, C. O. Ingamells, and Doris Thaeumlitz, The Chemical Composition of Minnesota Lake Marl—Comparison of Rapid and Conventional Chemical Methods, 32 p. ms. in press, Economic Geology.

S. S. Goldich, H. Baadsgaard, G. Edwards, and C. E. Weaver, Investigations in the Radioactivity-Dating of Sediments, 18 p. ms. submitted to Bulletin of the American Association of Petroleum Geologists.

Papers based in part on survey work and published in scientific journals are as follows:

George M. Schwartz, editor, Guidebook for Field Trips. Minneapolis Meeting 1956, Geological Society of America. 452 pages, 7 plates and 84 figures. Contributions by Professors Gruner, Goldich, Wright, Sloan, Heller, Schwartz, representatives of mining companies, and others.

H. E. Wright, Jr., The Wadena Glacial Lobe, Minnesota (abstract), Geol. Soc. America, Bull. 68, p. 1814. 1957.

———, The Wadena Drumlin Field, Geografiska Annaler, v. 39, pp. 19-31, 1957.

———, Radiocarbon Dates of Mankato Drift. Discussion, Science, v. 125, pp. 1038-1039. 1957.

F. M. Swain, and Nikola Prokopovich, Stratigraphy of Upper Part of Sediments of Silver Bay Area, Lake Superior, Geol. Soc. America, Bull. v. 68, pp. 527-542. 1957.

—GEORGE M. SCHWARTZ, *director*

INSTITUTE OF TECHNOLOGY

During the past biennium a number of significant studies have been proceeding in the Institute of Technology and there have been some important organizational changes. In this report I will stress these matters and omit reference to the continued strength of departments whose patterns have not changed as much.

Review of Admission Requirements—One of the more meaningful studies is a complete and careful review of the requirements for admission to the Institute of Technology. This is an effort to ensure better selection and thus reduce the percentage of students who do not succeed in completing our curriculum. Since 1946 we have required for admission from high school (in addition to the regular University criteria in English and aptitude) standing in the upper half of the high school class and one and a half years of each of plane and solid geometry, algebra, and higher algebra. But even with these standards, the scholastic preparation and ability of incoming students seems to be inadequately measured in relation to their success in their first years here. In 1956 and 1957, a mathematics entrance test was given to entering students to evaluate its correlation with their subsequent performance, and as of the fall of 1958, satisfactory performance in the mathematics test became a requirement for admission.

In the spring of 1958, we started a study of the progress of the Institute student body. This already shows a lack of uniformity in the validity of high school rank as an admission criterion. Some schools which report their students as being in the highest percentile show consistently weak records in the Institute, while others that rank their students lower by conservative judgment turn out to have prepared them well. Our findings of outstanding high schools as determined by the success of their students in the Institute of Technology correlate well with results of the national merit scholarship competition. We propose to continue these studies in order that our selectivity on admission may be as valid as it is possible to make it.

Several plans have been introduced to effect a steady upgrading process. First, we encourage better students in honor sections with high grade individual instruction. This is already in operation in a number of the departments. Secondly, we encourage the best students to take the four-year program which continues into graduate work.

The faculty has also recently adopted a plan which, with the exception of the School of Architecture, divides the student's work into a Lower and an Upper Division. Admission to the Institute of Technology will be to the Lower Division comprising the first two years' work. Upon satisfactory completion of this, a Certificate in Science will be awarded. This will provide a useful intermediate goal for those who are not strong enough or for other reasons do not finish the Upper Division's work for a bachelor's degree. We are hopeful that this will reduce the number of our students who now continue too long on probational status.

Organizational Changes—Some important organizational changes have taken place during the past two years. In 1957 a healthy reorganization of the School of Mines and Metallurgy resulted in placing the Mines Experiment Station in the School to ensure much closer cooperation in teaching and research. This has already conferred benefits on both the School and the Experiment Station. There is enthusiastic and harmonious cooperation, joint seminars, and participation of the Mines Experiment Station staff in faculty meetings.

The creation of a Division of Metallurgical Engineering in the School of Mines and Metallurgy and a Department of Metallurgy in the School of Chemistry has likewise benefited both fields. In metallurgical engineering the curriculum in mineral dressing (ore beneficiation) and extractive metallurgy was hampered by necessarily rigid requirements when it was joined with physical metallurgy. Now students are able in mineral dressing to take courses such as mineralogy, petrography, and advanced chemistry which they need.

The Metallurgy Department, on the other hand, has been able to design its own curriculum to meet the needs of this rapidly changing field. Although the new department is small, having only five staff members, enrollment is growing, particularly at the graduate level; and in addition to its own 30 majors in metallurgy, the department teaches metallurgy to about 300 engineers and 200 dentists each year. Formerly these students only took a survey course. The Department of Metallurgy has already been successful in attracting strong government support for its research programs.

In July 1956, Physics, formerly a department in the College of Science, Literature, and the Arts, became the School of Physics in the Institute. During the biennium we have been able to add markedly to the professorial staff, the number of assistants, and the support of the department to meet the continually increasing needs so that it may give better service not only to the Institute but also the University at large. It has participated strongly in programs for high school science teachers supported by the National Science Foundation and the Hill Family Foundation. Its research program in biophysics, nuclear physics, mass spectroscopy and cosmic rays receives worldwide recognition. It has participated actively in the International Geophysical Year and was chosen as the Western Hemisphere Cosmic Ray Data Center. In addition, undergraduate instruction in physics has been improved by a much closer relationship with the courses in mathematics that students take concurrently. Support for Physics is, however, still woefully inadequate to allow it to build up to the position it should have in a great university.

At the end of this biennium the Departments of Aeronautical Engineering and Mechanics and Materials were merged to form a new Department of Aeronautical Engineering. This combination already shows a strengthening in the areas of basic solid mechanics, materials, and the structures area so necessary to meet the rapidly changing emphasis toward "aero-space" engineering. Significant changes have recently been made in the aeronautical curriculum to reflect these new directions and a distinguished professor of aerodynamics, from England, will be added to the faculty in January 1959.

The former Department of Drawing and Descriptive Geometry was made a Division of Engineering Graphics in the Department of Mechanical Engineering during the period of the biennium. This change is much more than an organizational one. The faculty of Engineering Graphics has already, within the structure of Mechanical Engineering, performed a noteworthy job of moving from an emphasis on drafting skills to a program in drawing communication, more nearly meeting the present needs of engineering departments.

Curriculum—Each of the five several schools and colleges in the Institute of Technology governs its own curriculum matters; but coordination is obtained most harmoniously by having observers from the other major units sit with the College of Engineering Curriculum Committee to provide counsel. These observers become full members of the combined committee when actions are of interest to the Institute as a whole. This organization has proved most effective on all our curricula problems. The committee has worked hard to preserve uniform standards, to make prerequisites realistic and not unnecessarily restrictive, and to minimize duplication of subject matter in different departments. Existing duplication is reduced in favor of common instruction by the most competent department in a particular area and by discouraging courses which aim at too narrow a specialization. The committee aims to see that the maximum amount of freedom be maintained in elective choices so that students may broaden themselves in fields other than their particular majors. The Institute curricula contain heavy requirements in mathematics and physics during the first two years, and improvements in the physics instruction have been introduced by increasing the instruction in mathematics on a highly integrated basis with physics.

Another major all-Institute curriculum change has been the elimination of English courses aimed at the development of technical writing skills. Now students in the Institute of Technology take the same basic freshman English offerings as students in the College of Science, Literature, and the Arts, and they undergo the same classification procedures for English proficiency. Good students who are exempt from freshman English are now encouraged to take

a foreign language by the inclusion of foreign languages in a group of our non-technical requirements. We are still concerned in our curriculum that not enough of our students in physical science and engineering elect to take biological sciences, but working with the departments concerned, we hope to correct this the coming year. Because actions taken by the Institute in regard to the curriculum of our basic two years have an effect on liberal arts, junior, and state teachers colleges, we maintain close coordination and have the wholehearted cooperation of these.

Building and Equipment Needs—The steadily increasing activity in teaching and research in the Institute is severely taxing our present facilities and we look forward to acquiring much needed room for expansion by the fulfillment in the next few years of the plans for an addition to Electrical Engineering, an addition to the School of Physics, refurbishing space vacated by the Highway Department for the use of Civil Engineering, completion of the rehabilitation of the School of Chemistry, and the completion of the School of Architecture and additional Engineering wing for which provision was made in the last biennium. In addition to these building needs, we face the problem of equipping them. Apparatus in modern scientific and engineering work now often involves large and costly units. We have been fortunate, through the assistance of the University, of the National Science Foundation, of the Hill Foundation, of private industry, and of the Atomic Energy Commission to add two important tools of this kind—first, the new large addition to the Computing Center, and secondly, the Gamma Irradiation Facility, exponential pile, and other equipment for nuclear engineering. We are still faced with a major problem of apparatus for the new School of Mines building which is nearing completion. Long-range planning in the Institute involves a system of three important elements of growth—adding highly qualified faculty, providing space for them and their students, and providing the tools with which they can do research and teach. Any plan that envisages growth to meet increasing enrollments or to cover satisfactorily new fields of science and technology must take account of all three.

In this short report I have confined my remarks to those elements in the Institute structure which have undergone some marked change. No mention has been made of the continuing development of the many other departments and divisions who are performing excellent work. The healthy activity of these may be gaged in some measure by the productivity of the faculty as attested in the *Publications of the Faculties* and by the ever-increasing number of invitations our faculty receive to visit nationally and internationally and the extent of the representation that our Institute enjoys on state, national, and international committees and commissions.—ATHELSTAN SPILHAUS, dean

INSTITUTE OF AGRICULTURE

Agricultural Experiment Station

Probably the most significant development that influenced the Agricultural Experiment Station during the 1956-58 biennium was the building program. The facilities in the new Soil Science and Dairy Products buildings, Veterinary Science and Diagnostic laboratories, Plant Science and Crops Research Buildings will have an immeasurable influence on the research program in their respective areas. Likewise greenhouses for Soils and Horticulture will enable investigators in those departments to increase and improve their research. Many additions at the Branch Stations such as barns, seed houses, feed storage and handling facilities, and machine sheds will enable the staffs at those stations to improve on the more practical phases of agricultural research throughout the State.

Research Methods—Research methods in agriculture have been greatly enhanced by the addition of a statistician to the Experiment Station staff. He is providing counsel and advice on statistical problems encountered in research projects in all of the departments and he is serving as a liaison between the St. Paul campus staff and the High Speed Computer Center on the Minne-

apolis campus. The addition of IBM equipment to his laboratory has been a significant step forward in agricultural research.

Acquisition and availability of new lands also will augment the research program. One hundred sixty acres at Excelsior, Minnesota, will provide facilities for landscape and woody ornamental plant research and the Cedar Creek Forest is being used for research in wild life and game management. Soils and water research will be strengthened through cooperation with the new United States Department of Agriculture Soil and Water Research Laboratory at Morris, Minnesota. Studies are in progress to establish a new branch station in Southwestern Minnesota where additional tests on crops and soils will be made.

Two major contributions to the tools for research in agriculture are the gamma radiation unit and the High Speed Computer Center on the Minneapolis campus.

Recognition of significant service to agriculture and society in general was accorded to some 40 members of the staff by inclusion in the most recent issue of "Who's Who in America."

Salary increases were welcomed by the staff and they made possible the retention of several key people. However, salary increases created budgetary problems since increases in many salaries had to be provided from research funds. The research program was maintained at the same level, however, by timely increases in General Agricultural Research, Rosemount, Hatch, and Regional Research Funds.

A number of new memoranda of agreement with governmental agencies, foundations, and industry provided funds to increase research in some areas and to begin new research in other areas. These sources not only give significant support to research, but they serve to bring industries related to agriculture into closer contact with experiment station personnel and activities.

Active Research Projects—There are 275 active research projects in the Experiment Station. This is a slight reduction resulting from the consolidation of several projects, but the over-all research program has not changed appreciably.

The Experiment Station released Forrest barley, Minhafer oats, Arny flax, and, as yet, an unnamed variety of rye, and several new varieties of Minn-hybrid corn. In addition, Trail barley, Bolley flax, and Dollard red clover were tested and placed on the list of recommended varieties.

The following fruits and ornamentals were released also by the Experiment Station: Princess and Minnehaha chrysanthemums, Radiant flowering crab, Welcome gooseberry, and Centennial and Northland crab apples. In addition, propagating wood and plants of two strawberry selections, one rose, one flowering crab, and two chrysanthemums were released to commercial nurserymen.

Basic research in genetics and cytogenetics of crop plants in Agronomy and Plant Genetics is resulting in lines of plants that have genetic constitutions that will more readily produce commercial varieties with desirable characteristics.

The Department of Animal Husbandry culminated many years of research and testing by releasing the Minnesota No. 3 breed of hog. This release is restricted to growers who agree to test litters of all progenies for growth rate and efficiency of feed utilization. The latter tests are necessary also for registration; this is the first time that specific factors of known economic importance have been included in registration requirements for a breed of swine in the United States. Cooperative studies with the Medical School on the physiology of fetal development in the sheep, goat, and pig are contributing much to the understanding of fetal blood diseases in animals and man. Tests on the uses of hormones and antibiotics have demonstrated their place in livestock feeding programs.

In Biochemistry, basic research is continuing on the structure of starches, hemicelluloses, and gums from cereal grains and hemicelluloses from straw and wood. Some of these studies have led to the transformation of these starches into gum-like substances that appear to be of industrial importance.

Approximately one-third of the dairy cows in Minnesota are bred by artificial insemination. Studies on this subject in the Dairy Department have

enabled an artificial breeding industry to develop. It was thought that collecting semen from a bull more than once a week was injurious to the bull, but recent tests proved that semen can be collected from a healthy animal as often as every second day without harming him.

With the recent innovation of pipe line milkers, bulk tanks, and newer methods of processing milk, rancidity in milk became more of a problem. Prompt investigations on this problem provided information which virtually eliminated rancidity in fluid milk.

Agricultural economists have demonstrated that larger butter-powder milk plants operate more efficiently than smaller ones. Similarly larger whole milk plants are less expensive to operate than smaller ones. These savings can be reflected in consumer prices.

Studies have been initiated in Agricultural Economics on the impact of the new Federal highway system on land values, transportation, markets, and perhaps other agricultural problems.

Agricultural engineers have demonstrated that in land drainage a lateral tile entering a main tile at a 90° angle is just as serviceable as a tile entering at a 45° angle. This should result in savings to the farmers who lay new tile in drainage systems. Studies are being made on the nature and behavior of silage in laboratory model silos. The results are leading to a better understanding of silage and prevention of silage gas poisoning that has caused the death of several Minnesota farmers in recent years. Studies are being made on the mechanical and engineering problems involved with artificial drying of farm crops, a recent development on Minnesota farms.

It has been known for a long time that molds injure the germ of wheat in storage causing what is known as "sick wheat." Stored wheat also becomes infested with granary weevils. Plant pathologists and entomologists, working together, have demonstrated that the weevils and molds work together. Weevils carry the mold spores and actually inoculate the wheat. They also provide a favorable environment in which the molds grow.

Foresters have developed methods of using 2,4-D and 2,4,5-T to remove bark from aspen commercially. Significant improvement in the use of chemically treated poles, posts, and lumber is resulting from studies on these materials in the School of Forestry. A new variety of poplar has resulted from forest tree breeding. New developments in aerial photography have been accepted by the forest industry in making forest surveys.

In Home Economics, studies are being made on methods of cooking on the nutritive value of foods. Tests demonstrated that percentages of thiamine and riboflavin were not significantly different in roasts that were heated to an interior temperature of 180°F and 174°F, or when they were boneless or the bone was left in. Thawing cauliflower and rhubarb midpoint in a six month freezing-storage period did not affect the retention of ascorbic acid in the cooked product.

In Horticulture, tests with herbicides are continuing to provide data on which to base recommendations for applications of herbicides to farmers' fields. A film "Fruit of the North" was produced to bring to interested groups the story of the development of fruit varieties.

Plant pathologists have shown that new races of the rust fungi can originate by an asexual process where nuclei from the hypha of one strain can migrate through fusions with a hypha of another strain. This is in addition to hybridization and mutation. A new race of stem rust, 13A, has been found that can infect all commercial varieties of oats grown in the world.

A significant new finding was that toxic substances are produced by living and dead quackgrass that stunt the growth of alfalfa, and to a lesser degree small grains and flax. This helps to explain why it is difficult to establish alfalfa on newly plowed sod of quackgrass.

An extensive study of level-of-living and aspirations of rural residents in the low income counties of Northeastern Minnesota was completed in Rural Sociology. One of the studies revealed a higher level of aspiration among the youth of the low income area than youth of a higher income area. Many youths in the low income area seek to make their living elsewhere, but many more have no definite plans to leave the area. Though farmers' incomes are low in Northeastern Minnesota, their investments are also low. Three of every ten farmers in the area indicated hopes of leaving farming

in the area: 55 to 65 per cent plan to continue farming in the area. Those who indicate intentions to leave mostly intend to farm elsewhere. Those who leave tend to accept motivational reasons to move but reject arguments for leaving their area.

Developments in soils research have seen greater emphasis put on basic and fundamental endeavors with the use of radio-tracer techniques for major and minor plant nutrients (iron, sulfur, phosphorus) and for assaying soil structure (cobalt); staple isotope work for nitrogen studies; infra-red spectrographic work for studying organic matter transformations in soils; and partition chromatography for separating amino acids and other organic constituents of soil. Over 25,000 soil samples were tested annually in the Soil Testing Laboratory. These were followed by recommendations for the proper fertilizers to be used on the fields they represented.

The Poultry Department workers found that treating live poultry with carbon dioxide prior to slaughter reduced variability in blood loss thus improving the quality of the meat. They also found that eggs retain their quality longer when the large ends are sprayed with an oil prior to sending them through market channels.

The research in Veterinary Medicine will be reported separately, but it may be indicated here that the Agricultural Experiment Station continues to support this important work in essentially the same manner as it did before its administrative separation from the Institute of Agriculture.

An important development in the work of the Experiment Station is the greatly increased coordination of the research in the departments of the St. Paul Campus with that of branch stations. Most of the branch station work is directed from the several departments of the central station but some projects are developed by members of staff at the branch stations with the central station's cooperation. Such projects have members of the central staff as cooperators. This provides an opportunity for flexibility in the program but assures complete integration of all research. This principle of coordination and integration is growing generally throughout the station.

The findings in agricultural research are coming more and more from the coordinated efforts of scientists in different disciplines, i.e., the work is being done increasingly on a problem rather than a departmental basis. This is for the reason that as agricultural science progresses, it is being found that the final answers often lie in a number of fundamental sciences such as biochemistry, physiology, cytology, physics, and mathematics. These must frequently be brought together with applied research for the solution of many present day problems. Thus, as the problems become more complex, the talents of more specialized scientists become necessary. Therefore, there is an increasing recognition in the various departments of the need of having the practical phases of research supported by good fundamental science. Staff additions are, therefore, all in this direction. A sounder scientific agriculture can be built only with the increasing application of this principle.

Agricultural Extension Service

Significant growth and accomplishment was achieved by the Agricultural Extension Service in the biennium 1956-58. Programs and activities were directed toward helping people solve the various problems which they encounter from day to day in agriculture, home economics and related subjects. Groups of informed leaders in the counties gave their assistance and guidance in the development of programs. Staffing and organization of teaching activities were undertaken in ways designed to bring the findings of land-grant college and U. S. Department of Agriculture research to bear on problem areas outlined in the programs.

Bringing the campus to even the remotest crossroads in the state is a continuing task for extension workers as new problems appear and new knowledge is developed. New teaching methods are constantly being experimented with to best meet the needs of the day.

Financing—Significant improvements took place during the biennium in the financing of extension work in Minnesota. For three years preceding this period federal appropriations available in the state had increased approxi-

mately \$325,000 primarily for the purpose of enlarging county staffs. Other funds available did not meet needs for salary improvement, however. In its 1957 session the state legislature increased significantly its appropriations for extension work to aid in correcting the salary disadvantage. For 1957-58 the state appropriation was increased \$103,000 and for 1958-59 an additional \$25,000. In the same period county support rose also by approximately \$100,000. Somewhat smaller increases in federal funds were received. The total of these increases is significant toward retaining and attracting well-qualified staff.

Allotment by the U. S. Department of Agriculture of \$28,000 toward support of extension work in marketing and of \$36,000 toward the rural development work in northeast Minnesota rounds out a biennium of significant advance in strengthening the financial base for extension education.

While the increased funds permitted significant salary improvement, future financing will need to take into account salary adjustments which may be required to continue to retain and attract well-trained, competent personnel. Some needs for added personnel exist which will be presented for consideration in the forthcoming biennium.

Program Development—Traditionally the program of extension work in agriculture and home economics in Minnesota has been the sum of the county programs developed by county program planning committees and reflecting the needs of people in the counties as these committees have seen them. This basic program framework has been supplemented by additional state or area programs within the state directed toward needs or problems which appeared to be common to all parts of the state or in the areas concerned, and could best be approached in that manner. Although it is believed that in Minnesota the programs of the Agricultural Extension Service have been directed toward pertinent needs and objectives, it is constantly a matter of concern to the Extension Service that it be continually alert to new or changed needs and objectives.

As a method of determining appropriate county extension programs a system of procedures termed "long-time county program planning" in Minnesota has been instituted. This system is serving to bring to focus more sharply some of the more important areas of educational emphasis which people in Minnesota counties envision for the Extension Service. By June 30, 1958, 36 counties had undertaken this method of programming with about 25 of those having completed the outlining of their initial long-time programs. An additional 14 counties had made preparations to begin detailed planning in the fall of 1958. An average of about 75 farm and urban people participate in long-time planning committees in a typical county.

Youth programs, particularly 4-H work, are of major importance in all county programs and have been stressed more strongly than in the past. Urbanization of many rural areas is bringing new problems; and reorientation of extension programs in those areas is suggested. More complex production technology and higher capital requirements in agriculture place emphasis on efficiency and management skills. Farmers' concern for meeting demands of the market have been reflected repeatedly in long-time programs indicating need for expanded extension activity in marketing.

Program Activities—The volume of activities participated in by extension workers is impressive. In 1957 the total of all individual contacts through extension activities by county staff members reached an impressive 2,438,180. To this statistical measure could be added many more thousands of contacts by extension staff members headquartered on the St. Paul campus and the mass media contacts made by the entire county and state staff through radio, television and press.

Space does not permit a comprehensive description of all the program activities of the Agricultural Extension Service in the biennium. Several of these are described here as illustration.

A significant development in the work being done is the team approach to problems by specialists in different fields of subject matter. One of these is in dairying; another is in the use of outlook information.

Dairying has been in the forefront in Minnesota agriculture for a long time. Resources of the extension service have been focussed on dairying in

many ways. Dairy production specialists have devised and introduced a simple production record-keeping system and culling guide. Soils, agronomy, farm management and dairy specialists have demonstrated methods of vastly improving yields from pastures for dairy cattle. County agents have worked with local dairymen on ways of improving upon the efficiency and profitability of their herds. The dairy products specialist has worked with dairy plant personnel to improve upon product quality and plant efficiency. Together with production specialists and dairy marketing specialists he has worked with producers and their organizations on product handling from farm to plant. Marketing specialists have worked with dairy marketing firms to aid in bringing about economies of operation.

All production specialists in dairy, livestock, poultry and crops have teamed together with the farm management and marketing specialists to provide complete outlook information for use by producers.

During the biennium, interest in public affairs education grew significantly. The specialist in this field organized a popular series of farm forums. Well-informed persons participated in the forums, their specialties varying with the topics to be discussed.

Individual counselling by county agents with farm families on various phases of their business grew rapidly. The farm management specialists conducted special training for agents and other professional agricultural workers on helping farm families with their management problems.

Although farm and home development work was already underway in northern Minnesota to a limited extent in 1956, the designation by Congress of Northeast Minnesota as an area of low income in agriculture made possible increased efforts along this line. This new effort was designated the Rural Development Program. Three counties were selected as pilot counties where a program would be initiated to enlist the aid of all public agencies as well as of industry and civic organizations in an effort to help reduce the low agricultural income problem.

Intensive work with Indian families began late in 1956 in the Red Lake reservation and Mahnomen communities. Agents assigned to this work are financed under a contract with the Bureau of Indian Affairs. These agents report moderate success in enlisting Indian boys and girls in 4-H club and young adult groups. Extension activities in home economics and agriculture suited to the needs of Indian adults have also been conducted.

Home economics extension work at the close of the biennium was reaching some 50,000 women in over 3,400 local groups. County home agents assisted many more with information through mass media. The nutrition and food management work reaches more people than any of the other home economics specialties. Special foods and nutrition projects were carried by 85 of the 91 county extension units. Clothing and textiles ran a close second along with home furnishings.

Requests from residents in the Twin Cities metropolitan area for information on a wide variety of agricultural and home economics fields have been received in increasing numbers during the last two years. For the most part these are seasonal and deal with plant disease, insect pest, horticultural or food problems. Many of these urban people do not know about their local extension office but do know that on the St. Paul campus there must be someone who can give them the information they need. Special provisions were made to meet these requests for assistance.

Participation in 4-H club work in Minnesota is predominately more from farm homes than in most other North Central states. The growth of the suburban "fringe" around many Minnesota cities may lead to greater participation from non-farm boys and girls in the immediate future. Already substantial numbers of rural non-farm and urban young people are enrolled. About 47,000 boys and girls were enrolled in each year of the biennium with nearly 8,000 local leaders assisting extension agents in conducting the program.

Support of 4-H club work from non-public funds reached new highs in the biennium. In 1957 a total of nearly \$73,000 was contributed by industry, trade and individual donors through the state 4-H club office alone. No complete record is available of support given directly to 4-H programs throughout the state but it is estimated to be about \$300,000.

Personnel—At the close of the biennium the professional extension staff totalled 286 employees. Of these 219 were headquartered in the counties and 67 were specialists, supervisors and similar workers on the St. Paul campus. There is still a definite shortage of women trained in home economics who are qualified to do home agent work.

Staff members who are interested in pursuing additional graduate training are being encouraged to do so. Special in-service training programs were conducted during the biennium in communications and farm management methods. The communications training was for the entire extension staff. Farm management training was chiefly for county agents.

Relationships—Close and mutually helpful relationships were enjoyed with agencies having functions concerned with agriculture. County personnel of both the Soil Conservation Service and Farmers Home Administration were included in the farm and home development training schools. A special four-day school was held for vocational agriculture teachers at several locations in the state. New bulletins, fact sheets, news summarizations and educational movies were supplied to these teachers as they became available.

College of Agriculture, Forestry, and Home Economics

A number of events and developments of special significance to the College of Agriculture, Forestry, and Home Economics took place during the biennium. The most extensive building program in the last half century was under way on the St. Paul Campus. The first intensive self-examination of the course and curriculum offerings of the entire college was made by the faculty under the leadership of an *ad hoc* Curriculum Self-Survey Committee. The upward trend in enrollment continued. The program of relationships with prospective students was expanded. Two new positions—for an instructor and clerk-typist—were created in the college office to assume responsibility for the advising of Pre-Veterinary students and to cooperate with department advisers in their work with students in scholastic difficulty. The scholarship program for students in this college continued to expand. The operation of all single student dormitories on the St. Paul Campus and the operation of the Agricultural Cafeteria and Dining Hall were transferred to University Services.

Building Program—Buildings that will provide more adequate living accommodations for students include: two new single student dormitory units—one for 155 college men and one for 150 college women, a new Student Center, new dining hall, and new married student housing. The dormitories are nearing completion as this biennium comes to a close and will be ready for occupancy beginning fall quarter 1958. The Student Center also is nearing completion and will be ready for use a few months later. Plans for a new dining hall, which were submitted to contractors for bids in January 1958, resulted in bids in excess of available funds. To bring the cost within available funds it was decided to eliminate that portion of the building which included class, laboratory, and office space for students and staff in Institutional Management and Dietetics, toilet and cloak rooms for all who use the dining facilities, and a small serving line, dining room and lounge for staff and campus visitors. Bids covering the revised plans were opened during the closing month of the biennium and construction will start immediately. The University administration will request a deficiency appropriation of the 1959 State Legislature to complete this building as originally planned. The new dormitories, dining hall, and Student Center will be connected to form a unique group of buildings that complement and supplement each other.

During the last year of this biennium 13 one- and two-bedroom units which accommodate 100 married students were completed, and construction of other units to house an additional 125 married students was started. The married student housing is for students from both the Minneapolis and St. Paul campuses.

Buildings that will provide modern class and laboratory facilities include: a new Soils building, Dairy Industry building, additions to the Veterinary Medicine group of buildings, and a Forest Products Laboratory. The new

Soils building was completed, and the first unit of a new Dairy Industry building was completed and work on the second and final unit began during the biennium. The Veterinary Basic Science unit in the Veterinary Medicine group of buildings was completed and plans were drawn for a Veterinary research and diagnostic laboratory during the biennium. Bids on the new Forest Products Laboratory were opened during the closing month of the biennium, and construction will start during the summer.

Course and Curriculum Review—At the request of the faculty a committee, known as the Curriculum Self-Survey Committee, was appointed on April 19, 1955 for the purpose of making a thorough study of the present course offerings and the organization of the various curriculums of the College of Agriculture, Forestry, and Home Economics. Although this committee began its work in the previous biennium, the major impact of its inquiries and principal faculty actions occurred during this biennium.

The Self-Survey Committee utilized special subcommittees to explore general questions of all-college or area-wide interest, and cooperated with departmental committees with respect to department offerings and curriculums. The subcommittees are listed below, with a note on their findings and some indication of the outcome of their work.

- I. Subcommittee on Special Problems of Admission
- II. Subcommittee on Need for a "General Agriculture" Curriculum
- III. Subcommittee on Farm Experience Requirement
- IV. Subcommittee on Effective Use of Staff and Student Time
- V. Subcommittee on the Humanities and Social Sciences in Professional Curriculums

The reports and recommendations of the subcommittees supported the following generalizations:

1. The present admissions threshold is acceptable, assuming no change in basic philosophy of the college.
2. Special attention must be given to the needs of students of rural origin with respect to communications skills and mathematics. Limited offerings in mathematics in many small high schools tend to restrict the level of preparation in mathematics of entering students.
3. No new curriculum in "General Agriculture" is needed. Readjustment of departmental course offerings to provide more effective service to freshman and sophomore students would be helpful. This could be accomplished through existing curricular structures. Later action to remove limiting prerequisites on a number of frequently requested courses, to establish new courses available to entering students without prerequisites, and to add laboratory facilities to several important introductory courses added greatly to the usefulness of the Technical Agriculture curriculum.
4. Study is continuing on the contribution of farm experience to the various curriculums in Agriculture. For certain curriculums farm experience is essential. For others it has little significance.
5. Students on the St. Paul Campus spend a great deal of time in transit between the Minneapolis and the St. Paul Campus. Effort should be directed toward bringing the instructor to the students in those instances where major efficiencies can be secured. Classes in SLA mathematics and in men's and women's physical education were scheduled on the St. Paul Campus for the first time during this biennium, and were very well received.
6. The previously existing graduation requirement in the social sciences (18 credits drawn from at least three of a number of specified fields) did not provide sufficient continuity and integration between the social sciences taken. After extensive faculty discussion, a new all-college graduation requirement was adopted, calling for nine credits in humanities and 15 credits in the social sciences. The faculty strongly recommended the establishment of three 3-credit courses in humanities on the St. Paul Campus beginning fall quarter 1959, to be used in fulfilling the above-mentioned requirement in humanities.

Curriculum revision in the School of Home Economics has been a continuing process, and as a result fewer changes of major nature resulted from the self-survey work.

The School of Forestry moved to delete from its offerings, effective fall quarter 1959, the Forestry-Wildlife Management curriculum, and incorporated minor programs to be chosen in conjunction with the three major Forestry curriculums remaining.

Course and curriculum review resulted in greatest change in the offerings of departments in Agriculture. The college serves three groups of agriculture students: (a) those moving to the B.S. degree and leaving to enter the employment field, (b) those preparing for graduate level instruction in Agriculture, and (c) those students who are terminal, that is, who enter with the intent to remain in college but for a limited period, or whose registration is interrupted for various reasons prior to completion of degree requirements.

To provide more adequate service to the third group the course changes noted in the work of the Subcommittee on the Need for a General Agriculture Curriculum were effected. Reorganization of content in many areas made the degree program more efficient. And revision of the Technical Agriculture curriculum to include additional organic chemistry and mathematics made this curriculum more useful as a source of graduate students. To be more descriptive and to avoid misinterpretations given to the term "technical," the "Technical Agriculture" curriculum was retitled "Agricultural Science."

Addition of biometrics, physics, and genetics to the science specialization curriculum strengthens this program of undergraduate preparation for graduate study.

The activity of the Self-Survey Committee has stimulated critical self-examination in all areas of the college, and the greater concern for institutional and departmental objectives and teaching effectiveness should contribute positively to the college operation for an extended period.

In recognition of the increasingly important role statistics is playing in the training of students in this college, the Curriculum Committee recommended the appointment of an *ad hoc* Subcommittee on Statistics to study the adequacy of existing offerings in statistics on the St. Paul Campus. After careful consideration, this subcommittee made some significant recommendations which were approved first by the Curriculum Committee and then by the college faculty.

Faculty action involves the establishing, effective fall quarter 1958, of Biometrics 90, 100, and 101 and Agricultural Economics 101, and the discontinuance of Agronomy 136 and Agricultural Economics 90 (190) and 191, effective as of the end of the spring quarter 1958. The biometrics series will be taught and administered outside the framework of any existing department. Until or unless a Department of Biometrics is established on the St. Paul Campus, it will be administered by a faculty committee analogous to the Food Technology Committee.

Enrollment in the College of Agriculture, Forestry, and Home Economics continued to increase during the biennium, although at a somewhat less rapid rate than during the preceding two year period. The increase was from 1733 during the academic year 1955-56 to 1896 in 1956-57 and 2045 in 1957-58. From the post World War II low of 1324 in 1953-54 through 1957-58 the increase amounted to 54 per cent.

It seems clear that a more adequate program of interpretation of opportunities stemming from study in the fields represented by this college should be developed. In this respect the field of agriculture is in special difficulty. Instructors in vocational agriculture and other workers in the field note the frequency with which academically talented rural youth either do not go on to college after high school or, if they do attend, are counseled away from the field of agriculture. This "counseling out of the field" stems not from any interest on the part of administrators, teachers, and counselors to ignore agriculture as such, but largely from a lack of understanding on their part of the many professional opportunities agriculture has to offer, both at the B.S. and the advanced degree levels. In addition, the need exists to acquaint urban youth with appropriate interests to look to agriculture as a promising employment outlet.

Interpretation of the fields noted and of the work of the college has been furthered through attendance at Career and College Days and through the use of illustrative panels and publications.

During the course of the curriculum self-survey explorations, attention was directed to the program of student advising in the College of Agriculture, Forestry, and Home Economics because of (a) the relatively high gross mortality of undergraduate students and (b) the pressure of various demands of teaching, research, public service, and advising upon the available time of faculty members. On June 10, 1957 the faculty adopted the three recommendations listed below as an expression of the collegiate faculty attitude toward undergraduate student advising:

1. The responsibility for advising in the professional area should be assumed in the professional department or school.

- a. This recommendation assumes a secondary responsibility existing elsewhere for such functions as loans and scholarships, achievement testing, health services, etc.
- b. This recommendation also assumes that advising becomes increasingly specific to professional requirements as a student advances.

2. In the utilization of staff time, an advising load is as realistic as a teaching and research load, and staff time and funds should be budgeted appropriately.

- a. In the budgeting of time and funds for student advising, an appropriate standard should be established. A suggested standard is approximately one-fourth time for each fifty undergraduate students.
- b. In the budgeting of time and funds for student advising, it is recommended that the adviser and his responsibilities remain identified as departmental student population changes.

3. There is need for consideration in the college office of the following special functions:

- a. Provide special counseling assistance for students whose academic achievement is below satisfactory levels.
- b. Conduct studies that describe the student body and the probability of successful completion in the various curricula on the St. Paul Campus.
- c. Consolidate information that will be of assistance to advisers in problems of scheduling and improving the mechanics of registration.
- d. Maintain a continuing file of student records that may be utilized by departments as needed.
- e. Serve as a referral office to other personnel agencies.

In accord with the expression of need for additional service from the college office, one full time instructor position and one clerk-typist position were created during the biennium. Approximately one-half of this instructor's time has been devoted to the advising of Pre-Veterinary Medicine students, a function adopted upon the change in administrative relationship between the Institute of Agriculture and the College of Veterinary Medicine. The balance of his time has been devoted to (1) identifying entering students likely to encounter difficulty, and alerting advisers to the situation; (2) notifying advisers of performance of advisees and consulting with advisers of students in extreme difficulty; (3) developing data with respect to the students on probation who may be dropped for low scholarship; (4) expediting contacts between student and adviser, between student and college office, where necessary, and between student and/or adviser and other University personnel agencies; and (5) contributing to inquiries into the nature of the student population and its performance.

A number of new scholarships for students in the College of Agriculture, Forestry, and Home Economics were established during the biennium. These included the Frank B. Astroth Scholarship Fund, E. G. Cheyney Memorial

Scholarship Fund, Walter C. Coffey Scholarship Trust Fund, Chicago Farmers Scholarship Fund, Minnesota Future Farmers of America Foundation Scholarships in Agricultural Education, Elvira C. Larson Scholarship Fund, National Plant Food Institute Soils and Crops Achievement Scholarship, Department of Rhetoric Service Fund, and the Harvey E. Yantis Memorial Scholarship in Agricultural Journalism.

Operation of all of the older single-student dormitories on the St. Paul Campus will be transferred from the School of Agriculture to University Services on July 1, 1958. These include Brewster, Dexter, Meredith, and Dining Hall dormitories. The new dormitories also will be operated by University Services. This arrangement will facilitate the reservation of rooms by students, as all arrangements will be made through a single office on the St. Paul Campus.

The operation of the Agricultural Cafeteria and Dining Hall also will be transferred to University Services on July 1, 1958. As the first section of the new Dining Hall will not be completed until summer 1959, it will be necessary to use the old dining facilities during the first year of the next biennium.

During the closing year of the biennium some time was devoted to the assembling of materials that will be useful in answering questions about the College of Agriculture, Forestry, and Home Economics and especially useful when and if a history of the college is written. Minutes of the faculty meetings from 1914 to the present were assembled and bound. Brief histories of the several departments and schools of the college were prepared by the individual departments. An historical chronology of some of the more important events in the life of the college was prepared with appropriate documentation. All of these materials are on file in the college office.

Schools of Agriculture

The School of Agriculture on the St. Paul Campus continues to serve those rural high school graduates who do not plan to go through four years of college for a degree, but who do wish to supplement their high school training by further work in technical agriculture, in practical nursing, food technician training and in leadership. During the past biennium the School has enrolled a very select group of students through various scholarship selective programs such as the Minnesota Bankers Association, the State Nursing Scholarships, the Red Owl Stores Scholarships and others.

Most of the students now come to the School through the vocational agriculture teachers and alumni of the School. The average age of the students in attendance is between 20 and 21. The enrollment for 1956-57 was 238 and for 1957-58 it was 201.

The Minnesota Bankers Association gives strong support to the training program in the School, having sent 170 students since the scholarship program started about ten years ago. At the last meeting of the Minnesota Bankers Association, continuation of this program was given unanimous and enthusiastic approval. More counties are coming into this program in addition to the 44 which are already active.

The new course in training food technicians continues to grow, and advance enrollment for practical nursing this coming year is the largest since the course began.

The farm student exchange program with Sweden and Denmark continues to be of real significance and interest. Denmark was included in the program in 1957-58. Steps are underway now to include Norway and also West Germany at the request of leaders in those countries.

The School continues to emphasize leadership training and community cooperation in order to develop useful and worthwhile citizens.

The School of Agriculture alumni give vigorous support, not only to the School but to the entire University. They feel that as the entire University is strong, so is it possible for the School itself to be stronger.

The educational programs at the outlying Schools of Agriculture have been the object of intensive study by staff and administration during the current biennium. As early as May, 1956, the superintendents and principals

of the schools were asked to give special attention to the changing picture in Agriculture as it affected the need for vocational education of the type which has been offered by the Schools of Agriculture over a period of many years. This study was intensified by the suggestion of interested groups at Morris and Crookston that a program of college level training be established at those two Schools of Agriculture.

A comprehensive report of the Committee of Superintendents and Principals was submitted to the Board of Regents in March of 1958. The recommendations of the Committee were as follows:

1. For the immediate future the four outlying Schools of Agriculture be continued along their present plan of operation with appropriate changes in emphasis to meet area needs and changing conditions.
2. Special vocational courses be added to meet the needs of older youth and adults.
3. The Short Course Department of the Institute of Agriculture be encouraged to expand its activities into the various regions of the state by using the facilities and staff of the Schools of Agriculture for short courses and conferences appropriate to the different areas where Schools are located.
4. Agricultural research at the branch experiment stations where the outlying Schools of Agriculture are located should not be jeopardized by any changes in the teaching program, but should be strengthened and increased.

The Committee recognizes that the taxpayers of the state through their elected representatives in the Legislature will ultimately decide the pattern of higher education in the state and the amount of money that is to be spent for higher education.

The Committee further points out that the present College of Agriculture, Forestry, and Home Economics will be able to care for all qualified applicants in the next several years. Therefore, the establishment of professional courses in Agriculture, Forestry, and Home Economics on the college level at the existing Schools of Agriculture or elsewhere in the state would be an unwise and unproductive expenditure of money and talent.

The Committee also points out that college level work cannot be established at one or more of the Schools of Agriculture with the present staff and facilities.

In view of this the Committee further recommends that:

1. Before the Regents and/or the Legislature decide to establish college level work at the Morris and/or Crookston Campuses the probable cost per college student to be served be carefully considered.
2. Establishment of professional college level courses in Agriculture, Forestry and Home Economics not be considered in any plan for the future of the Schools of Agriculture.

The Board of Regents accepted the report at their March, 1958 meeting and at the May 9, 1958 meeting passed a resolution approving the first four recommendations of the Study Committee and stated further that it wished to express its willingness to cooperate in planning and to participate usefully in whatever educational program may be deemed necessary by the Legislature of this state in respect to the utilization of the outlying Schools of Agriculture.

Northwest School—The Northwest School at Crookston continued to be the largest in terms of student enrollment with 416 students in 1956-57 and 393 in 1957-58.

Mention was made in a previous report of the need for a major remodeling and renovation program at this School. During this biennium such work has been started. The 1955 Legislature provided funds for an animal products building which has been constructed and placed in use during this biennium. Stabilization of the foundations of various buildings has also been accomplished through funds provided by the 1955 and 1957 Legislatures. A new classroom building is in process of construction to replace the old Hill Building. One dormitory is being entirely rehabilitated and will be ready for use shortly

after the close of the biennium. Rehabilitation of minor buildings and construction of some small new buildings is going forward at this time.

West Central School—The West Central School at Morris enrolled 368 students in 1956-57 and 341 students in 1957-58. Emphasis has been given to counseling and guidance services to the students who enrolled and it is hoped that this feature may be strengthened in future years.

Foundation stabilization of buildings at this School has continued in an effort to overcome a very troublesome physical plant problem. A new Administration Building, Auditorium and Library are in the process of construction. Work is also being done on the rebuilding of parts of the Agricultural Engineering Building.

Southern School—The Southern School of Agriculture at Waseca continued to grow in student numbers. There were 188 students enrolled in 1956-57 and 207 in 1957-58. A new boys' dormitory housing 110 students was placed in use in the fall of 1957. A new Physical Education Building provided for by the 1957 Legislature is now in the process of construction.

This School, in the comparatively short time it has been in operation, has developed a well-rounded teaching program and continues to attract the interest of students and parents of the area to the point that dormitory facilities are filled. A few students from the surrounding area commute, but the majority of students live on the campus. This is true of the other Schools, also.

North Central School—The North Central School at Grand Rapids enrolled 105 students in 1956-57 and 92 in 1957-58. Only boys are admitted at the North Central School.

In recent years, all of the schools except the Southern School at Waseca have handled more students in the dormitories than they were originally built to house. The Southern School also reached this point as the biennium closed. This crowded condition has made it necessary for the schools to be more selective in the students admitted than was true in earlier years.

The faculty at each of the schools feel that the quality of the student body has been definitely improved by this selective process.

As each year passes it becomes increasingly important to evaluate the work of the Schools of Agriculture. Current study shows that they are important in the education of Minnesota rural youth. However, the program now may not be that of the future. Administration and faculty are aware of their responsibility to keep abreast of the times and to be sensitive to the changing needs of the people to be served.

Agricultural Short Courses

During the biennium of 1956-58, 102 short courses, conferences and special events were arranged through the office of Agricultural Short Courses on the St. Paul Campus of the University, serving a total number of 28,506 persons. Comparative attendance figures for other recent biennial periods are:

1948-50	24,758
1950-52	25,298
1952-54	24,503
1954-56	27,731
1956-58	28,506
Ten-year total	130,796

It should be understood that, in addition to the list of short courses and conferences, arrangements have also been made for many visits and visitors' tours. This would include all the foreign groups, since the short course director also serves as foreign contact officer for the Institute of Agriculture. The foreign visitor groups alone for the biennium would total several hundred people.

Then, in addition to the short courses, conferences and foreign groups, the short course office also serves as liaison office in the arrangement of special classes given by the Institute of Agriculture through the General Extension Division. This includes the Correspondence Study Courses and the evening

classes. During this biennium, 13 extension classes were held with a total registration of 169. In addition there were 13 correspondence courses with an enrollment of 164. This gives then a total of 28,839 persons who in one way or another received the services of the University through the short course office.

The short course office now serves in the arrangement of all short courses given through the Institute of Agriculture, whether they are offered on the St. Paul Campus, Waseca, Crookston or Grand Rapids. Short courses have been given on the Crookston, Waseca, Grand Rapids and Morris campuses. In so far as possible when serving groups primarily in certain areas of the state, short courses use the facilities of one of the outlying schools. In the biennial report of 1952, the director said, "I feel that the office of Agricultural Short Courses on this campus should serve as a clearing house for all short courses in the University Institute of Agriculture." This was based on the belief that a State-wide coordinated short course program using all facilities of the University Institute of Agriculture to the best advantage would not only give more opportunity for significant and well-planned services, but it seemed to be good administrative procedure. These suggestions have now been implemented so that short courses are operating very smoothly and efficiently in cooperation with the outlying stations. The superintendents at Morris, Crookston, Grand Rapids and Waseca have been most cooperative.

With the proper facilities for taking care of all these groups, it will be possible not only to do a much better job for them, but it will enable the Institute to serve many other groups who would like to participate if facilities were better. At the present time it is necessary to turn down many groups who cannot be served until facilities for food service, for example, are more adequate.

As stated in the last biennial report, attention is called again to the need for more staff as well as more time of the present staff to be allocated to short course work in almost all of the departments. There should be a very material increase in support for this activity. It is hoped that this whole arrangement may be rectified with the establishment of the new short course center.

It should be noted that this past year of 1957-58, 41 short courses and conferences were arranged through the short course office, serving a total of over 13,487 individuals, and this does not include all of the foreign groups and activities which are also arranged through the short course office.—HAROLD MACY, dean

COLLEGE OF VETERINARY MEDICINE

The last biennium has brought about continued progress in the development of Veterinary Medicine at the University. On July 1st, 1957 by action of the Board of Regents, the School of Veterinary Medicine was established as a separate College which will assist its development in many ways.

The seventh and eighth classes were graduated, 48 in 1957 and 40 in 1958. Since the School was established in 1947, 342 Doctors of Veterinary Medicine have been graduated. The maximum number of students in the Freshman class continues to be held at 50. This will prevail until more of the buildings are completed, and additional staff is provided, although definite progress has been made the past two years. The College has developed an overall master plan for its eventual completion. This is part of the overall St. Paul Campus plan. During the biennium, one assistant professor and two instructor positions were added. The entire teaching, research and service program in Veterinary Medicine was materially strengthened by salary improvements made during the biennium.

Veterinary Medical Research and Graduate Education—A continual development has taken place in this area. Three new research fellows and three instructors were added on special grants as part of the increased research effort. These individuals all have the D.V.M. degree and are pursuing additional graduate work in various areas of the medical and biological sciences. Isolation facilities for infectious disease work and a new Diagnostic Laboratory are being constructed.

Division of Veterinary Anatomy—There has been a continual development and strengthening of the teaching and research program in this area. This group has moved into new facilities made possible by the 1955 legislative appropriation. This will result in a marked improvement of instruction in the basic courses, especially in gross anatomy, and has provided more suitable and adequate space for microscopic anatomy.

The research program in this division is carried on cooperatively with the other divisions of the College of Veterinary Medicine, particularly Surgery, Obstetrics, and Physiology. Additionally, there are now four active projects in this division, ranging from neuro-anatomical studies to studies on the adrenal glands in ruminants relative to ketosis. Experimental studies on congenital tremor in young pigs may lead to certain basic information concerned with similar neurological disorders in other species. Several foreign students of a senior staff category have spent an academic year in this division working in the area of histology. Staff members from the College of Veterinary Medicine in Korea have studied in the Division of Veterinary Anatomy.

Division of Veterinary Bacteriology and Public Health—There has been a rearrangement and marked improvement in the teaching program related to veterinary public health, meat and food hygiene by establishing an associate professor position for this area in 1956.

The research program has continued to make progress. There are 12 active projects in the division, ranging from studies on brucellosis in cattle and other farm animals to the egg transmission of infections in turkeys, particular emphasis being placed on ornithosis in poultry and a continuing study is being carried out on salmonella infections.

Division of Veterinary Pathology and Parasitology—The Division of Veterinary Pathology and Parasitology has made gradual progress in improving the teaching methods used, especially in gross postmortem pathology. The research program consists of six major research projects in the division, in addition to a large amount of cooperative work with the other divisions.

Investigations are being continued on the aplastic anemia in young cattle produced by tetrachlorethylene extracted meat scraps and soybean oilmeal. This investigation is being supported by the Atomic Energy Commission because of the blood anomalies that are produced by this material. There is a continual and increasing interest in the graduate program of this division as evidenced by the number of individuals desiring to do research and participate in graduate studies.

Efforts are being continued to develop more information about the life cycle and control of the liver fluke infestation that occurs in sheep and cattle in the northern part of the state, a condition which has caused economic loss to the livestock industry.

Division of Veterinary Physiology and Pharmacology—The teaching and research program has continued to develop as evidenced by the increased number of research projects. There has been a substantial increase in the support of the research program on bloat in ruminants, particularly cattle, which is considered the leading work in the United States on this condition. The Department of Agriculture has established a study dealing with the mechanisms which bring about bloat and which is related to other projects already in progress. Recently, there has been considerable effort directed toward the extraction and identification of toxic components present in bloat-producing legumes.

Pharmacological studies have been continued on various chemotherapeutic agents and there has been a recent expansion of the study of poisonings by heavy metals, particularly lead, with efforts directed toward developing a means of earlier diagnosis and control. The diagnostic test for lead poisoning in cattle has been widely used and improvements are receiving further study. This diagnostic test is important to many laboratories throughout the United States. Efforts during the last few years have been directed toward finding the most effective means of treating lead poisoning.

Division of Veterinary Medicine and Clinics—This division has the responsibility of operating the teaching hospital in the College of Veterinary

Medicine, including both large and small animals. The operation of the Veterinary Clinic is an integral part of this teaching program in addition to courses in medicine, and the Clinic teaching of the divisions of Surgery, Radiology and Obstetrics. The Clinic has many problem cases referred to it, both in large and small animals, by other veterinarians. The Clinic offers as part of its teaching program a direct service to local farms with an ambulatory Clinic operating from the College of Veterinary Medicine and the one located at Maple Plain. The latter has developed rapidly and is an important part of the clinical teaching in this division.

Many of the conditions coming to the Clinic directly, or through field investigations, represent new problems and serve as a basis for expanded research on animal disease in all divisions of the College. The disease problems currently under study by faculty of this division are shipping fever of beef cattle, bovine mastitis of dairy cattle, and several recently recognized diseases of swine. The last year of the biennium a research project on bovine porphyria was established which is in cooperation with the Department of Medicine in the College of Medical Sciences. Many of the Clinic staff participate cooperatively on research projects of other Divisions. One of the important services of the clinical area in the College of Veterinary Medicine is the field investigations at the request of the State Livestock Sanitary Board. This not only is a service to the animal industry and an aid to the practicing veterinarian, but is an important part of the research program in the entire College of Veterinary Medicine.

Division of Veterinary Surgery and Radiology—The Division of Veterinary Surgery and Radiology has continued to develop its entire teaching program, particularly with continued improvements in radiology, giving the students more experience and more information on the use of radiological techniques in clinical diagnosis. An additional instructor position was established in the surgery area and has added much to the teaching program. The research program of the division has continued to grow, although many of the staff members participate cooperatively on other research projects. A project involving large mammals was recently established to determine the radiological effects on large mammals relative to the use of atomic power, making use of the cobalt 60 source of radiation maintained on the Minneapolis Campus.

Division of Veterinary Obstetrics—The Division of Veterinary Obstetrics continues to strengthen its teaching and research program, and the arrangements with local packing companies continues to be one of the important sources of material in teaching junior veterinary students the procedures employed in veterinary obstetrical and sterility work. Studies on bovine vibriosis in relation to sterility have been supported by the Hill Foundation.

Division of Veterinary Diagnostic Laboratories—One additional staff member was added to the Division of Veterinary Diagnostic Laboratories supported by increased funds appropriated by the 1957 Legislature. This Laboratory continues to serve the animal industry of the State and the veterinary profession by providing diagnosis on animal diseases, its primary function. It is the first line of defense against all animal diseases in the State of Minnesota and is on the alert for morbidity and mortality trends of any specific disease as well as the development of new diseases.

This laboratory continues to examine specimens where animals are involved. There has been an increasing number of skunks submitted for rabies examination which are reservoirs of infectious rabies virus. There was a definite increase in the number of mink examined, and owners are demanding more service.

This laboratory provides material for new research projects and participates cooperatively with many of the research programs going on in the College of Veterinary Medicine.—WILLIAM T. S. THORP, dean

COLLEGE OF MEDICAL SCIENCES

It is my privilege, as the newly appointed Dean of the College of Medical Sciences, to submit the following report concerning activities of the College for the period July 1, 1956 to June 30, 1958.

Major Faculty Changes—The most notable event of this biennium was the retirement on June 30, 1958 of Dr. Harold S. Diehl, who had served the University for more than 40 years and for 23 years had been Dean of the Medical Sciences. In the spring of 1957 officials of the American Cancer Society offered Dr. Diehl the newly created post of Senior Vice President for Research and Medical Affairs and Deputy Executive Vice President. Faced with compulsory retirement from the University in June, 1960, and bearing in mind that the proposed Cancer Society post would permit him to contribute significantly to American medicine for several years beyond this time, Dr. Diehl reluctantly decided to advance the date of his retirement and to accept the new position, a decision made only after much serious reflection and with due consideration of the many factors concerned. He began his new duties on November 1, 1957 but continued to serve as Dean of the Medical Sciences on the basis of a part-time leave of absence during the remainder of the academic year.

For nearly a quarter of a century Dr. Diehl had presided over the fortunes of the College of Medical Sciences with consummate skill during a period of remarkable development and expansion, a period of momentous change in medicine, a period in which Minnesota took its place among the nation's finest medical schools. A wise administrator with a thorough knowledge of all aspects of medical education, Dr. Diehl is widely recognized in this country and abroad as one of the nation's outstanding leaders in this field. His retirement leaves a void which will be most difficult to fill, and he will be sorely missed by his friends and colleagues for both personal and professional reasons.

Dr. Robert B. Howard, who had served as Director of the Department of Continuation Medical Education since January, 1952, was named Associate Dean of the Medical Sciences, effective October 1, 1957, and he thus served as the principal full-time administrative officer of the College during the period of Dr. Diehl's partial leave of absence. On June 13, 1958, President Morrill, following consultation with an advisory committee that he had appointed earlier, recommended to the Board of Regents the appointment of Dr. Howard as Dean of the Medical Sciences, effective July 1, 1958. This recommendation was approved by the Regents.

New and Improved Facilities—The Mayo Memorial, occupied and in use for the full period of this biennium, has provided badly needed offices, conference rooms, and teaching and research laboratories for the clinical departments and the Department of Bacteriology and Immunology of the Medical School, for the School of Public Health, and for the Rehabilitation Center, as well as operating rooms, laboratories, radiologic services, administrative offices, and other basic services for the University Hospitals. In short, during this biennium the Mayo Memorial became a functioning unit of the University of Minnesota Medical Center.

This biennium also was marked by the beginning of a program of improvement of the basic science facilities. First phase remodeling projects in Millard Hall and Jackson Hall have been completed at a total cost of \$374,220, half of which was supplied by state funds, the other half by matching federal grants.

The second phase of the remodeling of these two buildings is currently under way financed, as was the first phase, by state funds and matching federal grants. Completion of these projects, together with construction of the new building in the corner area between Jackson Hall and Owre Hall, will provide modernized and expanded facilities for teaching and research for the Departments of Physiology, Physiological Chemistry, Pharmacology, Anatomy and Pathology. The Jackson-Owre building, plans for which were nearing completion at the close of the biennium, will also provide space for the School of Dentistry.

Construction of two additional units was begun during the biennium. An additional floor (the fifth) of the Variety Club Heart Hospital, financed by a generous donation by the Variety Club of the Northwest and by federal funds, will provide research laboratories for the Departments of Surgery, Medicine, and Pediatrics, permitting them to expand their programs of investigation of various types of cardiovascular disease. The Masonic Hospital, an 80-bed unit, financed by the Masons of Minnesota with some support from the federal

government under the Hill-Burton program, will provide chronic care for patients suffering diseases from which recovery is not expected, notably, but by no means exclusively, cancer. Both are most welcome additions to our facilities.

The largest of the various building projects involving the College of Medical Sciences, the Biological-Medical Library—Animal Research Facilities Expansion project, qualifies for inclusion in the report of this biennium only by virtue of the fact that contracts for construction were approved by the Board of Regents in June 1958. Although a single building in the structural sense, this building will in actuality incorporate two separate projects, the library and the research facilities. Started in July, 1958, and scheduled for completion early in 1960 this structure will, on the one hand, meet a need of long standing for a biological-medical library in close and convenient physical relationship to those units of the University making most extensive use of it and, on the other hand, provide more than 40,000 square feet for animal quarters and associated research laboratories for certain clinical departments and the Department of Bacteriology and Immunology of the Medical School.

Medical Students—During this biennium the basic enrollment in the Freshman class in Medical School continued to be 125 students, as it has been for many years. The principal physical obstacle to the acceptance of larger classes has been the limited facilities of the basic science departments. With the realization of the first two phases of the rehabilitation and remodeling of the basic science buildings, Millard Hall and Jackson Hall (see above), and with the expectation that the third and final phase of the rehabilitation and remodeling of these buildings will be authorized by the 1959 Legislature (see below), we have proceeded with plans to enlarge our classes. Accordingly, the class entering in the fall of 1958 will contain 140 students, while the class entering in the fall of 1959 and subsequent classes will contain 150 students, a total increase of 25 students or 20 per cent.

The Summer Research Fellowship program for medical students has expanded phenomenally during the biennium. Designed as a means of (1) permitting medical students to make use of the two-month vacation period between First Summer Session and Fall Quarter for working on research projects of their choice under the supervision of members of the faculty, and (2) providing them with stipends roughly equivalent to or at least competitive with what they might earn in non-medical employment, the program has found wide acclaim among both students and faculty. Stipends, currently \$300 per month for the two-month period, are furnished by a number of agencies, state, federal, and private. During August—September, 1956, more than 60 students participated in the program and in 1957 more than 80 took part. A good many students have carried on very creditable research projects, and a number of publications have resulted.

Louis W. and Maud Hill Family Foundation Professorships—During the past biennium the Hill Family Foundation of St. Paul continued its support of the program of research professorships in the basic medical sciences. Dr. Wilbur Benson, a graduate of the University of Wisconsin Medical School, who had served as Chairman and Senior Pharmacologist at Hoffmann-La-Roche, Inc., Nutley, New Jersey for seven years was appointed to the Hill Professorship in Neuropharmacology effective February 16, 1957. A research professorship in biophysics in the Department of Physiology has also been authorized, but this appointment has not been made as yet. Research professorships of this type have already contributed significantly to the activities of various basic science departments, and their influence will grow in the future, stimulating investigation and resulting in an indirect fashion in better teaching as well.

The Rehabilitation Center—The Rehabilitation Center continues to develop in a most gratifying manner. The true effectiveness of this program can really be judged only by someone with an intimate knowledge of a substantial number of the many disabled, apparently quite helpless people who have been returned to lives of usefulness, happiness, and dignity. Some idea of the impact of the program may be obtained, however, by considering certain statistics.

During the 1956-57 fiscal year 2,759 patients made 44,768 visits to the Rehabilitation Center. During the 1957-58 fiscal year 2,971 patients made 51,202 visits. During the past year, 1,673 patients were discharged from the Rehabilitation Center. Of these, more than 70 per cent were either returned to their previous occupations or satisfactorily placed in a new one.

In addition to providing services to this large number of patients, members of the staff of the Center are active in teaching medical students, both undergraduate and graduate. Finally, training of physical therapists and occupational therapists is an important function of the Center. At the present time, approximately 16-20 students per year complete the four-year program in physical therapy and 20-24 students are graduated from a similar course in occupational therapy.

Graduate Medical Education—The University of Minnesota Medical Center and the Hospitals affiliated with it continue to attract large numbers of graduate students in the various medical disciplines, and our program is one of the largest in the nation. We believe strongly that its size in no way impairs its quality, but rather makes it possible for us to offer a better, more complete program than would be the case if the program were smaller.

During the past biennium registration in the various medical graduate programs amounted to an average of 548 individuals annually. Approximately 25 per cent of these students had major fields of interest in the basic medical sciences, while 75 per cent majored in the clinical departments. Special fellowships and traineeships for graduate study are awarded by the National Institutes of Health, the American Cancer Society, the American Heart Association, the National Foundation for Infantile Paralysis, and other similar agencies.

Affiliation with Seoul National University, Korea—The past biennium has been marked by a continuation and an increase in the activities of this affiliation. The following members of the faculty of the College of Medical Sciences served in Korea as advisors in their respective specialties for the period indicated: Professor Edmund B. Flink, Department of Medicine, August 1, 1957 to March 1, 1958; Assistant Professor James Matthews, Department of Anesthesiology, May 1, 1957 to the present time; Assistant Professor Margery Low, School of Nursing, January 1, 1957 to the present time; Mr. Glen Mitchell, assistant hospital director, May 1957 to the present. Dr. George Schimert, assistant professor of surgery and Dr. E. B. Brown, professor of physiology will serve as advisors in Korea during 1958-59.

Since inception of the program, 36 members of Seoul National University Medical School faculty have studied here with us. Dr. Gaylord W. Anderson, professor and director of the School of Public Health, has carefully supervised the purchase, since the beginning of the affiliation, of teaching and research equipment, books, and journals, and other supplies approaching \$350,000 in total value for the Seoul National University Medical School. Under current consideration is extension of the program of affiliation. It is the general consensus that, although beset with certain difficulties, the program has been successful and that it should be continued for another period of approximately two years in order to make it maximally effective.

Medical Research—The spirit of inquiry which pervades the College of Medical Sciences is a widely recognized characteristic, one of which all members of its faculty are proud. Research is considered an integral part of our program, without which teaching would be dull and sterile and service to patients limited in its outlook. Research interests and activities of members of our medical faculty cover a wide range, including almost all aspects of both basic and applied medical sciences. Basic sciences, cancer, heart disease, pigment metabolism, infectious diseases and neurological and psychiatric disorders are major areas of investigative interest. One measure of the scientific standing of an institution is the extent to which it is able to attract funds in support of its various research projects and programs. The University of Minnesota Medical School continues to receive large amounts from various governmental and private sources, both local and national, for these purposes. During the past year, 1957-58, support of this type exceeded three million dollars.

Medical and X-Ray Technology—Qualified technical personnel are playing an ever increasing role in the operation of hospitals, clinics, and physicians' offices. The need for such people, particularly laboratory technologists and X-ray technicians, is very great and appears to be growing more rapidly than the supply. The College of Medical Sciences offers a four-year training program for medical technologists from which 31 students were graduated in 1956-57 and 28 students in 1957-58.

Recognizing the magnitude of the need for technically trained laboratory personnel, and recognizing also that not all such personnel must have the high level training of the four-year program, the College of Medical Sciences together with the Extension Division developed a program known as the Medical Laboratory Assistant program. This is a one-year course of instruction offered to capable high school graduates that enables them to carry out the routine laboratory procedures. Initiated on an experimental basis, the program has proved very successful, and enrollments have been good and steadily increasing.

In X-ray technology two different courses are offered. The first is a three-month series of lectures on the basic sciences as they are applied in X-ray technology. This is open to high school graduates, but preference is given to students with some college background. During the biennium, 275 students took this course. Most of these were from other hospitals and clinics to which they returned for their practical training. In addition, we offer the practical training in X-ray technology to a smaller group of students. This course, formerly 15 months in duration, is now a two-year program, which includes the three months of basic science lectures. During the past two years, 52 students successfully completed this course.

Continuation Medical Education—Through its Department of Continuation Medical Education, the University of Minnesota Medical School makes available each year to large numbers of physicians the opportunity to review fundamental material and to learn about the latest developments in the field of medicine. During 1956-57, 1322 physicians attended continuation medical courses on the University campus and 158 attended special regional programs held under the auspices of the Department in conjunction with the Minnesota State Medical Association in various areas throughout the state. Comparable figures for the 1957-58 year were 1,414 and 135, respectively. In addition to the foregoing, the Department cooperated in the organization and presentation of courses for medical technologists, dietitians, hospital administrators, and special groups of lay persons which attracted a total of 646 persons during the biennium.

Future Needs—Faculty Salaries—While the 1957 Legislature provided funds permitting a total increase in salaries of 20 per cent, the University of Minnesota Medical School still lags considerably behind other first ranking medical schools in its salary scale. Further improvement in salary scale is essential if we are to be able to attract and hold outstanding people to our faculty.

New Positions—In order to continue teaching, research, and service in the College of Medical Sciences at their present levels of quality, several new positions will be required within the next five or ten years. The increase in the size of our student body, described earlier, will require the addition of faculty positions, some of which have already been granted for the 1958-59 academic year. Account must be taken, too, of the expansion and improvement of our various activities, a growth which has been so characteristic of the institution in the past and which is related in no direct fashion to our enrollment.

Finally, it must be pointed out that within the College of Medical Sciences, and particularly within the Medical School, a substantial portion of instruction is carried out by faculty members supported by outside funds. It is essential that we find a means of providing support from regular sources for at least some of these positions, particularly those at the senior level.

New Facilities—The building needs of the College of Medical Sciences can be most conveniently divided into those for which some more or less

definitive plans have already been made and those which lie further in the future.

Concerning the former, reference has already been made to the Jackson-Owre Building and to the second phases of the remodeling of Jackson and Millard Halls. Construction of the VFW Cancer Research Building, funds for which include \$300,000 raised by members of the Veterans of Foreign Wars in Minnesota and a grant from the USPHS, will also begin at an early date. Our ultimate ability to accommodate classes of 150 students is dependent on completion of the third and final phase of the remodeling and rehabilitation of Jackson and Millard Halls. Funds for this purpose will be requested from the 1959 Legislature.

Although no definitive plans have been made beyond these projects just mentioned, careful consideration must be given to additional building needs. The facilities of the Mayo Memorial, welcome as they were, in reality represented the 1954 realization of plans formulated during and just after the end of World War II. In other words, prior to the opening of the Mayo Memorial the various departments were almost indescribably cramped in the physical facilities they occupied. The laboratories, offices, and classrooms of the Mayo Memorial were quickly filled. Now continued growth and expansion of all of our activities once again make it imperative for us to seek additional space. The following projects are among those which must be given consideration in attempting to meet these needs:

1. Removal of the Department of Psychiatry from the Mayo Memorial to a separate building in an adjacent, convenient location, perhaps the Frankfurter site recently obtained by the University. This would make available for use of other departments considerable space within the Mayo Memorial and University Hospitals, but would, of course, require extensive remodeling within that area in addition to construction of the building itself. This is perhaps the most immediately feasible project.

2. Additions to the Hospital Laboratories, feasible by extension of the present second floor of the Mayo Memorial into the courtyard.

3. Construction of new out-patient building.

4. Construction of a separate building for the School of Nursing.

Finally, two other building projects are exceedingly important to us and deserve attention. A residence hall for married interns and fellows, long recognized as a need by members of our faculty, would do much in improving the graduate education of these young physicians. A Medical Student Center, either within an existing building or in a separate but conveniently located building, is another essential. Clothing lockers, lunching facilities, and study areas located conveniently to the laboratories and wards are needed. The cost of such facilities would, we believe, be repaid many times over in the form of better learning on the part of the students and in improved student-faculty relationships.

Summary—The 1956-58 biennium has been one marked by a major change in the administration of the College; by the retirement of a large number of members of the faculty, including one departmental chairman and the directors of three divisions; by an important change in policy relative to the number of students accepted for admission to medical school; and by continued expansion in teaching and research programs. We look forward to a future offering an even greater challenge and unparalleled opportunities for further growth.—ROBERT B. HOWARD, *dean*

School of Nursing

During the biennium there has been continuing emphasis in all curricula of the School of Nursing on the preparation of practitioners of nursing, of teachers, supervisors and administrators increasingly skilled in interpersonal relationships.

From the vantage point of the end of the biennium we see rather clearly two trends which have characterized the activities of the School of Nursing during the biennium. The one has been in the direction of a more fully developed emphasis upon the study and care of the patient in all his relationships. The other has been the development of a climate favorable to study and research in nursing, nursing education, and nursing administration.

Programs—The education programs in nursing, nursing education, and nursing administration offered June 30, 1958, in the University of Minnesota School of Nursing and cooperatively with other colleges are listed below:*

- I. Advanced Professional Curriculums for Graduate Professional Nurses
 - A. Master of education program in nursing education.
 - B. Master of nursing administration program in nursing service administration.
 - C. Bachelor of Science program in nursing education.
 - D. Bachelor of Science program in nursing administration.
- II. Basic Professional Curricula
 - A.** Bachelor of science program in professional nursing (16 quarters-4 years).
 - B.** Bachelor of science program in professional nursing for college graduates (10 quarters-2½ years).
 - C. Selected curricula for affiliating students.
- III. Practical Nursing Curricula
 - A.*** Four-quarter program in practical nursing.
 - B.*** Six-quarter program in practical nursing and home management (operated jointly with School of Agriculture).

In addition to the above regular programs the School of Nursing in cooperation with the General Extension Division plans with the Minneapolis General Hospital School of Nursing for a three-quarter sequence chiefly of pre-clinical instruction for their students; offers special courses in extension and summer sessions for registered professional nurses; and on request, gives extramural courses. Program supported in part by federal, foundation, and other special funds are:

1. *Psychiatric Nursing.* Under the terms of the National Mental Health Act for support of instruction in psychiatric nursing, the School received during the biennium July 1, 1956 to June 30, 1958, \$28,653 for the instructional budget, and \$88,266 for traineeships. Available for 1958-59 will be \$11,080 for instructional purposes and \$10,400 for traineeships. Federal support of our psychiatric nursing instruction on the post-baccalaureate level has been approved for the ensuing five years (June 30, 1961), the amount to be determined annually. Support for all instruction and traineeship aid to students on the baccalaureate level, under the National Mental Health Act, was terminated June 30, 1958. It is our feeling that the need for support still exists in Minnesota. The mentally ill in our hospitals have nursing needs far in excess of available services, while graduate nurse students continue to apply for admission to our baccalaureate programs preparing for teaching and administration in psychiatric nursing.

2. *Rural Instruction.* Legislative appropriation was made in 1955 for the support of rural nursing instruction originally developed by the University of Minnesota School of Nursing. During the biennium the College of St. Teresa joined the program, thus increasing the number of participating schools to a total of twelve. During the biennium these schools have sent 788 students of basic professional nursing to one of ten rural hospitals and their communities, for a six-week experience in rural community nursing.

* For detailed information regarding these programs see 1956-1958 issue of School of Nursing Bulletin

** Graduates of these programs are eligible for State Board examination for licensure as registered nurses (R.N.)

*** Graduates of these programs are eligible for State Board examination for licensure as practical nurses (L.P.N.)

3. *Nursing Service Administration.* The W. K. Kellogg Foundation provided support through the fifth year of its five year grant of \$98,292. The Foundation approved utilization of the balance left in the fund to support the programs during the seventh and final year (July 1, 1957 through June 30, 1958). The support for the program (other than for the report) terminated June 30, 1958. Agencies in the Twin Cities offering learning experiences to students in the several curricula of the School numbered 24. Those outside the Twin Cities numbered 36. The total number of students served by these agencies in all curricula was 1150.

Faculty—Faculty members have made outstanding contributions to the community and the nursing profession through service in community activities and committees, and through service as officers and committee chairmen of state, national, and international professional organizations.

During the biennium the faculty has conducted ten workshops and institutes with an enrollment of 547 students, thus helping to advance the competence of many professional nurses, administrators and teachers in the state and region. Several faculty members have visited other states and countries in pursuit of professional and personal interests, including in their travels Canada, Alaska, Mexico, Central America, the British Isles, Europe, the Middle East, and the Orient.

Two faculty members have resigned for doctoral study and should complete requirements for the doctoral degree in 1958. One of these will return to the School in early January, 1959. Two faculty members have had leaves of absence without salary. These two and a third, transferring to the faculty from the University Hospitals staff, have completed requirements for the Master's degree.

Students—During the biennium 117 students earned the bachelor of science degree in professional nursing. In addition, 83 graduate nurse students earned the bachelor of science degree in nursing education; 25 the bachelor of science degree in nursing administration; 51 the master of education degree in nursing education; and 18 the master of nursing administration degree in nursing service. In the practical nursing programs 52 completed the four-quarter and 24 the six-quarter curriculum. In 1957 the graduates of the basic professional program have had the highest score average of all schools writing the licensing examinations in Minnesota. The average scores for the state of Minnesota placed it fifth in the nation in 1957.

Enrollment in the fall quarter, 1957, in the several curricula totaled 456 students: 55 in practical nursing; 208 in basic professional nursing; 100 in the bachelor of science program in nursing education; 48 in the bachelor of science program in nursing administration; 27 in the master of education program in nursing education; and 18 in the master of nursing administration program.

During these two years the Nursing College Board and Powell Hall Governing Association have sponsored either individually or jointly such activities as Powell Hall Carnival, March of Dimes, the Red Cross, the Campus Carnival, the Minnesota Heart Association, and other fund raising projects. From these funds they have contributed: to scholarships, to the sending of student representatives to the International Council of Nurses Quadrennial Congress, one in Rome in 1957 and one to go to Australia in 1961; 16 to the National Student Nurses' Association meetings in Chicago and 13 in Atlantic City; one to the Minnesota Student Nurses' Association convention in Mankato and 3 in Duluth; one to the Y.W.C.A. seminar in Washington, D. C.; and to the collection and sending of uniforms to Korea. Among the activities in which they have participated are those of the All-University Congress; the "Career Day" programs about nursing in which they have served as team members in the Minneapolis area; the orientation of high school, S.L.A. and new students in the School of Nursing; and all faculty committees in the school. One student served as president and one as first vice-president of the Minnesota Student Nurses' Association for the year 1957-1958.

Research and Studies—The research and studies committee has prepared materials used as bases for submission of research proposals to foundations and the U.S. Public Health Service; has reviewed current research in nursing;

has participated in surveys made by other institutions; has prepared progress reports of research sponsored or co-sponsored by the school; has devoted much time to discussion of research needed in the school and to better preparation of individual faculty members for research. Extension of Dr. Marvin Taves' project in "Role Conception in Nursing" under a U.S.P.H.S. grant was secured.

A pilot study of special interest has been that of "Student Awareness of Patient Attitudes Regarding Selected Aspects of Hospital Care," conducted by a former faculty member, Rena Boyle, R.N., Ph.D., now Nurse Consultant, Division of Nursing Resources, Department of Health Education and Welfare, U.S. Public Health Service, in cooperation with three participating schools, one (the University of Minnesota) offering a degree program, and the others offering diploma programs. Conclusions have not yet been reported on this study.

The School of Nursing has long recognized the need for and value of research in nursing for the purpose of improving professional services and curricula. In order to meet this need and participate more actively in research, there needs to be administrative support of this activity, opportunity to carry out research, and financial support for meaningful studies.

The design of most studies in which the School has participated has been the major responsibility of persons or departments other than those of the School of Nursing. The major emphasis of these studies has been upon the nurse herself rather than upon improvement of nursing care. Our faculty could very well work coordinately with experts in allied health fields in defining researchable problems in nursing; there is need for a nurse trained in research whose sole responsibility is the conduct of these studies.

There is a need to define and identify a basic body of knowledge of nursing. How many times have individual faculty members expressed a conviction that "This problem" should be investigated! And how many times has this not been possible because of inadequate time, lack of funds, and absence of research personnel!

Accreditation—The University of Minnesota School of Nursing, approved by the National Nursing Accrediting Service, is one of 50 schools of nursing in the United States whose graduates are qualified to accept public health nursing positions without further preparation and with full salary and status.

Scholarships—Some of the basic professional students (21) and nine of the practical nursing students have received state scholarships provided by the Legislature. The Minnesota Department of Public Welfare has granted six traineeships to graduate nurses for study in psychiatric nursing. Under the National Mental Health Act, 35 graduate nurses received traineeships for study in psychiatric nursing. The Mount Sinai Hospital Auxiliary has aided eight students during the biennium. Traineeships under the Health Amendments Act of 1956 were awarded 124 graduate nurses preparing for positions in teaching, supervision, and administration. Other scholarship assistance has been: Alpha Tau Delta, two students; Katharine J. Densford Scholarship, 16 students; Marion L. Vannier Scholarship, five students; Tozer Foundation, six students; SPAN, one student. The Louise M. Powell Prize has been awarded to four students. There were 31 graduate nurse students elected to Pi Lambda Theta (National honor society in education); 57 graduate nurse students and 43 basic professional students elected to Sigma Theta Tau (National honor society in nursing).

Those receiving Commonwealth Funds through the National League for Nursing for doctoral or master's study have either completed requirements or anticipate doing so in 1958.

Seoul National University School of Nursing—As planned under the contract of the University of Minnesota to help rehabilitate and develop the Seoul National University of Korea, the director and one faculty member of the Seoul School of Nursing came to the University of Minnesota School of Nursing August 20, 1956 for purposes of study and observation. Miss Margery Low of the University of Minnesota School of Nursing faculty, who had been appointed consultant to the Seoul School, worked with the Seoul faculty here

and on March 7, 1957 left for Korea where, at the end of the biennium, she was still assigned.

Educational Plans and Needs—We visualize the School continuing responsibility for preparation of practitioners of nursing, of teachers, administrators, and supervisors. We look forward to making progress in securing adequate support for this work. Recognition of the crucial need for teaching, administrative, and supervisory personnel is seen in the Health Amendments Act of 1956, which provided scholarships for graduate nurses preparing in these fields. Educational plans look to such changes as the admission of one class a year in the basic professional curriculum; the assumption of responsibility for maintenance by the student; further development in the selection and utilization of clinical experience for student learning; improvement of preparation of personnel and facilities for research; the broader inclusion of educational administration in the nursing administration programs. The initial planning for a study aimed at more comprehensive incorporation in our curricula of basic concepts of disaster nursing has been done.

Because of the continuing and mounting need for teachers, administrators and supervisors as well as for practitioners of nursing, the faculty believes one of the most important services the University of Minnesota can render the state is that of providing basic support for the instructional purposes of the School of Nursing.

There is urgent need for providing one faculty member in each clinical area in which there is no person on the School of Nursing budget, but to which students are assigned for learning experiences. There is also urgent need for secretarial assistance previously provided by foundation and federal funds.

It is anticipated that the next biennium will witness remodeling of Milard and Owre Halls, which should ensure more functional and more adequate space for the School. As stated in previous biennia, long range plans may well involve a new building.

The vital need for office and conference space in the clinical areas of the Hospitals continues. As emphasis increases on group discussion in planning patient care and on the understanding by staff and students of the psychological and emotional needs of patients as bases for that care, the importance of conference space looms larger.—KATHARINE J. DENSFORD, *director*

School of Public Health

The biennium 1956-58 has meant for the School of Public Health a period of steady growth in size of student body, increase in magnitude of University and community responsibilities and service, and greater breadth of its coverage of the field of community health and its contribution to the field of medical research.

The number of students enrolled in the School has increased steadily over several years and continued to increase during the past biennium. As in previous years, the School received a large number of students from other states as the School is one of only 11 such accredited schools in the United States. The Federal government continues to send large numbers of students from other countries as part of its program of International Cooperation, while the World Health Organization likewise places many foreign students in the School. Thus the School through its educational program continues to make a significant contribution to the problem of better international relations.

As in former years the School continues to provide extensive instruction to professional students in most other parts of the University. Non-professional courses of a general information cultural type, designed for students in SLA, Agriculture, Technology, and Education have increased both in number and size and it has been necessary to revise and divide certain of these courses. This latter, necessitated in part by the fact that classes had outgrown the capacity of available classrooms, has materially increased the teaching burden of the staff.

Graduate Education—Notable from the standpoint of graduate education during the past biennium has been the establishment and approval of doctoral programs in Epidemiology and Environmental Sanitation. These supplement the existing programs in Biostatistics and in Physiological Hygiene, both of which are components of the School of Public Health though recognized as separate departments by the Graduate School. Although all of the other accredited schools of public health offer programs of study leading to the degree of Doctor of Public Health, the School has refrained from trying to develop such a program as it felt that this degree did not represent the same standards as does the degree of Doctor of Philosophy and that a doctoral degree in any phase of Public Health should be set on the same standard as is a doctoral degree in any other field of scholarship.

A significant contribution to such advanced programs has come from special training grants made available through the National Institutes of Health of the U.S. Public Health Service. Several years ago, recognizing the need for trained biostatisticians in medical research, the Institutes provided each school of public health with special grants for student stipends and a limited amount of additional staff. Two years ago a similar program was established in the field of epidemiology.

New Courses—As part of its program of graduate professional education, a number of new courses have been established during the past biennium. Of special significance are those in control of radiation hazards, control of air pollution, epidemiology of non-infectious diseases and statistical research design. The courses on radiation hazard problems have been offered through the School with the very material assistance of the University Health Service sanitation staff and the cooperation of the Department of Chemical Engineering. The air pollution courses have been made possible by a special three-year training grant from the U.S. Public Health Service. The School feels very strongly that these two problems are of such major significance and are of concern to students in so many programs of study apart from public health that the University should have adequate permanent staff within these two fields and not be dependent upon temporary grants from outside sources.

Along with the program of intramural public health instruction has gone a phenomenal growth of Extension teaching. Even more notable, however, has been the development of extension courses in public health nursing offered in neighboring states at the request of the U.S. Public Health Service and the respective state health departments. After our own faculty had demonstrated the feasibility of such courses, the School requested the U.S. Public Health Service to detail to it one of its nursing officers to provide for the continuation of such a program. So successful have been these courses and so great the demand on the part of both students and health departments that the Service has agreed to detail this officer to the School for another year.

In addition to Federal funds for development of an air pollution control program, and expansion of the program in epidemiology and biostatistics, the School has received from the Children's Bureau support for a further development of the program of instruction in the field of maternal and child health.

Research—The School continues to make significant contributions in the fields of research. The work of the Laboratory of Physiological Hygiene with respect to nutritional factors in the development of cardiovascular disease is well known and internationally recognized. Of special significance in the field of environmental sanitation have been studies of pollution of Lake Superior, conducted under a contract with the Minnesota State Health Department. In the field of epidemiology, special mention should be made of studies of poliomyelitis, ECHO virus infections and poisoning from the inhalation of gas from silos.

No report of the School of Public Health would be complete without reference to the extent to which members of the staff are called upon for community service on local, state, national and international levels. This type of service is consuming of both time and energy but is of very real value to the University in the form of prestige as well as the broader understanding and deeper insight into problems of public health, thus increasing the teaching and research stature of the staff member who has been on such assignment.

Major Needs—Finally, mention should be made of some of the major needs of the School in the coming few years. Reference has already been made to the need of permanent staff in the important fields of radiological health and air pollution. Equally important is the need for staff in the field of medical care programs. It is quite surprising that an institution of this size and importance should be so completely lacking in staff who are especially interested and informed in the large problem of medical economics, health insurance and community medical care programs. Here again, if the University is to keep abreast of the times, provision must be made for competent staff in this field.—GAYLORD W. ANDERSON, *director*

University of Minnesota Hospitals

The University of Minnesota Hospitals was established to furnish a means for the University of Minnesota to train students in the multiple fields of medical care. Training is given in the Hospitals under the direct supervision and guidance of a competent staff made up of a full time and part time faculty. The staff is responsible to the State through the University for both the instruction of the students and the care of the patients. This arrangement has proved satisfactory not only in the training of students but also as an economical means for the State to care for many of its indigent sick.

The University of Minnesota Hospitals provides many different medical services within its many units and makes available its facilities and services which enable physicians to provide the best possible care consistent with progress in medical science.

Admission Policy—In applying for admission to the Hospitals, the patient must be referred by his family physician or by a physician in his local community. This rule avoids the criticism that the Hospitals and its clinics are taking patients who should be seen by private practitioners. This same policy applies to patients admitted to the Variety Club Heart Hospital or any other unit of the Hospitals.

Patients are classified according to their ability to pay as County, Per Diem, Teaching and Research, Sixty Fund, Eustis, Rehabilitation, Multiple Sclerosis, Muscular Dystrophy, Private, or, in the case of the Heart Hospital, the Variety Club of the Northwest Fund. No distinction is made among these classes in treatment or privileges.

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 outpatient or hospital care, each County patient must present county papers filled in by both his physician and his 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 outpatient 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 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.

Teaching and Research patients are primarily destitute unmarried obstetrical patients who are unable to avail themselves of county papers.

The Sixty Fund is a special grant from the 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.

The Rehabilitation Fund is a fund provided by the Legislature for the use of the Hospitals, through the Department of Rehabilitation and Physical

Medicine, to aid in the physical rehabilitation of patients. Referral by a physician is required.

The Multiple Sclerosis Diagnostic Fund of \$15,000 was provided for each year of the past biennium to assist in financing the multiple sclerosis clinic. Referral by a physician is required.

The Muscular Dystrophy Fund consists of income from the Muscular Dystrophy Association of Minnesota to assist in the diagnosis and treatment of people afflicted with muscular dystrophy. Patients must be referred by a physician.

Private patients, limited in number, are admitted as a convenience to the senior staff. They are referred by other physicians in the state and are afforded the same treatment and privileges as are private patients in any private hospital.

The Variety Club of the Northwest Fund is a special annual gift from the Variety Club to assist in the care of patients from any of the communities in the Club area which includes Minnesota, North Dakota, South Dakota, parts of Wisconsin or any other area indicated by the Club. Patients may be admitted for care on this fund on the usual recommendation of a physician. The Variety Club itself may at times indicate and request service for certain patients in which it has a special interest, care to be paid for through this fund. No charge is made for the professional services of the staff—only for clinic or hospital expenses.

Student Health Service patients are not considered Hospitals patients even though a Hospitals intern is assigned to this service. The Student Health Service has its hospital infirmary on the fourth floor of the North wing of the University Hospitals but is not a part of the University Hospitals; it is a service institution maintained by the University with a director, staff, and budget of its own. The new Student Health Service, located on Church Street west of the Hospitals, provides outpatient care only.

In-patient Department—The number of patients admitted during the fiscal year 1956-57 was 14,953, and during the year 1957-58 the number was 15,879. The total number of days of hospital treatment aggregated 185,434 for 1956-57 and 193,934 for 1957-58, an increase of 8,500 patient days. The average stay in the Hospitals was 12.4 days in 1956-57 and 12.2 in 1957-58.

Deaths for the year numbered 649. Of these, 120 occurred within 48 hours after admission; 145 deaths occurred in the Heart Hospital. Autopsies for the year 1956-57 numbered 574, overall rate of 85.1 per cent; in 1957-58, there were 526 autopsies, an overall rate of 85.67 per cent.

Dr. Arthur N. Springall, assistant secretary, Council on Medical Education and Hospitals, American Medical Association, in his letter of June 30, 1958, wrote as follows:

"According to information submitted, the University of Minnesota Hospitals had an autopsy rate on hospital deaths of 86 per cent for the last reporting period. On this basis, the hospital will be included in the list of non-federal hospitals approved by the Council on Medical Education and Hospitals for the training of interns which had the highest autopsy rates for this period. This list will be published in the Internship and Residency Number of *The Journal, A.M.A.*, issue of October 4, 1958.

The efforts of the hospital staff and the administration in establishing this record are highly commended. On behalf of the Council, I wish to extend our congratulations on your achievement."

The daily cost of operating the In-patient Department was \$29.83 in 1956-57 and \$33.36 in 1957-58, an increase of \$3.53 per patient day. Surgical operations performed during 1957-58 totaled 10,417 as against 9,922 during 1956-57.

The Psychopathic Department of the Hospitals admitted 694 patients during 1957-58 and 610 in 1956-57. In the Psychopathic Hospital the total number of patient days of hospital care was 20,368 in 1957-58 as against 17,550 in 1956-57.

The waiting list of the Hospitals showed 140 patients on July 1.

Out-patient Department—The number of new patient visits in 1956-57 was 20,377, and in 1957-58 it was 20,721. Total patient visits for 1956-57 were 119,683, and for 1957-58, the number was 125,174, an increase of 5,491 visits. The cost of operating the Out-patient Department was \$5.98 in 1956-57, and in 1957-58, \$6.38, an increase of 40 cents per patient visit.

The X-Ray Department reported 71,272 procedures for the year 1957-58 as against 79,050 for the year 1956-57.

The Department of X-Ray Therapy gave 15,296 deep therapy treatments in 1957-58 as against 13,507 in 1956-57. There were 9,849 treatments given on the cobalt machines in 1957-58 and 6,993 in 1956-57. The number of superficial therapy treatments given in 1957-58 was 687 as against 939 in 1956-57. There were 201 radium treatments given in 1957-58, and 223 in 1956-57. The total number of strontium (beta ray) treatments given in 1957-58 was 57, while in 1956-57 the number was 52. In the isotope laboratory (radioiodine) 741 tracer studies and treatments were given in 1957-58 as against 887 in 1956-57, the total number of millicuries used in 1957-58 being 525.2 as against 785 in 1956-57. There were 64 phosphorus treatments given in 1957-58, and 45 in 1956-57, the total number of millicuries used for treatment in 1957-58 being 175.8 as against 150.45 during 1956-57.

In 1956-57 one patient was treated with radioactive gold and 100 millicuries used; during 1957-58 no patients were treated by this means. In 1957-58, 107 radioiodine human serum albumin blood volume studies were made as against 19 in 1956-57. There were 59 radioactive chromium red cell survival studies in 1957-58, and 41 in 1956-57. In 1957-58, 54 Phillips contact therapy treatments were given as against 77 in 1956-57. The past year also showed 81 $\text{Co}^{60} + \text{B}_{12}$ studies, 2 $\text{Co}^{60} + \text{B}_{12}$ with intrinsic factor, and 629 conversion ratio studies.

The number of prescriptions filled was 199,020 in 1957-58 as against 192,154 in 1956-57.

The Hospital laboratory made 691,118 determinations during the year 1957-58 as against 558,055 in 1956-57. The method of reporting urinalysis was changed this year, and therefore the figure for the year 1956-57 varies from that shown for this period in the previous report.

Masonic Memorial Hospital—This hospital, built with funds raised by the Masons of Minnesota and their affiliated organizations, was completed in September 1958, and opened for patients about October 15th. The gift specifies that the money is to be used for a facility to provide care for patients suffering with advanced cancer and equally serious diseases for which there is no known cure. The admission of patients will be governed by the present admission policies of the University of Minnesota Hospitals. The building is presently connected by an underground passage to Powell Hall, but when the Library is finished, the Masonic Memorial Hospital will connect by tunnel with the hospital proper.

Variety Club Heart Hospital—The fifth floor is nearly completed and will be ready for occupancy by October 31. This area, built with money given by the Variety Club of the Northwest, will provide additional facilities for research on conditions related to heart disease.

Remodeling—The \$400,000 provided by the 1957 Legislature has been spent to remodel one section of the Elliott wing into an intensive care unit, which opened to receive patients the first week of October. A second project—the remodeling of the first, third, and fourth floors of the Elliott wing—will be finished this coming year.

In Appreciation—Hospital funds alone cannot provide for all the needs of an institution, satisfying the technical demands and the demands of day-to-day operation. Since hospitals vary in their requirements, and the public's desire to serve varies with individuals' ability and interest, no pattern for requests can be set.

However, one paramount need of a hospital is an understanding of what it is striving to accomplish. To do this it must have the assistance of many people in addition to the paid staff, people who wish to give their time or financial support. The continued interest of devoted friends contributes immeasurably to telling the hospital's story.

The University of Minnesota Hospitals is fortunate in having individuals and groups with this interest and devotion. It is fitting that we thank the Masons of Minnesota and their affiliated organizations for their liberal donations which made the Masonic Memorial Hospital possible; and the Variety Club of the Northwest for funds for the construction of the fifth floor of the Variety Club Heart Hospital, and for their continued generosity in providing funds for patient care.

COMPARATIVE TWELVE-MONTHS REPORT IN-PATIENT DEPARTMENT

	1956-57	1957-58
Total patients admitted		
County (A)	4,114	4,027
Pay and per diem (B,D,C)	8,295	8,654
Student Health Service	1,361	1,920
Psychiatry	261	315
Psychiatry (pay and per diem)	349	379
Child Psychiatry	62	92
Child Psychiatry (pay and per diem)	62	88
Free	248	252
Eustis	195	135
Variety Club Fund	6	17
Totals	14,953	15,879
Total patients treated (discharged)		
County (A)	4,633	4,576
Pay and per diem (B,D,C)	7,750	7,976
Student Health Service	1,355	1,910
Psychiatry	319	387
Psychiatry (pay and per diem)	318	319
Child Psychiatry	68	105
Child Psychiatry (pay and per diem)	59	83
Free	248	255
Eustis	202	156
Variety Club Fund	13	30
Totals	14,965	15,797
Total days hospital care		
County (A)	71,707	72,857
Pay and per diem (B,D,C)	84,155	85,396
Student Health Service	4,455	6,687
Psychiatry	9,509	11,414
Psychiatry (pay and per diem)	8,041	8,954
Child Psychiatry	2,094	3,511
Child Psychiatry (pay and per diem)	863	1,423
Free	1,644	1,600
Eustis	2,729	1,740
Variety Club Fund	237	352
Totals	185,434	193,934
Average days per patient		
County (A)	15.5	18
Pay and per diem (B,D,C)	10.9	9.8
Student Health Service	3.3	3.4
Psychiatry	29.8	36.2
Psychiatry (pay and per diem)	25.3	23.6
Child Psychiatry	30.8	38
Child Psychiatry (pay and per diem)	14.6	16.1
Free	6.6	6.3
Eustis	13.5	12.8
Variety Club Fund	18.2	20.7
Average length of stay per patient	12.4	12.2
Daily average number of patients		
County (A)	196.4	199.6
Pay and per diem (B,D,C)	230.6	233.9
Student Health Service	12.2	18.3
Psychiatry	26.1	31.2
Psychiatry (pay and per diem)	22	24.5
Child Psychiatry	5.7	9.6
Child Psychiatry (pay and per diem)	2.4	3.8
Free	4.5	4.3
Eustis	7.5	4.7
Variety Club Fund .....	.6	.9
Daily average census for hospital	508	531.32

We also wish to thank the Variety Club Auxiliary for its support to the Variety Club Heart Hospital; the University Hospitals Auxiliary—along with the other sections of the Faculty Women's Club—for generous efforts on behalf of our patients; the State Division of Social Welfare and the County Welfare Boards for their assistance, the various nursing homes for their cooperation; the Traffic Club for the gifts, entertainment, and cheer provided for our patients year after year at Christmas time; the Crippled Child Relief; the Minnesota Society for Crippled Children and Disabled Adults; the Sunshine Society; the Camp Fire Girls and the Girl Scouts; the Needlework Guild; the Junior League; the Minneapolis Council of Churches; the Minneapolis and Hennepin County Chapter of the American Red Cross; the Volunteer Service Bureau; and many other organizations and individuals who have

COMPARATIVE TWELVE-MONTHS REPORT OUT-PATIENT DEPARTMENT

Service	New Patients		Revisits		Totals	
	1956-57	1957-58	1956-57	1957-58	1956-57	1957-58
Medicine						
General	3,097	2,987	7,709	7,755	10,806	10,742
Allergy	119	87	1,027	1,017	1,146	1,104
Arthritis	167	117	1,470	1,417	1,637	1,534
Cardiac (Adult)	508	247	2,632	2,283	3,140	2,530
CMC (Combined Medical Clinic)			185	85	185	85
Chest	101	51	541	606	642	657
Diabetic	141	136	951	977	1,092	1,113
Gastro-intestinal	63	40	392	328	455	368
Hematology	55	67	829	944	884	1,011
Metabolism	98	63	951	897	1,049	960
Dermatology and Syphilology	480	572	3,038	3,123	3,518	3,695
Neurology						
General	510	498	752	772	1,262	1,270
Convulsive Disorder	1	6	1,008	1,029	1,009	1,035
Headache		22		26		48
Multiple Sclerosis	20	31	232	294	252	325
Muscular Dystrophy	16	27	77	107	93	134
Parkinson		2	327	324	327	326
Psychiatry	388	382	3,503	3,400	3,891	3,782
Surgery						
General	655	619	3,915	3,923	4,570	4,542
Plastic	36	40	393	440	429	480
Proctology	292	374	1,052	1,102	1,344	1,476
Tumor	272	226	2,704	2,463	2,976	2,689
Orthopedic	397	397	1,652	2,120	2,049	2,517
Urology—Female	162	146	400	387	562	533
Urology—Tumor	12	17	64	76	76	93
Urology—Male	304	300	1,187	983	1,491	1,283
Urology—Tumor	22	26	224	220	246	246
Neurosurgery	89	119	500	591	589	710
Eye						
General	770	833	4,324	4,016	5,094	4,849
Refraction			847	948	847	948
Squint			308	329	308	329
Ear, Nose and Throat						
Audiology	723	668	3,842	2,850	4,565	3,518
	393	320	484	477	877	797
Gynecology						
General	481	493	1,575	1,235	2,056	1,728
Gynecology Tumor	37	76	1,666	1,776	1,703	1,852
Gynecology Proctology	5	6	440	200	445	206
Obstetrics						
General	473	510	3,209	3,810	3,682	4,320
Night Obstetrics		11	300	242	300	253
Pediatrics						
General	1,181	1,191	4,271	4,311	5,452	5,502
Allergy	1		230	313	231	313
Cardiac	458	163	1,478	1,110	1,936	1,273
Convulsive Seizure	11	2	378	350	389	352
Endocrine	9		182	244	191	244
Peds. Hematology			31	317	31	317
Child Psychiatry	591	561	878	867	1,469	1,428
Peds. Neurology	63	4	192	300	255	304

contributed to our patients' welfare, including, of course, the chaplains who minister so faithfully to the spiritual needs of our patients.

We of the Hospitals wish to express our appreciation to our corps of volunteer workers who have given their time in performing services for our patients as well as assisting our staff. We wish to thank the many people who have contributed to service and research funds during the year.

The Administration also desires to express its gratitude to the members of the professional and service staffs for their loyalty, helpfulness, and considerate care of patients.—RAY M. AMBERG, *director*

SCHOOL OF DENTISTRY

This biennium has seen a continuation of the faculty's efforts to improve teaching methods, to expand research programs, and to enhance the educational program and reputation of the School with the public and health professions through publications and appearances before various organizations.

It is difficult to determine with preciseness the extent of teaching improvement produced by curriculum juggling and by employment of different techniques, particularly when the end product of dental education is not measured in academic averages, but in the quality of service provided in dentistry to the public, in all its professional and social aspects. The School installed closed circuit television, which appears to be an improved medium for presenting many procedures in dental education, as by its use instruction concerned with technical and clinical demonstrations can be given with clarity to large groups where heretofore repetitions to smaller class sections had to be made. Present plans provide an extended employment of this medium for the dental educational program.

A problem of continued importance to the School concerns current and projected dentist-population ratios. Presently, the state's ratio is approximately one dentist for 1,391 persons, a ratio, which considering the national, is excellent, as the national is one to 1,679. Attenuating circumstances suggest strongly that the present favorable state ratio will not prevail, unless steps are instituted to alleviate the increasing shortage of dentists. For the past several years the number of resident dental graduates remaining in the state has been less than the number of practitioners lost from practice. This situation coupled with the increasing population, and the fact that more than half the current dentists are 55 years of age or over, forecasts an unfortunate dentist-population ratio of one to 2,400 within ten years.

Educational Program—Cognizance of this impending impairment of oral health service to citizens of the state has been taken through the School's educational program. Students have been and are being taught to use auxiliary personnel. Emphases include instruction in prescription writing for techniques to be done by technicians, in extended use of dental assistants, and in encouraged employment of dental hygienists. Full use of all will save valuable time for additional services by dentists. One research program begun with support of the Public Health Service has been concerned with measuring increased productivity of dental students when chairside dental assistants are used. Results in this continuing experiment show that productivity can be increased by at least 30 per cent. This project will be continued to study related facets of oral health service and to improve teaching methods for students in dentistry and dental assisting.

The School has been energetic to keep pace with new developments in equipment and materials. During the biennium 26 high-speed units were secured and 40 more are on order. These will make it possible to yield better and more modern teaching results and to enhance service productivity to patients. It is hoped funds will be made available to install comparable units throughout the entire clinical areas. The use of newer materials and procedures have contributed to a more thorough educational program.

The School, now operating at over capacity enrollment, is embarking on a recruitment program to encourage young persons of precollege age to consider dentistry as a career. This activity is undertaken to counteract a foreseeable shortage of applicants, since it is conceivable that many factors may

reduce even more the desire of young persons to entertain an arduous and expensive dental educational program, when shorter and seemingly more rewarding pursuits are available. If this prediction of shortage does not ensue, the effort will not be wasted as more applicants will provide better student selection, and with new facilities, qualified students to fill larger classes.

There are many areas where dental service is not available, yet the regions are capable of providing substantial practices. Preliminary plans have been made to encourage areas to establish scholarships with which to support regionally selected dental students.

The School is gratified for plans to extend Owre Hall, thus providing additional space. This new space does not mean an increased enrollment, even though it is desired. The School has operated at over capacity since World War II, to the extent of hindering the academic program. The new facilities will be used to relieve over-crowding. Any further increase in size of classes can be accomplished only by additional facilities.

Occupancy of a new building for the School cannot be delayed. Ten years will create a lack of dental service to the public's hinderance unless new facilities are provided to allow increased class size. No less than eight years is required from the time of beginning construction until a class is graduated. It is apparent that circumstances causing the lack of dental service will be upon us unless plans for immediate construction are consummated.

Public Service—The state's residents are provided oral health service in several categories, the most obvious being that concerning patients treated in the clinics. Approximately 5,000 new patients register annually, and almost 2,000 receive treatment during each week. Although geography dictates that the majority of patients come from the Twin Cities area, 25 per cent are from other state regions and bordering states. There has been an increase in amount of oral health service each student provides, which bespeaks well of the excellent faculty teaching and of refinements in clinical administrative procedures. The use of dental assistants to aid in chairside operations has been of inestimable value. It is believed their use in the educational program will cause recently graduated dentists to use comparable auxiliary aids in practice, thereby enhancing productivity and compensating somewhat for the increasing shortage of dentists. The use of technicians to process various appliances has allowed more time for clinical practice for each student. It has also provided educational experiences through which dentist-technician relations are utilized to better advantage.

The School maintains a biopsy service and consultative service for dentists of the State. To calculate accurately the number of consultations provided is impossible. It can be mentioned that every Division engages extensively in this activity, thus enhancing the service provided. The biopsy service handles 500 cases per year. When it is realized that an average of 12 oral carcinomas are diagnosed annually, public service value cannot be doubted.

The School participated jointly with the Minnesota State Dental Association and Minnesota Division, American Cancer Society, in the prominent "Willmar Study" which was the operation of an oral cancer detection center at Willmar. Almost 2,000 persons were examined by 15 dentists trained especially by prior institutes: most examinations were negative, 51 required follow-up studies, and six were diagnosed as carcinoma. This effort was a public service of note, and the service is being extended in this State. Comparable services are being duplicated in others.

Teacher-Research Training Program—The School received a grant from the National Institute for Dental Research to conduct a graduate program for dentists desiring to pursue dental teaching and research. This grant will be continued. The need for this program has long been recognized. The program is concerned with training dentists on a Ph.D. level, with basic science majors and minors in clinical dentistry. Trainees are also provided with courses in pedagogy. One primary aim is to train teachers who will ultimately enter clinical teaching. The rapid progress being made in clinical dentistry, expected increase in class size, increasing significance of preventive dentistry, and need for well-qualified teachers, all bespeak the importance of this program. Five persons are in the plan, and additional trainees can be expected.

The program here differs from those undertaken previously throughout the country. Prior programs were of two types: one was directed to doctorate education in basic sciences; the other, to advanced education in clinical dentistry. Both plans have produced beneficial results in their respective areas, but they have neglected to yield persons with basic science backgrounds who are well-qualified to pursue clinical teaching and research. Since most dental graduates will engage in general practice, it is logical to provide educational experiences through which their vision of dental practice will be enhanced. The program will also provide stimulation to students to cause some to desire academic careers, insuring a supply of future teachers and investigators.

Continuation Courses—The School has provided 23 courses for dentists, dental hygienists, and dental assistants, mostly of the limited attendance type, largely because better instruction can be attained. There were 273 persons registered. The recently installed closed circuit television facility will make it possible to increase enrollments and to enhance instruction through use of procedures other than didactic and limited laboratory expositions. Open telecast arrangements can be developed for state-wide receiving of suitable programs and for limited audience receiving by dental societies.

Graduate Programs—Numerous requests are received for graduate programs, but limited facilities make it necessary to be restrictive on acceptances. During the biennium 20 Master of Science in Dentistry degrees were conferred. The current program has 29 persons engaged in advanced education in dentistry. This area of the School's educational program has the decided advantages of augmenting research efforts and of serving as a source of well qualified clinical teachers, particularly part-time appointments. The School is appreciative of the splendid cooperation given by busy practitioners who are willing to forego time in practice to assist in teaching. Without their contributions, the educational program would not be possible.

Preliminary studies were made to ascertain whether it is feasible to have the University contract with Seoul National University extended to include Dentistry. Should the extension eventuate, the graduate program will be adjusted to encompass activities through which Korean faculty members can be trained in methods of teaching dentistry.

Professorships—The Louis W. and Maud Hill Family Foundation made a Professorship in Basic Dental Research available. This is the first endowed chair in dental research to be afforded any dental school in the country. The School is honored to have this professorship. The chair will be filled in the near future.

Research Program—Each division has carried on sizeable research programs with financial support of the School and from federal, state, and local sources. Comparisons with other schools show that the University of Minnesota School of Dentistry, ranks favorably in research. It is pointed out that strong inducements must be provided if the School is to continue a strong research program. Other schools are advancing rapidly in their research endeavors. Evidence of this circumstance is manifest from reviewing programs of meetings of the International Association for Dental Research. These programs reflect research in dental areas being conducted. They show that other schools are far more active in research in basic sciences than in this School of Dentistry.—WILLIAM H. CRAWFORD, *dean*

LAW SCHOOL

The major developments of the biennium have been changes in the educational program aimed at insuring that each graduate is better prepared for the responsibilities of the legal profession. In general these changes have been designed to require better preparation before admission to the Law School and more intensive and individualized study in the Law School itself.

Three-year prelaw admission requirement—Most good law schools require for admission either a degree or three years of college. This is the American

Bar Association requirement for approved schools, with a two-year exception for schools having a regular four-year law program like Minnesota. During the biennium the Law School faculty explored the problem of prelaw college training with the aid of the College of Science, Literature, and the Arts, the Duluth Branch, and other colleges within the state. The faculty decided that a much more adequate preparation for the practice of law would result from the addition of a third year of college to the prelaw admission requirements and the reduction of the law school program itself from four years to three years plus one summer. With the approval of the Board of Regents this change was made and admission to the Law School effective in 1960 will require either a degree or a three-year liberal arts program in which the student completes the requirements for the B.A. degree, apart from the "minor" and total number of credits. An additional requirement of the three-year college program is the completion of a course in advanced English composition and two independent research papers at the senior college level. The College of Science, Literature, and the Arts, the Duluth Branch, the State Colleges and a number of private colleges have approved this program and agreed to grant B.A. degrees to students who successfully complete their fourth year of college as first-year law students. The Law School program itself will be three years plus one summer, which is the same program required during the past several years for students who enter the Law School with a degree.

A detailed explanation of the program and the reasons for the change was published in the March 1958 issue of the *Bench and Bar*. In brief summary, the additional year of advanced college work will minimize the failures caused by educational immaturity, permit faster progress to be made in law studies, and provide the broader general education lawyers need to fulfill their professional and public responsibilities. This is accomplished without substantially increasing the total period of study. Reduction in the length of the law course permits completion of the entire program in the six years required under the old two-four program, apart from the addition of one summer session.

Quality Admission Standards—In the second year of the biennium the Law School instituted quality admission standards designed to exclude those applicants with no reasonable prospect for success in law studies. The purpose was to reduce substantially the tragically high rate of failures resulting from the admission of students who think they want to be lawyers but are simply not endowed with the ability to succeed in law. The standard applied is a combined use of the student's college record and a national law school admission test now used by most good law schools. This test was required at the University for several years in order to gain a background of experience for use of the test as a predictor of success at this Law School. Using this aptitude test in conjunction with college records the Law School excludes those applicants who, on the basis of prior experience, are extremely likely to fail. The former 40 per cent to 50 per cent failure rate, with all the tragedy and psychological shock involved in failure, cannot be justified when there are dependable methods of reducing that failure rate. At the same time the exclusion of the unqualified students permits more rapid progress to be made with the qualified students.

Sectioning First Year Classes—One of the serious problems in the Law School has been the size of the classes. The first-year classes have run from 150 to 200 in normal years. It is difficult to teach classes of this size successfully by the discussion method. Yet the discussion method of teaching is essential to successful law study, for the student learns by struggling with the problems. One of the greatest needs of the Law School is a faculty large enough to permit class size to be reduced substantially. This can only be accomplished by dividing the courses into class sections as is done elsewhere throughout the University.

We have made a start in this direction. The increased staff made available for the second year of the biennium enabled the Law School to section three of the first year courses into three class sections for each course. The results have been good. Each student is under greater pressure to prepare better for

each class. Each is required to participate in the discussion much more often. Each feels greater freedom to raise questions and to make points when in a small class. The teacher is better able to understand the difficulties the individual student is having, and to give him the personal attention he needs to get on the right track. This is a start, but a larger staff is needed to permit sectioning the rest of the first year classes and the larger advanced classes.

Seminars and Other Individual Work—Typical class work is not sufficient for the training of lawyers. Each law student must have a substantial amount of experience in handling individual assignments, and working with common problems in small groups. This kind of work has been increased during the biennium. We now require each senior to participate in at least one seminar, where a group of 10 or 12 students work intensively on related problems, discuss these problems together under the supervision of a professor, and are each required to produce a substantial paper based on their individual research. Presently two of these seminars are conducted jointly with other departments of the University, where graduate students with a non-legal background and law students work together on common problems, each contributing his own specialized viewpoint. This provides extremely valuable experience in the kind of problem lawyers constantly encounter, and efforts are under way to develop an increasing number of seminars of this type.

Individualized work is not limited to senior students. In both the first and second year students are required to do a substantial amount of independent research and writing, which take a variety of forms similar to the work performed by practicing lawyers. Satisfactory progress here requires individual conferences with each student, sometimes repeated several times until he has himself produced a truly satisfactory piece of research and writing. This takes a great deal of manpower, but is the only way the job can be done right.

Individual attention to the student's independent work, both in the basic course and in senior seminars, is essential to completely satisfactory law training. The Law School is providing as much of this individual attention as is possible with its limited staff, but additional funds are required to provide a staff that will fully meet this need.

The New Addition to Law Building—At the beginning of the biennium the Law School moved into the new addition to Fraser Hall. This new addition has proved entirely satisfactory and has greatly improved the availability and usefulness of the law library. The appropriated funds proved inadequate to complete the five stack levels for the library addition. Rather than to sacrifice needed space, three of the five stack levels were left unfinished and will require completion soon in order to retain operating efficiency in the library. The University Administration is cognizant of this need and will seek to provide for it in some manner.

Scholarship and Loan Funds—The need for financial aid to students has increased substantially during the biennium due to the gradual termination of G.I. benefits. The Law School has experienced encouraging increases in private scholarship and loan funds gifts, including a \$20,000 endowed scholarship fund in honor of former Dean William Reynolds Vance, an increase of \$4,000 in the Fletcher Loan Fund, gifts of \$3,400 to the Cherry Scholarship Fund and a commitment for three annual \$375 scholarships from the Cargill Foundation. These increases permitted us to grant three scholarships to outstanding first-year students for the second year of the biennium and four have been awarded for next year. In this manner we are seeking to keep at Minnesota some of the very best talent now being lured away by high scholarships from the eastern law schools. It is essential that scholarship and loan funds be increased substantially in the years immediately ahead.

Faculty—All available positions on the Law School faculty have been filled with exceptionally able young men. All members of the faculty for the second year of the biennium will be continuing into the next biennium, after several narrow escapes from attempted raids by other law schools. Unless additional substantial salary increases are available in the years immediately ahead, we will not be able to retain our outstandingly good faculty.

Faculty Scholarship—The many scholarly articles published in legal periodicals by law faculty members during the biennium will not be listed, but attention should be called to two major works of scholarship. Professor Maynard E. Pirsig published during the biennium a book of cases and materials on Standards of the Legal Profession, which has been widely adopted. Professor Kenneth Culp Davis has just published a four volume treatise on Administrative Law, which is certain to become the standard authority in this field.

Placement of Law Graduates—During the biennium Assistant Dean Dorothy O. Lareau has developed an efficient and very helpful placement program for Minnesota law graduates. The result has been much earlier and more satisfactory placement of our graduates, and an important and valuable service to the law firms and business enterprises seeking to add lawyers to their staffs.—WILLIAM B. LOCKHART, *dean*

COLLEGE OF PHARMACY

Undergraduate Enrollment—The undergraduate enrollment has been low during the biennium, due primarily to the adoption of a five-year curriculum in 1954. The five-year curriculum will be mandatory for all colleges of pharmacy by 1960. The enrollment is summarized as follows:

Year	Summer Sessions	Fall	Winter	Spring
1956-57	13-12	101	99	95
1957-58	2	84	85	86

Graduate Enrollment—Graduate curricula were offered in three of the College's departments. The number of students with major work in these departments follows:

Year	Pharmaceutical Chemistry	Pharmacognosy	Pharmacology
1956-57	13	1	0
1957-58	12	2	2

Degrees Conferred—Because of the five-year curriculum, no undergraduate degrees were conferred in June 1958. A summary of degrees earned in the College during the biennium follows:

Year	B.S. in Pharmacy	M.S.	Ph.D.
1956-57	40	1	4
1957-58	1	1	3

Curriculum—Based upon several years experience with the five-year curriculum there were several strengthening changes made in specific course requirements. A graduate curriculum leading to M.S. and Ph.D. degrees in Pharmaceutical Technology has been approved by the Graduate School.

Faculty—Dean Charles H. Rogers retired on June 30, 1957 and Dr. George P. Hager was appointed to the deanship as of July 1, 1957. Dr. Herbert Jonas was appointed assistant professor in the Department of Pharmacognosy starting September 15, 1958. Dr. Frank E. DiGangi was promoted from associate professor to professor in June 1957.

Scholarships and Fellowships—During the biennium there were awarded to students 21 undergraduate scholarships ranging from \$100 to \$225, and 13 graduate fellowships ranging from \$500 to \$1850.

Library—The collection was expanded, by the addition of 353 new books and periodicals, to 7275 items, as of June 29, 1958.

Continuation Study—Two-day programs are offered each year for pharmacists of Minnesota. In 1957, the 18th program was attended by 60 registrants; and in 1958, the 19th program by 95 registrants. The average attendance for the first 18 programs was 53 registrants.

Minnesota State Board of Pharmacy—The Board conducted four examinations for licensure at the College during the biennium. A total of 86 out of 88 graduates who took the examination passed the first time.

Staff Service—All members of the faculty are called upon to render consulting service to pharmacists, other professional individuals and laymen, in supplying information and advice of a pharmaceutical nature. Records of these services, maintained beginning with February 1958, indicate 67 such calls and inquiries through June 1958. In addition members of the faculty have been engaged in a variety of significant activities which are summarized in part elsewhere in this report.

Pharmacy R.O.T.C.—Four members of the June 1957 graduating class were commissioned as 2nd Lieutenants in the Medical Service Corps. The Pharmacy R.O.T.C. has been discontinued at the University of Minnesota.

Alumni Association—The College of Pharmacy Alumni Association was reorganized in March 1958, and in three months acquired 257 members with additional members joining each day; 33 per cent of the 1756 graduates have responded with personal data cards.

Student Guidance Counseling—Over 300 inquiries from prospective undergraduate and 76 from prospective graduate students have been handled during the past year, with personal letters and literature sent from the college office and the Office of Admissions and Records. Members of the faculty have discussed pharmacy with guidance counselors in all Minneapolis public high schools and have taken part in several career conferences with high school and college students. Activities of this type are justified on the basis of the need of the State and of the profession at large for more and better-educated pharmacists and pharmaceutical scientists. The University of Minnesota College of Pharmacy is second to none in its capacity to provide proper training in this important health science.—GEORGE P. HAGER, *dean*

COLLEGE OF EDUCATION

Introduction—Instead of following the plan of our last biennial report, which described activities of separate instructional and service departments of the College, this report directs attention mainly to areas of special attention during the biennium.

No report, however brief, could be made for the College of Education in the biennium 1956-58 without comment of the "educational crisis" of 1957-58. Suddenly, with the new understanding of the results of technology in Russia, attention across our nation focussed on the public schools and on institutions educating teachers. Uncounted hours of faculty time during 1957-58 were given to the consequent discussions, locally and nationally. In the long uphill fight for sound public education in America, the marked public concern in 1957-58 may well prove a milestone. Efforts to select good candidates for teaching and to educate them soundly in the teaching subjects, in child development, and in learning, no longer proceed in a vacuum created by public apathy. Better qualified teachers, more sound administrative leadership in the schools, larger numbers of counselors and other specialists, improved libraries and teaching materials, reassessment of a balanced curriculum in public education—all of these long-time goals of the undergraduate and graduate program in the College of Education are becoming community goals also. As the biennium ended, the tendency apparent in the fall of 1957 to seek in the schools a scapegoat for national dilemmas had diminished, and needed improvements in the schools, long-recommended or newly-planned, were already beginning to be apparent. Far from decrying the current concern about education, the faculty of the College of Education considers it essential that attention to the improvement of the schools and colleges be unremitting during the years immediately ahead, with progress from outcry to action in the support of public education.

Research—The years 1956-58 in the College of Education were marked by a resurgence of research by the faculty. In some periods, the faculty's responsibilities for instruction and service have outweighed efforts to seek answers to the problems of education through research. In this biennium, although service and educational leadership have not been neglected (as is clearly documented in the report on services of the faculty), the proper function of a University's College of Education faculty to carry on important studies has come to the fore more strongly than in many previous years.

Notable has been the support received from research grants by the United States Office of Education, totalling nearly \$300,000. Studies carried on under these grants, or underway as the biennium ended, included: Research on Retardates (Maynard Reynolds); Factors Influencing College Teaching as a Career (Ruth Eckert and John Stecklein); Retention of Students in Teacher Education (Walter W. Cook and William H. Edson); Study of Admission Interviews (William H. Edson); Study of Parental Attitudes Toward Mentally Retarded Children (Dale B. Harris); Development of Language and Thought Processes of Deaf Children (Mildred Templin); Homemaking Teacher Attitudes (Roxana Ford and Cyril J. Hoyt); Teacher Influence on Learning (Ned Flanders); and Classroom Behavior of Elementary Student Teachers (Roger Wilk). The faculty named are those in charge of the studies, the cooperation of several members of the faculty having been enlisted for most of the projects.

Continuation of funds from the Hill Family Foundation for the study of Adult Education in Agriculture, funds from the United States Public Health Service, and support from other agencies have brought the total for research projects close to \$400,000. It should be emphasized that this is only a beginning of the support needed for research in education.

This report does not attempt to document the many additional studies now being carried to completion by individual faculty members as a part of their regular responsibilities, without outside support; nor does it document the sharply increased activities of the Bureau of Educational Research under the leadership of an outstanding new director, Professor Paul Torrance. The latter include a study of arithmetic achievement, a series of studies on creativity, two monographs written by the director on Space Age Critical Job Areas and Mastery of Stress, and a survey of school plans for improving mathematics and science teaching. These activities, as well as the continued studies and state services of the Bureau of Field Studies and Surveys, are a vital part of the picture of effective research now being carried on throughout the College of Education.

Special Education—The area of special education (for handicapped and gifted children) has been particularly active in this biennium. Following a two-year study of the Legislative Interim Committee on Handicapped Children (1955-57), a comprehensive pattern of legislation pertaining to handicapped children was passed by the 1957 Legislature. This legislation made mandatory the provision of suitable "education and special services" for handicapped children in all school districts of the State, with consequent necessary increase in the faculty and training facilities of the College of Education. Appropriations to the University included \$76,000 for a two-year period for strengthening the Special Education program, \$40,000 being designated for scholarships and fellowships and \$36,000 for staff. The first half of these funds was available for the second year of this biennium, the second half to carry through the first year of the next biennium.

Two positions, at assistant professor level, were filled during 1957-58 to provide leadership and additional instruction in the areas of educating mentally retarded children, crippled children, and children with central nervous disorders. A half-time instructorship in the area of educating visually handicapped children will be added in the first year of the next biennium. Approximately 100 students attended summer session in 1958 on the special education scholarships, which were shared with the Duluth Branch. Eight graduate students will enroll on fellowships in 1958-59. The Special Education faculty members have sponsored institutes in the Center for Continuation Study, taught Extension Division classes in various districts of the State for in-service training of special class teachers (12 such classes are projected for the fall of

1958), and have met with representatives from other institutions of the State to discuss economical joint planning and coordination of efforts.

For the future, the position in education of the blind should be made full-time. An additional position should be provided for the field of educating the deaf and hard-of-hearing. Although grants from the 1957 Legislature provided for a good start on the essential expansion of the training program in Special Education, it is obvious that continuance and increase of the appropriations, especially for faculty, are essential.

Counselor Training—Although our graduate program for training counselors (both for high schools and for colleges) ranks high in quality, our faculty has been limited in number as compared with the faculties of similar institutions. We have continued to operate with the risk of deterioration in the calibre of the work because of the exceedingly heavy graduate advisory load in this field. One new faculty member was appointed in the second year of the biennium for secondary counselor training, with the hope that this would provide relief on the advising of master's degree students. With the sharp upswing in national attention to high school counseling, however, this new assistant professor was carrying a heavy load of graduate advising by the end of his first year here, and still no relief had been provided for the other faculty members in counselor training. Additional faculty members for this field, of sufficient stature and experience to direct advanced graduate studies, is a high priority item for the next biennium.

Projected for the next biennium is expanded staff for the graduate program in School Psychological Services, supplementing the counselor training, under initial support from the United States Public Health Service. This area of advanced study, obviously essential for the training of psychological workers for the schools, will also need eventual additional legislative support.

Undergraduate Program—Increases in enrollment have been steady, in spite of more rigorous selection to insure better candidates for the teaching profession. Disproportionate increase by major fields has continued to be a problem in relation to staff availability. Elementary education, in spite of additions to the regular staff and to the temporary group who assist with advising and some instruction, still has an undue load; and as the biennium closed, the decision was made to give all possible budgetary assistance to this area.

In the second year of the biennium, considerable study of the undergraduate curriculum was initiated. The major in English was expanded and strengthened; faculty members from major departments in the social sciences and the College of Education began discussions of needed adjustments and additional requirements for high school teachers; a minor in Russian was added to the curriculum of the College; Industrial Education undertook major revisions in its entire four-year curriculum; and many minor adjustments and revisions were approved for several other major areas.

For the introductory course in secondary education, the experiment with observation through closed circuit television, using University High School classes, proceeded through its second and third years. Tentative results have shown value from the use of closed circuit television for observation and demonstration, but some limitations have also become apparent. It is not adequate as a substitute for the entire "live" observation program, but it is a needed supplement for presenting certain kinds of problems and classroom situations. Funds will be required in the next biennium for continuing and expanding the closed circuit television program, initially financed through grants from the Ford Foundation Fund for the Advancement of Teaching.

Demonstration Facilities—During the biennium, a new contract was signed with the Minneapolis Public Schools to add the facilities of Pratt, Motley, and Marcy elementary schools to those previously available in the Tuttle School for observation and demonstration. With the continuing increased enrollment in elementary education, at both undergraduate and graduate levels, the use of the additional schools provides essential expansion of facilities.

In this period, also, the enrollment in University High School was brought to full capacity through the addition of 30 students each in the seventh and

eighth grades. This change provides an equal number of studies in each of the six grades for purposes of research, student teaching, and observation.

Lack of continuity of staff has long been a problem in the University Elementary School and the University High School, where most of the work is handled by temporary instructors registered in the Graduate School. Especially in recent years, the willingness of surrounding school districts to employ our instructors at salaries considerably over our level, then permitting them to come to the University for some classes, has presented a difficult staffing problem for the College of Education. The University salary increases during the past biennium have placed us in a better competitive position. Our situation in the campus laboratory schools regarding initial and continuing appointment of instructors has improved, though it is one which will need constant attention in the future, also, particularly on salaries.

Realignment of Departments—At the end of the first year of the biennium, the Institute of Child Welfare (re-named the Institute of Child Development and Welfare) and the Department of Physical Education for Women were both made administratively responsible to the dean of the College of Education. Since the instruction and research on both of these departments has long been closely allied with that in the rest of the College of Education, there were sound educational reasons, as well as fiscal ones, for the reorganization. Because these two departments were still separate from the College of Education during the first year of the biennium, their reports for this biennium have been prepared separately, and they are appended to the general report for the College of Education.

During the biennium, some further attention was given to the possibility of subdividing the large and unwieldy department of General Education, organized with the dean of the College as its chairman and including roughly half of the undergraduate instruction of the College. Establishing the Student Personnel Department and the Student Teaching Department, previously a part of Administration and General Education, was a step taken at the end of the biennium as a beginning on re-planning of departmental organization and administrative responsibilities in the College.—WALTER W. COOK, *dean*

Department of Physical Education for Women

Introduction—Effective July 1957, the entire department became a regular part of the College of Education.

Enrollment—An average of 3231 individuals were served per quarter during this biennium by 13 full-time and two part-time teaching staff. This figure represents an 11 per cent increase over the comparable figure of the previous biennium.

The College Instructional Program (Non-Professional)—The average number of individuals per quarter in this biennium was 1075; this figure represents an increase of 13 per cent over the similar figure in the previous biennium. Explanation is partly due to the fact that there was a definite increase in the per cent of Home Economics doubtless due to the offering of non-professional classes on the St. Paul Campus for the first time.

The Recreational Program—The average number of individuals per quarter in this biennium, 1558, showed an increase of 11 per cent over that of the previous biennium. The average total annual participation 15,493 is an 8 per cent increase over that of the previous biennium.

The Professional Undergraduate Program—An average of 112 professional undergraduate students per quarter were enrolled in the department in this biennium. An average of 590 individuals per quarter occurred in all professional classes; this figure represents an increase of 20 per cent over the similar figure in the previous biennium.

The Professional Graduate Program—An average of nine graduate students per quarter were enrolled in this biennium. Total registrations in gradu-

ate classes per year averaged 80, an increase of 35 per cent over the similar figure of 61.5 in the previous biennium.

Major Accomplishments

Staff Studies—Eight of the 13 full-time staff members engaged in important creative endeavors and studies during this biennium. In addition, five staff members participated in a project "Inter-Institutional Research" initiated four years ago by this department; the other institutions concerned are the University of Wisconsin and the State University of Iowa.

Public Relations—In addition to annual programs by three Honorary Clubs, the department offered three institutes: "Fitness for Peacetime," "Health Instruction and the Elementary School Child," "The Role of Exercise in Modern Living"; a total of 639 people attended.

Chief Accomplishments in Departmental Programs—

1. *Non-Professional Program*—A study of the value of individual conferences held at the Health Service during the entering physical examinations; a pilot study of "The Experiences, Interests, and Needs of Freshman Women in Physical Education Activities."

2. *Recreational Program*—Development of a Women's Athletic Association Handbook; Sponsor and Hostess to the All-State College Women's Conference.

3. *Professional Undergraduate Program*—Addition of two new electives for seniors in student teaching; the initiation of a regular program of physical education for University Elementary School children through a teaching assistant and the department chairman of student teaching serving as the coordinator of the large committee from various departments; the development of "A Student Handbook for Professional Students."

4. *Professional Graduate Program*—Expansion of the Graduate Seminar; expansion of the Research Laboratory; the addition in the Summer Session of a new elective course for elementary school classroom teachers, P.E.W.117, Instruction in School Health Education for Elementary Schools, 3 credits.

Chief Problems and Plans

1. A careful study of "Experiences, Interests, and Needs of all University Freshman Women in Physical Education Activities."

2. A careful study of present offerings in the required college program in relation to the findings in the above-mentioned study.

3. A continuation of the study of the core program of minimum essentials in the professional undergraduate program.

4. A continuation of the follow-up study of graduates of the department as viewed by administrative and supervisory personnel.

5. The achieving of a consensus on objectives for the departmental graduate program.

6. A brochure with all graduate offerings.

The large problems of rendering services on the high level in which department staff are now engaged and meeting the needs for expansions arising from steadily increasing enrollments in all programs require the addition of at least one more full-time staff member.—GERTRUDE M. BAKER, *director*

Institute of Child Development and Welfare

With the beginning of the biennium the Institute of Child Welfare, renamed the Institute of Child Development and Welfare, was attached administratively to the College of Education. In this new relationship, the Institute has moved forward, finding new opportunities for teaching and service.

Research—In the biennium, the Institute undertook 28 new research projects. These added to 25 projects continued from earlier years, made a total of 53 active projects. There were 28 research projects completed, of which 14 had been continued from earlier years. In addition, two major research programs, begun before the biennium with grants from the National Institute of Mental Health, continued to engage the attention of several of the staff. A third major grant from this source was awarded in March, 1958 to continue work previously sponsored by the National Institute of Mental Health. Two members of the staff received research contracts in April, 1958 from the U.S. Office of Education, one in Parent Education and the other in the Development of Language and Thought Processes of Deaf Children.

Nursery School, Kindergarten and University Village Play Center—During 1956-57 the average enrollment of the Nursery School was 48 children per quarter, and 72 children per quarter in 1957-58. The increased enrollment in 1957-58 was due to operating the Nursery School on the basis of half-day sessions, with additional children coming in the afternoons. These additional children have expanded the opportunities for observation by University students and increased research possibilities by graduate students and staff. The Kindergarten enrollment averaged 25 children per quarter in 1956-57. On July 1, 1957 the Kindergarten was transferred administratively to the University Elementary School to coordinate its program and service more closely with the University Elementary School. As in previous years the Nursery School was in session during the first Summer term each year. The University Village Play Center, on a half-day plan, included an average enrollment per quarter of 49 children in 1956-57, and 42 children per quarter in 1957-58.

Instruction and Enrollments—At the time of the Institute's attachment to the College of Education, the Nursery School-Kindergarten-Primary program of teacher education, conducted for years by the Institute in cooperation with the College, was transferred to the College's Department of General Education. The move was planned to permit the closer coordination of the NKP program with the College's growing program in Elementary Education, instituted some years ago and to encourage the Institute's greater concern with basic research and instruction in Child Development. For 1956-57 the total enrollment in Institute classes on the campus, both undergraduate and graduate, was 2819, and for 1957-58 was 2547. Six students received Ph.D. degrees, and nine received M.A. degrees with majors in Child Development.

Parent Education and Parent Consultation Service—The Parent Education program is briefly summarized in the following table.

	1956-57		1957-58	
	No.	Enrollment	No.	Enrollment
Extension Courses				
Credit	6	127	11	158
Correspondence Courses				
Credit	4	70	4	44
Non-credit	2	32	2	52
Study Groups for Parents	10	1652	12	2576
Lectures to Parent Groups	68		49	
TV Presentations			13 (KUOM)	
Radio Talks	2 (KSTP)		0	
Parent Consultation Service	69 families		87 families	

Publications—During the biennium, members of the Institute staff published 47 scientific and professional articles, and seven popular or semi-professional articles, exclusive of book reviews. Several of the Institute Parent Education leaflets were revised and reissued. The University of Minnesota Press issued the eighth edition of "Child Care and Training," under the authorship of Marion L. Faegre, John E. Anderson, and Dale B. Harris. One important research contribution appeared in the Institute's monograph series.

Other Activities—In the biennium, members of the staff gave 345 lectures or addresses to various groups, societies and organizations, both lay and professional. As in previous years, the Institute provided exhibits for organizations, radio and TV programs, and a newspaper feature going to many Minnesota weeklies. Tape records of discussions on the guidance of children continued to be used by radio stations and study groups. Members of the staff served on the editorial and governing boards of many scientific and professional societies, advised private and public agencies and participated in national, state, and local programs for the betterment of children.—DALE B. HARRIS, *director*

SCHOOL OF BUSINESS ADMINISTRATION

The School of Business Administration has continued its growth during the past biennium at a rate somewhat faster than the all-university rate. The strength of the faculty has been materially increased and their services expanded, in response to requests from state and federal agencies. The research program is expanding as more of the younger members of the faculty are drawn into research projects. The prospect of a new building is heartening to the faculty working under severe handicaps in office and classroom space.

Research—Faculty research activities expanded substantially under the increased appropriations by the Legislature and the first benefits under the Ford Foundation Five-Year Grant. Many of the younger members of the faculty received the needed encouragement for research and relief from heavy teaching responsibilities through these two funds. The subjects of research cover the range of the faculty interests and the results have begun to appear in publications, including the "Business News Notes."

Three of our faculty members won a coveted one-year Ford Faculty Research Fellowship, and one man won a Merrill Foundation Fellowship. Several of the younger members of the faculty received Ford Fellowships to aid them in their graduate work.

Students and Faculty—The undergraduate enrollment in the School of Business Administration at the close of the biennium was 848, an increase of 88 in the two years. Although the biennium closed in a period of economic hesitancy, our graduates have found places in the business world, although not all of them realize their first choice. We anticipate an increase in our graduate enrollment, as the graduate program becomes more firmly established.

This is the first biennium in a decade which has not witnessed at least one retirement. This signals the complete replacement of our pioneer faculty, and all but five of their successors have been appointed to the senior faculty since the Second World War. Only two members resigned from the senior faculty to accept positions in other universities. The substantial improvement in University salaries during the past biennium had much to do with this low resignation rate. A number of new appointments have been made, of able young men who have added to the vigor and productivity of the faculty.

The professional competence of our faculty is recognized in an increasing number of calls for services to governmental bodies at all levels, as well as consulting services to industry. Our members have been called upon to sit on various committees and commissions and to direct research in special studies for various agencies. There is no limit to these demands, except the time and strength of the faculty and their primary obligation to the teaching function of the University.

After almost 40 years of informal organization, the size of the faculty and the variety and complexity of its activities made a more formal organization necessary. The simplest possible form was chosen and two departments were created, Business Administration and Economics. The adjustments are not yet complete, but the benefits of this departmentalization have appeared in a sharper focus of interest and responsibility in curriculum planning in the two respective fields.

Instructional and Professional Plans—Two faculty research seminars were held in the past two summers with the aid of the Ford Foundation. These seminars brought teachers of economics from colleges in this region for a revitalization of their research interests and a general refreshing of their contact with current literature and current thinking. A somewhat similar undertaking is being explored in the field of economic education.

The special summer program in management for the Graduate School of the Navy, which the School of Business Administration created on the Duluth Campus, has now been taken over entirely by the Navy at its Graduate School at Monterey, California. Faculty members of the University aided in the transition to Monterey, but the Navy has now taken over the instruction by its own staff.

With timely help and encouragement from the President's Office, the groundwork has been laid for an executive development program to begin in the fall of 1959 and to be geared to the needs of Minnesota business firms. This may ultimately lead to a special intensified five or six weeks summer course, using the attractive residence facilities at the Duluth Branch, but the initial effort will be on a program which will not require prolonged absence of the conference students from their jobs.

On recommendation of the faculty, and approval by the Regents, the undergraduate degree has been changed from "Bachelor of Business Administration" to "Bachelor of Science in Business." This is actually a reversal of a change made in 1928 and signalizes a modification of the curriculum, with greater emphasis on basic concepts. There will be a gradual strengthening of the graduate program, leading to the "Master of Business Administration" and the "Master of Science in Business." The graduate program will emphasize professional training for management, as well as professional training for staff services. This will widen the scope of services by the University to graduates from liberal arts colleges, as well as from our own College of Science, Literature, and the Arts, who seek professional preparation for business after the liberal arts degree.

The change in degree is the result of extended study by our Long-Range Survey Committee, whose work will be carried on by related committees in the two departments. These committees will also continue their study of ways and means of maintaining high efficiency of instruction, without extra burdens on the faculty, as our enrollment increases.—RICHARD L. KOZELKA, dean

GRADUATE SCHOOL

General—Graduate education faces adjustment internally and in relation to developing needs of society. Whatever the adjustment, every good graduate school has firm elements of strength and unity. One is purpose: the educating of people to top responsibility in many fields and professions. Coupled with this is the drive to extend the boundaries of knowledge and to train new generations in ways of acquiring and transmitting knowledge.

Elements of strength include a faculty of distinction marked by productive scholarship; selected students of high promise; rich basic facilities and resources now involving costs unprecedented in research and educational history; and high standards of scholarly and instructional excellence. Strength and unity are increased by the buttressing of one good department by other good related departments and by bridges of communication between them; a favoring institutional climate—essential elements of which include freedom to inquire, think, write, and speak; probing faculty self-scrutiny; and a University leadership that does not fail to place first things first. I would emphasize always the spirit of inquiry bred by living on the edge of discovery, and the courage not to be immobilized by patrician traditions under which half our subject fields were scorned as interlopers not many years ago.

No review of graduate education today can fail to look at some of the larger problems confronting us as we face the decade ahead. These include the need of intensified basic research, and quality training for such research; the preparation of an adequate supply of scientists and technologists without an attendant confusion of basic science and engineering; a concurrent emphasis on the humanities and social sciences, with awareness that the road

to strength in the kind of country and world we believe in is many-laned and that educational imbalance is a national hazard; stress on the interrelations of fields and disciplines; improvement in the preparation of college teachers; study of the problem of providing well-trained teachers for the expanding needs of the coming decade; and readiness for expansion in faculties, funds, and facilities.

The urgencies of the future call for better and earlier identification of high potential talent, with an expansion of scholarships and fellowships; the cutting down of the time that elapses between the Bachelor's degree and the attainment of the Ph.D.; revision of rules and regulations no longer relevant to modern graduate study; curricular reviews alongside experimentation with new programs as they are needed and warrant trial; better standards of scholarly writing; greater inter-university co-operation alongside the high specialization of our age; and increasing effectiveness in international student exchange, with emphasis upon a two-way passage. These are some of the trends and challenges I discern as I turn to a biennial review of the activities of a very busy graduate school.

Enrollment and Degrees Granted—The true measure of graduate enrollment is not the academic year, but a full year including the summer session—that is, the total number of individual graduate students in residence at one time or another during a total year. For the biennium here under review, there were 5,736 graduate students in 1956-57 and 5,921 in 1957-58—an average of 5,828, representing an increase of 4.35 per cent over the previous biennium. The figure of 5,921 for 1957-58 is an all-time high and is slightly above that for the previous peak year, 1950-51. Turning to the picture of the academic years, statistics based upon the fall quarter alone do not give the true picture. The total number of graduate students for the academic year 1956-57 was 3,649, and for 1957-58 it was 4,028. The latter year is the first academic year in the history of the Graduate School in which more than 4,000 individual students were enrolled. Further details are presented in Table I. The figures as a whole do not reflect any vast upsurge in graduate enrollment, but two generalizations may safely be offered. One is that the expansion predicted for the coming decade is definitely under way, though it appears to be only in its earlier stages. The second is that the enrollments here reported rank the Graduate School among the largest in the United States.

In 1956-57, 791 Master's degrees and 239 Ph.D. degrees were granted—a total of 1,030 advanced degrees. The figures for 1957-58 were 781 Master's degrees and 220 Ph.D. degrees—a total of 1,001. We find a marked increase in the number of Master's degrees over the previous biennium—in numbers, 178, or 12.76 per cent. There has been a lower proportion of Ph.D. degrees in relation to the total number of graduate degrees granted (22.59 per cent as compared with 24.64 per cent for 1954-56). It may be of interest, when appraising these figures, to note that the National Research Council has recently published a statistical report on *Doctoral Production in United States Universities 1936-1956*, and that in that period Minnesota produced 2,839 Ph.D.'s, or 2.9 per cent of the national total and stood in the 11th position numerically.

TABLE I. GRADUATE SCHOOL STUDENTS IN RESIDENCE
DURING THE YEARS 1956-57 AND 1957-58

Classification	1956-57			1957-58		
	Men	Women	Total	Men	Women	Total
Fall, Winter, and/or Spring	2162	481	2643	2396	509	2905
Summer Session only	1070	371	1441	921	357	1278
Both Fall, Winter, Spring and Summer Session	814	192	1006	920	203	1123
Mayo Foundation	618	28	646	596	19	615
Totals	4664	1072	5736	4833	1088	5921
Totals, Academic Year (exclusive of Mayo)	2976	673	3649	3316	712	4028
Total Individuals in Two Summer Terms, less duplicates (exclusive of Mayo)	1884	563	2447	1841	560	2401

Four "Big Ten" universities had in this period a greater Ph.D. production than Minnesota: Wisconsin, Illinois, Ohio State, and Michigan.

Table II presents a picture of the geographic origin of the graduate students in 1956-58, and here there is not much change from the preceding biennium. More than half our students came from Minnesota and about one tenth from the economic area adjacent to Minnesota; a little more than one fifth from other parts of the United States; and close to one seventh from other countries of the world. In the grand totals, 63.79 per cent of the graduate students were from Minnesota and its neighboring areas.

We have had a considerable increase of foreign students, evidencing both the international repute of the Graduate School and the larger factor of the growing leadership of American education in the world. More than 60 countries were represented among the foreign students in each year of the biennium, and from each of eight countries we have received 20 or more students. In 1957-58 there was a very considerable number from the Asiatic countries (404); an increasing number, compared with 1954-56, from Europe (172); a considerable number from our immediate neighbors, particularly Canada (154); and lesser numbers from Latin America, the Middle East, Africa, and Oceania. Many of the problems relating to foreign students have been met with skill and sympathetic interest by the office of the Foreign Student Adviser.

TABLE II. GEOGRAPHIC ORIGIN OF STUDENTS
REGISTERED IN THE GRADUATE SCHOOL

Group Committee	Minnesota Residents	Economic Area	Other United States	Foreign	Total Number of Students
<u>1956-57</u>					
Agricultural Science	143	42	122	116	423
Biological Science	26	11	19	10	66
Education					
Minneapolis Campus	1412	206	212	56	1886
Duluth Campus	89	13	2		104
Language and Literature	244	50	88	23	405
Medical Science					
Minneapolis Campus	226	47	132	118	523
Rochester Campus	85	66	340	139	630
Physical Science	351	49	158	163	721
Social Science	474	90	161	117	842
Other					
Minneapolis Campus	56	10	42	12	120
Rochester Campus	2	1	12	1	16
Minneapolis Total	2932	505	934	615	4986
Duluth Total	89	13	2		104
Rochester Total	87	67	352	140	646
GRAND TOTAL	3108	585	1288	755	5736
<u>1957-58</u>					
Agricultural Science	166	41	114	132	453
Biological Science	42	10	31	7	90
Education					
Minneapolis Campus	1328	211	211	60	1810
Duluth Campus	86	18	3		107
Language and Literature	234	44	107	34	419
Medical Science					
Minneapolis Campus	227	47	156	129	559
Rochester Campus	72	64	322	142	600
Physical Science	401	74	184	209	868
Social Science	511	92	135	137	875
Other					
Minneapolis Campus	65	9	35	16	125
Rochester Campus	2		13		15
Minneapolis Total	2974	528	973	724	5199
Duluth Total	86	18	3		107
Rochester Total	74	64	335	142	615
GRAND TOTAL	3134	610	1315	866	5921

Program Planning and Changes—The need for curricular flexibility and program planning, underlined in preceding reports, has been amply illustrated during the biennium. One example is the field of Statistics. As long ago as 1943 the Graduate School, after careful study, authorized a program of study leading to the degree of Ph.D. with a major in Statistics, and a special graduate faculty committee was established to supervise it. The subject was of concern to scholars in some nine or ten departments and areas, and the graduate committee and graduate programs forwarded co-operation and understanding among widely separated subject fields. For some time the committee has been convinced that the progress of teaching and research in Statistics could be advanced if a departmental nucleus for this field of study were created. At the end of the biennium recommendations presented by the committee and endorsed by the Graduate School resulted in the establishment of such a department in the College of Science, Literature, and the Arts. The chairman of the graduate committee has been appointed as chairman of that department for the first year of the new biennium.

Among new major fields for the Ph.D. are Sanitation and Epidemiology, the former designed to prepare selected graduate students for research, teaching, and administrative positions in the area of environmental health. Students majoring in Epidemiology will choose their minor in some field other than clinical medicine. An important advance in Pharmacy, recommended by Dean Hager and his faculty, is the establishment of majors for the Master's and Ph.D. degrees in Pharmaceutical Technology, a field with significant scientific potentialities and one that faces an increasing demand for trained personnel. Yet another new Ph.D. program is that in Mineral Engineering. Library Science has been recognized as an appropriate minor field for the Ph.D. Two new "Specialist" programs have been added to the earlier program in Educational Administration, authorized in 1953 for school superintendents carrying their studies beyond the Master's degree but short of the Ph.D. These new fields are School Psychological Services and Elementary School Administration. Significant curricular reorganizations have taken place in Neurology and Psychiatry, Economics, and Business Administration, and a program for the Master of Science degree alongside the Master of Business Administration degree has been authorized.

How far-reaching the scope of graduate education at Minnesota is may be illustrated by the fact that the Ph.D. degree is offered in no fewer than 102 major fields and the Master's degree in 123.

Graduate Fellowships and Assistantships—One result of critical national needs is a realization that fellowship programs for graduate students must be expanded. There are signs that a program of magnitude will soon be instituted by the federal government. Meanwhile the Woodrow Wilson Fellowships have been increased in number and expanded to include science as well as the humanities and social sciences. Under this plan, established with the purpose of forwarding the education of potential college teachers, four fellowship holders attended the University in 1956-57 and eight in 1957-58. Under the revised plan, applicable in 1958-59, additional funds will be supplied the Graduate School in proportion to the number of Woodrow Wilson fellows in residence, on the basis of which further fellowships for Ph.D. students will be awarded. During the biennium 42 new fellowships were established in Graduate School areas, but the net gain was only 26, since 16 other fellowships were discontinued.

The Greater University Fellowships, with generous alumni support, are intended to aid students in their thesis year for the Ph.D. Five graduate students held such fellowships in 1956-57, an equal number in 1957-58, and the stipend has been increased to \$1,890 per year (plus coverage of tuition). The Norwegian Luncheon Club, through all the years since World War II, has supplied special Norwegian-American Graduate Fellowships—for graduate students from Norway—and there were two each in 1956-57 and 1957-58. Special grants have also been made to graduate students from South and Southeast Asia in varying amounts through the John Cowles Foundation Fellowships. The University has continued to support a program of tuition scholarships to aid selected foreign students.

Associate Dean John G. Darley has continued to supervise and process student applications for Fulbright Fellowships. National Science Foundation Fellowships, awarded to graduate students for study at Minnesota, numbered 21 in the first and 20 in the second year of the biennium, with a spread in such areas as agriculture, animal husbandry, botany, chemistry, dairy husbandry, earth sciences, geology, mathematics, medicine, physics, and psychology. Much aid to graduate students takes the form of teaching and research assistantships, which are important also for their contribution to graduate study and experience. Stipends for these appointments have been increased during the biennium to the advantage of students and of departments seeking competent student aid. For assistants on a half-time basis for an academic year, the stipend was \$1,593 in 1956; the new rate, effective for 1958-59, is \$1,890—an increase of 18.6 per cent.

The picture of fellowships and assistantships is brightening, but there are pressing needs for additional fellowships, especially in the humanities, and it is hoped that these will receive increased attention in the future.

Social Science Research Center—For its eleventh annual public discussion series (in the spring of 1958), the Center ventured into the field of television. There were 13 half-hour presentations, centered in the theme "The Proper Study of Mankind," which attempted to show the scope and meaning of the social sciences through illustrations and discussions of current research at the University. Staff members from 13 different departments participated in these programs, which were moderated by Dean Darley of the Graduate School. The 1957 public discussions of "Society's Stake in Mental Health" were presented as a radio series during the spring and summer of 1957 and also were brought out in booklet form. This publication met with wide success, and requests from libraries, organizations, and individuals throughout the country exhausted the first printing within six months.

Currently 11 Ph.D. candidates are enrolled in the special Ph.D. program designed to prepare students for research careers. The Center also has helped to secure continued federal assistance for graduate training of prospective vocational rehabilitation personnel.

As in past years, the Center has assisted social science staff in obtaining funds for the support of research. In March 1954, it reported that during the first seven years of its existence, it had aided in bringing over \$1 million in funds to the University; and the past biennium saw the attainment of the \$2 million mark—evidence of accelerated success in securing substantial recognition for the work of University social scientists.

Each year, the Center brings up to date its inventory of social science research projects in progress at the University. The inventory is being used increasingly by faculty members and outside agencies as a source of information on current research topics and personnel.

The program of the Center depends largely upon the co-operation of the social science faculty, especially those serving on its committees. The Advisory Council and Executive Committee, the governing bodies of the Center, were chaired by Professor Robert Jones during 1956-57 and by Associate Professor Clarke Chambers during 1957-58; and Dean Darley continued to serve as executive secretary.

Special Lectureships—The Guy Stanton Ford Lectureship was inaugurated in the spring of 1958 with three public lectures on "The Main Strands in Indian History" by Dr. T. G. P. Spear of Cambridge University. This lectureship, commemorating the notable services of Dr. Ford as dean of the Graduate School and president of the University, will hereafter be an annual event, supported by interest on a capital fund built up through contributions by friends and admirers of Dr. Ford. The field of the initial lectures seemed especially appropriate because of the enrichment of the University's research resources through the Ames Library on South Asia and also because of the broad interests of Dr. Ford himself as scholar and educator.

Another high-level lectureship was established in the Graduate School during the second year of the biennium to honor the late Joseph Warren Beach, and this series, for which generous gifts have been received from the family and many friends of Dr. Beach, will be initiated during the academic

year 1958-59. The lectures will be given annually by noted authorities in the field of literature, with special emphasis upon contemporary poetry, fiction, or criticism, recalling some of the major interests of Professor Beach through his many years of influential teaching and his distinguished work as a creative scholar.

Faculty Summer Research Appointments and Single-Quarter Leaves—The plan for summer appointments, inaugurated in 1946, has been carried into its 13th year. In 1957 and 1958, 22 recipients brought to a total of 146 the number of faculty members who have enjoyed these summer opportunities for research, writing, and creative work. Once again the range of projects was wide, including Romance languages, sociology, mechanics and materials, history, botany, zoology, chemistry, library science, anthropology, English, interdisciplinary studies, philosophy, psychology, geology, music, chemical engineering, political science, and journalism. Faculty reports emphasize freedom of time for intensive work and University encouragement as among the most appreciated values of the program, which, the record shows, has been productive of many books and articles of excellent quality. The Graduate School has taken a continuing and active interest in the University's plan for single-quarter leaves, the purposes of which are comparable with those underlying the summer plan.

Register of Ph.D. Degrees—In the spring of 1957 the Graduate School brought out a roster of all those who earned the Minnesota Ph.D. degree in the period from 1938 to 1956, supplementing two earlier publications which listed the University's Ph.D.'s from 1888 to 1938. During the sixty-eight years from 1888 to 1956, the University awarded 3,663 Ph.D. degrees. Of this total number, 2,542, or 69 per cent, were granted in the period covered by the new roster. The competence of the graduate faculty and the scope of its offerings, coupled with the needs of society and the growth and development of a great university, have brought about a remarkable increase in the numbers of students who thus have completed its requirements for the degree of Doctor of Philosophy.

Hormel Institute—The year 1957 marked the 15th anniversary of the founding in the Graduate School of this important Institute, which began with a single research project, gradually built up a splendid laboratory, and now has a staff of nearly 50, with extensive and important researches under way. Directed by Professor Walter O. Lundberg, the Institute functions with a board of which the dean of the Graduate School is chairman. One member of the board, Dr. Hiram E. Essex of the Mayo Foundation, has now retired from active service, and a new Mayo representative will be appointed to his place. The Institute has continued its practice of engaging in researches co-operatively with other divisions of the University, including departments on the Minneapolis and St. Paul campuses as well as the Mayo Foundation. Its research emphasis in general has shifted during the biennium toward studies in the chemistry and biochemistry of lipide materials, and currently 17 of the 21 research projects now active are concerned with this field, one for which the Hormel Institute is now recognized as an international center. Since separate annual reports are published by the Hormel Institute, it is not necessary here to review its many research projects in detail. It may be noted that they fall into the following broad categories: (1) the fundamental chemistry and biochemistry of lipide materials; (2) food science, including nutrition, quality improvement, and microbiology, with special reference to lipides; (3) the role of lipides in relation to specific health problems, with major emphasis on lipide deficiencies and on atherosclerosis and heart disease; and (4) the continued development of miniature pigs for medical and nutritional research purposes, a notably successful project. An annual flow of research publications testifies to the vigor of the research carried on by the staff of the Institute. Preliminary plans are now under consideration for the building of a new laboratory to replace the present building, since the researches, the extensive special equipment, and the enlargement of the staff will soon make a change inevitable. The continued support and encouragement of the Hormel Foundation have proved a factor of vital importance to the strength and high standing of the Institute as a unit of the Graduate School.

Dight Institute—The biennium witnessed substantial progress, under the direction of Professor Sheldon C. Reed, in the work of the Dight Institute for Human Genetics. Two years ago attention was called to the need of ongoing University support for this enterprise in the important field of research and counseling in human genetics. The allocation of budget support in 1957 has made it possible for the Dight Institute to place on a firm basis the appointment of the assistant director, Dr. V. Elving Anderson, whose interest in the Institute led him to donate his services in 1956.

The long-continued researches of the Institute on the biology of human breast cancer led to the publication in 1958, through the University of Minnesota Press, of a volume entitled *Variables Related to Human Breast Cancer*. Meanwhile Dr. Reed's authoritative book, *Counseling in Medical Genetics*, has brought to the Institute many interesting counseling cases which would not otherwise have come to its attention.

Cedar Creek—This forest, dedicated to research and education, has now been officially named the "Cedar Creek Natural History Area." Situated about 30 miles north of the University, it is an essentially wild region containing a rich array of natural habitats—open grasslands, evergreen and deciduous woods, dunes, swamps, lakes, and streams. Its acquisition and development have been a joint project of the University and the Minnesota Academy of Science. Ownership is vested in the University, with administration by the Graduate School, and advisory aid from committees of the Graduate School and the Academy. Professor A. N. Wilcox is the director. The generous grant of a quarter of a million dollars by the Max C. Fleischmann Foundation of Nevada has made possible the recent acquisition of 1,200 acres of land, bringing the total to more than 4,000; the building of a field laboratory and headquarters; and some aid in the maintenance of the project. The laboratory building, dedicated on September 15, 1957, contains a general purpose laboratory and assembly room, three smaller research laboratories, a records room, an office, dormitory rooms for the accommodation of up to 16 persons, and a faculty apartment.

Major researches now being conducted at Cedar Creek include studies of the energy relations of terrestrial ecosystems, the external parasites of small mammals, the ecological distribution of grassland birds, and pleistocene pollen. The use of the area for field trips by classes, limited in the past to day trips, has now been augmented. Classes from ten colleges in the state in addition to the University have visited the area on trips of one to three days, and organizations of science teachers, biologists, conservationists, ornithologists, foresters, and horticulturists have met at Cedar Creek to learn about its facilities and explore its potential uses.

Research—A strengthening of University facilities for research was achieved by the installation, in the second year of the biennium, of a high-speed digital computer (the Remington-Rand Univac 1103). This computer, dedicated on June 3, 1958, constitutes an important part in a co-ordinated program to provide numerical analysis facilities for teaching and research and represents the culmination of several years of work and study by faculty members and committees. An important recommendation of the University Self-Survey Committee was for the installation of a computer and the co-ordination of all facilities in this field. Similarly, the Institute of Technology has worked toward this goal through special committees and through maintaining a computing center with some equipment. For many years the School of Business Administration has operated a tabulating equipment division, with IBM machines as statistical and analytic devices; and scattered IBM installations have developed elsewhere on the campus. The demand for numerical analysis services has increased steadily, and many research programs have moved into areas in which high-speed computers with large storage or "memory" capacities are needed. Thus the University was aware of the growing urgency to make such equipment locally available.

Taking into account faculty recommendations, President Morrill in the spring of 1957 appointed an all-University Advisory Committee on Computer Facilities and charged it with responsibility for the development, co-ordination, and use of such facilities; the acquisition of new ones; and the fiscal

aspects of their co-ordination and expansion. The Remington-Rand Corporation, which had generously supported the University's research program by an allocation of free time on its own digital computers, greatly advanced the project by making available at a substantial reduction in cost one of its models of the 1103 series. The Hill Family Foundation, the National Science Foundation, and the Sloan Foundation made grants to aid the University in purchasing and installing the computer. The Graduate School and nearly all the major colleges of the University also allocated substantial sums for the same purpose. The central administration then covered the costs as needed beyond the total of all the contributions and grants made earlier.

The problems of the Computing Center illustrate a generalization made in previous biennial reports that inevitably the cost of the research enterprise is moving upward, not alone in capital expenditures and in supplies but also in personnel. As we enter more fully into the field of instrumentation we should open the way to new pioneering on research frontiers. Meanwhile, with interlocking faculty committees and appraisal of research requests from throughout the University, the Graduate School has continued to administer various research funds and to function informally as a co-ordinating agency and information office for research programs that reach far beyond its funds in scope and impact.

The General Research Fund—This important fund totaled \$90,000 in the first year of the biennium and, thanks to splendid legislative interest and generosity, \$100,000 in the second. It supported 75 projects during 1956-57 and 64 in 1957-58. As in previous years, the fund has been general in its range, with projects in various major fields, such as the biological and physical sciences, education, psychology, other social sciences, and the humanities. One of its merits is that it serves a seedbed function, and it is not uncommon for projects, after an initial period, to find further support from external sources.

Special research subjects investigated with support from this fund have included a linguistic atlas of the upper Northwest, aural phonetic synthesis, chromosome translocations in barley, auxin metabolism in plants, the dating of Minnesota rocks, fuel spray atomization in continuous flow air streams, solar availability studies, enzyme research, ferns and plants in northeastern Minnesota, the photochemistry of complex molecules, psychometric interpretation, the stratigraphy of lake deposits, the sculpture of Houdon, railroad productive functions, the balsam fir of North America, a study of Radio Free Europe, the philosophy of physics, the study of high ability graduates of suburban high schools, automobile fatal accidents, and community reaction to educational television. These are illustrative of far-flung faculty researches aided through this fund.

Medical and Cancer Research Fund—This legislative fund likewise received added support in the second year of the biennium—an increase from \$67,500 to \$75,000, and it made possible the support of 58 projects in 1956-57 and 56 in 1957-58. This fund has been so traditionally used as a starting point for researches that most of the currently outstanding researches in the medical fields were originally launched through its aid—a tribute to the state legislature and its understanding interest in providing support. During the two-year period, the numerous projects subsidized have included such topics as membranes as tools in biological research, genetic mechanisms in streptomycetes, tissue electrolyte exchange, electron microscope improvement, various complications of diabetes, a study of general medical admission patients, the mechanism of action of B vitamin biotin, new techniques for heart surgery, an atlas of capillary anatomy, creatine metabolism, the chemistry of human fibrinopeptide, the absorption of orally administered drugs, the relations between nutrition and resistance to toxic agents, and an exploratory study of electromagnetic brain stimulation. Yet other projects have related to histochemical techniques, bacterial-type hypersensitivity in virus disease, metabolic investigations of advanced cancer, the development of an operation for aortic insufficiency, plaster of Paris in bone grafts, and the peptic ulcer problem. These topics may indicate the variety of research attacks on intricate problems bearing a vital relationship to human welfare.

The Research Overhead Reserve Fund—This fund makes possible grants in support of research in various areas of University interest. It facilitates major equipment purchases, supplementary grants for researches that may have external support but face critical needs, team projects, and studies requiring an initial stimulus before they can compete effectively for outside support. Through this fund the Graduate School aided in setting up the University's Computing Center. Other projects supported in the two-year period include the Faculty Summer Research Appointments, a study of high-speed gas dynamics with hypersonic shock tube and tunnel, photosynthesis and phosphorylation, a solar furnace for radiation studies, reconstruction of a mass spectrometer, physiological problems, investigations of liquid helium, an extensive work on administrative law, researches on interpersonal factors in social relations, the mechanisms of biological production in streams, studies in industrial relations, and low temperature recovery phenomena in metals. These and other studies, many involving unusual equipment needs, have been greatly advanced by means of assistance from this source.

Minnesota Institute of Research—This effective fund also was increased by legislative action; during the first year of the biennium the amount was \$30,000 and during the second \$32,500—and the support is directed especially to problems having to do with the state's resources. The numbers of projects are not large—14 in 1956-57 and 17 in the following year—but they touch areas of basic importance to the Minnesota future. Projects fall into such large fields as soils; forestry; mechanical, agricultural, electrical, mineral, metallurgical, and mining engineering; economics; zoology; geography; and geophysics. Researches supported by the Institute include metropolitan land-use investigations, studies of Minnesota sulphur deficient areas, tamarack reproduction, soil nitrogen, problems relating to irrigation pipe and drain tile, fishery resources, nickel and copper in soils of glacial origin, iron ore studies, solar energy research, compounds isolated from extractives in aspen, and conductance studies of amino acids and peptides.

An advisory committee under the chairmanship of Dean Spilhaus reviews the project proposals. This committee arranged an important two-day conference, held under the sponsorship of the Graduate School at Stillwater in December 1956, with the purpose of exploring Minnesota research problems and possibilities. Some 18 leaders of industrial research met with 25 faculty scientists for a series of talks and open discussions centering in the state's mineral resources, the chemical industry, industrial microbiology, industrial utilization of agricultural products, special needs in the physical sciences, forestry products, water resources and utilization, and manpower-problems.

The Nonmedical Research Fund—This fund covers a wide range of faculty researches and normally involves grants smaller than those heretofore mentioned. In general, the Graduate School through this fund aids research that cannot readily secure external support. In 1956-57 aid was given to 49 projects and in 1957-58, to 63, chiefly in the social sciences, humanities, and certain basic sciences.

Summer Session—The enrollments of graduate students have not yet reached the peaks of the period 1948-52, but they evidence the strength of the Summer Session faculty and the importance of its programs. Institutes for high-school and college teachers of biology held at the Lake Itasca Forestry and Biological Station, with grants from the Hill Family and the National Science foundations, have been increasingly successful, as have institutes for high-school teachers of the physical sciences and mathematics conducted on the Minneapolis campus. A special program in statistics, with a distinguished visiting professor, marked a new departure in 1956.

Duluth Branch—The graduate program at the Duluth Branch, initiated experimentally nine years ago, has broadened the scope of its services to teachers. Graduate enrollments are relatively small during the academic year, but in the summer they comprise 10 per cent of the total Duluth enrollment. There were 104 graduate students at Duluth in the summer of 1956 and 107 in the summer of 1957. Up to June 1958, a total of 75 graduate students had earned their Master of Arts degree (Plan B) through work done in the Gradu-

ate School on the Duluth campus—from 1956 to 1958, there were 31. Education, and curriculum and instruction, continue as the fields in which major work is offered at Duluth, but the graduate faculty, courses, and credits are increasing in number. There are 12 faculty members accredited as advisers for graduate students, and 65 of the 150 Duluth faculty members are members of the Graduate School faculty. There are 18 or more approved graduate credits now offered in each of the following 11 areas of study: education and curriculum and instruction, educational psychology, industrial education, art, English, speech, chemistry, science, geography, history, and political science; and lesser numbers of credits are available in about a dozen other fields. Several students have taken course work on the Duluth campus and then completed their requirements for the Master's degree on the Minneapolis campus. In 1957-58, six new courses in related fields designed especially for high school teachers of science were approved, and these have been taught in conjunction with the Science Mathematics Institute sponsored by the National Science Foundation. In recognition of the growing demand for school counselors, arrangements have been made for graduate students at Duluth to take several courses which are applicable to Master's degree requirements in Educational Psychology. Special graduate courses are given each summer as a service to teachers in improving their qualifications in speech correction, remedial reading, and teaching mentally retarded children. As the graduate work has expanded, the Duluth faculty has demonstrated an increasing interest in research.

The record makes it clear that the graduate program at Duluth, developed in close and cordial co-ordination with the total graduate program of the University, is moving forward vigorously and successfully, serving particularly the teaching profession in the northeast area, and contributing to the vitality of the teaching and research enterprise of the Duluth Branch and of the Graduate School as a whole. One of the basic needs for still further advance of the graduate enterprise at Duluth is a major enrichment of its library and reference materials and sources.

Mayo Foundation—The Mayo Foundation for Medical Education and Research continues to be a very important division of the Graduate School. Its activities and progress, the subject of a separate report by the director, Dr. Victor Johnson, demonstrate the vigor and quality of the Foundation. Co-ordination with the medical graduate program at Minneapolis is achieved through a joint committee and various co-operative arrangements with respect to the reading of theses, oral examinations, and other matters. An all-University committee has been appointed by the President to re-study the interrelations of the Mayo Foundation with the University with a view to strengthening procedures and techniques of co-operation, and recommendations from this committee will be made during the new biennium.

Administration and Staff—The Graduate School is a co-operative University unit involving faculty, students, and administration. For such success as it may have attained during the biennium, major credit goes to the faculty, graduate group committees, special committees, and the Executive Committee for their scholarship and integrity in the handling of tasks, large and small, routine and policy—and also to President Morrill for his unflinching support of graduate education and research. The committees have processed innumerable petitions and programs and have helped to solve many problems. I extend my thanks to the President, the committees, and the graduate faculty. The Executive Committee at the close of the biennium consisted of Professors W. Donald Beatty, Norman J. DeWitt, Marcia Edwards, Stuart Fenton, Albert W. Frenkel, Lester E. Hanson, Maurice B. Visscher, with the dean serving as chairman, the associate dean as assistant chairman, and Miss Margaret L. Davis as secretary.—THEODORE C. BLEGEN, *dean*

The Mayo Foundation for Medical Education and Research

"Universities create knowledge and trained minds." There is no more succinct or complete definition of the functions of a University than this six word pronouncement of Sir Richard Livingstone, president emeritus of Corpus Christi College, Oxford. The Mayo Foundation considers this statement also

to define the relationship of the Foundation to the University. The Mayo Foundation seeks to contribute its due share to the total endeavor of the University in the creation of new knowledge through research and the education of trained minds to carry out the work of the nation and the world in medical and related areas at a superior level.

University Relations—The past year has witnessed an intensification of a desire for closer identification and integration of the Mayo Foundation and the Minneapolis Campus of the University of Minnesota. In the past year both in Minneapolis and Rochester there has been more concern for strengthened University relationships than has been evidenced in previous years.

There has been established in Rochester an *ad hoc* committee on University relationships to function in collaboration with a corresponding committee on the University Campus with a view of improving, increasing and strengthening the present contacts between the two portions of the University. New devices for closer integration are also being sought.

This committee consists of the following members from Minneapolis: Dean T. C. Blegen, Dean R. B. Howard, Vice-President W. T. Middlebrook, Dr. Maurice Visscher, Dr. Owen Wangensteen, Dr. Cecil Watson. The Rochester members are: Dr. H. B. Burchell, Dr. C. F. Code, chairman, Dr. K. B. Corbin, Dr. Victor Johnson, Dr. E. S. Judd, Dr. R. D. Pruitt, Mr. G. S. Schuster.

An imposing array of intimate contacts of the Mayo Foundation with the University may be listed. A few examples are common examinations of candidates for higher degrees, joint meetings of our Graduate Committees, visits of the senior and sophomore University Medical classes to Rochester, interchange of faculty lecturers, which was significantly increased last year, interdigitation of educational programs in the basic sciences, which needs considerable augmentation, and the new representation of Mayo Foundation in the University Senate.

It is anticipated that the deliberations and conclusions and recommendations of these committees will be of mutual advantage to the end that the University's functions of teaching and research will be better executed both in Rochester and Minneapolis.

Support of Training and Research—For many years there have been Mayo Foundation fellows supported with funds other than those of the Mayo Association or Clinic or Foundation. Fellowship grants have been received from such sources as the National Foundation for Infantile Paralysis, the Commonwealth Fund, the Rockefeller Foundation. Support of fellows has also come from such public agencies as the Department of Public Welfare of the State of Minnesota, the United States Public Health Service, the army, the navy, the air force. It is not new to have fellowship stipends provided by private foundations and government agencies, both state and federal.

But, significantly, such arrangements in the past have resulted from requests made to us, for example, by the state of Minnesota to train psychiatrists, by the air force to train surgeons or by investigators seeking training here under grants from the American Heart Association.

The important extension of this policy was the determination formulated during the biennium to actively seek such fellowship support, gradually, in limited areas, under appropriate safeguards.

Our applications have now been approved, and funds are in our hands, to provide augmented fellowship stipends to physical medicine (from the Office of Vocational Rehabilitation) and in psychiatry (from the National Institute of Mental Health). We have also received support in neurology (from the National Institute of Neurological Diseases and Blindness). These programs are in clinical fields in which national shortages of specialists have been found to exist and encouragement of physicians to enter the specialty has been deemed desirable. The support of a number of fellows in laboratory fields is also involved in certain research grants which have been made.

Academic Degrees—The administration and faculty of the Mayo Foundation seek to stimulate investigation and research by fellows. Each fellow is provided the opportunity to devote six or more months full time to one of the basic science disciplines in one or another of the scientific laboratories. During

such assignments fellows are encouraged to participate in research either independently or in collaboration with other fellows or a staff member. Much of this research culminates in a scientific publication. Fellows who are interested and who seem well qualified are encouraged also to employ their investigative experience and results for a thesis in partial fulfillment of the requirements for a Master's degree, or in exceptional cases for the Ph.D. degree. During the biennium ending June 30, 1958, there were 178 Master's degrees and nine Ph.D. degrees awarded by the University to fellows of the Mayo Foundation.

Fellows—Fellowship applications continued to be received in sufficient numbers so that selections of qualified appointees can be made. During the last quarter of the biennium (Spring, 1958) there were 496 fellows at the Mayo Foundation; of these 143 were in Internal Medicine, 105 in General Surgery and 248 in all other fields. There were 24 fellows on military leaves of absence.

Alumni—There are now more than 3000 alumni of the Mayo Foundation in every state of the United States, every province of Canada, and many countries in every continent abroad. A survey conducted in 1958 indicates that about 40 per cent of our alumni hold medical school faculty appointments on either a full-time or part-time basis. These appointments are held in 73 medical schools in the United States, nine schools in Canada, and in schools of 27 countries abroad. Nearly 1200 of more than 3000 alumni constitute this faculty group.

An Appreciation—The privilege and distinction of participating in the important work of the Graduate School of a great University are valued most highly by the faculty of the Mayo Foundation in Rochester. It is our purpose to justify the confidence of the University Administration in our efforts to teach in accordance with the best graduate standards and to add to man's knowledge of health and disease through research.—VICTOR JOHNSON, *director*

GENERAL COLLEGE

General—The expressed intention of those who founded the General College in 1932 was that its program of general education should be designed and taught by outstanding instructors from a broadly representative selection of all of the academic departments and colleges in the entire University. Administratively, the prevailing concept was that the director of the College, Dr. Malcolm S. MacLean, would act as coordinator of the program. The faculty serving under his general direction, however, still held academic rank, and drew their salaries from their own "home" departments.

This initial procedure was successful. A faculty was recruited from all of the then existing colleges of the University except the three professional schools of Dentistry, Law, and Pharmacy.

During the early years, some of the University's most distinguished faculty members taught courses in the General College. The list included the names of nine deans or directors and 12 heads of departments or divisions. A single example is that of the late Dr. Walter C. Coffey, for some 20 years dean and director of the Department of Agriculture, and subsequently President of the University. The only class Dr. Coffey ever taught in the University was the General College course, "Basic Wealth."

As time passed and enrollments grew, however, the General College began to acquire a faculty of its own. There were a number of reasons why this change took place. Some of the instructors from other colleges and departments, having performed yeoman service in organizing and teaching the new courses, became increasingly involved in their own departmental affairs and specialized interests. They understandably wished to be relieved of a responsibility which had progressed beyond the stage of early challenge and enthusiasm. In the General College itself, experience revealed a growing need for a "core" faculty with direct responsibility for giving full attention to curriculum development, student personnel work, and formulation of academic policy. Substantial grants from the Carnegie Fund and the General Education Board enabled the University to meet this need. The core faculty gradually increased in number, especially after the war, when it was necessary

to provide instruction for the flood-tide of students the University was committed to enroll. By the end of the biennium covered in this report, almost all "borrowed" instruction has been withdrawn from the General College.

Increasing enrollments and a growing faculty have led to development of a more detailed pattern of administrative organization within the college. Our report for the 1954-56 biennium noted the experimental establishment of a Coordinator's Council with regularly scheduled weekly meetings. This Council was intended to function as a channel of communication between the Dean's Office and individual faculty members. The experiment was so successful that a further step was taken during the 1956-58 biennium by establishing what has been named an Executive Council. Faculty members with rank of full professor, and those serving as heads of the various divisions of instruction in the college, serve on this council with the dean and associate dean. As was anticipated in 1956, the Council has provided "a clearer and more direct channel of communication in both directions"; it has served as "a forum for interim discussion of policies and procedures"; and it has given "further clarity and direction to the total activities and program of the college."

The heads of the separate instructional divisions of the college have kept its basic general education mission in mind as they prepared the materials from which the remainder of this report has largely been compiled.

Counseling Division—It was by no accident that counseling became an integral part of the educational program of the General College. Through counseling, a student may learn to assess realistically his own interests, abilities, aptitudes, and personality traits, and thus become capable of approaching the maximum level in his adjustment, self-development, and contribution. Therefore, in the General College, counseling is considered to be an integral part of the educative process for all students, not merely for those with problems. The counseling division has a small staff of professional workers available to those who voluntarily seek their aid. At the same time, the division supervises the academic advising of students. Advising is considered to be an important function of every General College faculty member. It is not an adjunct to teaching, but an essential part of every teacher's responsibilities.

The counseling division is responsible for selecting the aptitude and vocational interest tests that are administered to all entering students, and that form the basis of the information accumulated in each student's personal record folder. During the 1956-58 biennium, test batteries used in the past were revised, and a new battery was introduced in the fall of 1957. The battery is a trial battery in the sense that it will be used until evaluation and continued study of existing instruments lead to development and adoption of new ones. The professional counselors and faculty advisers attempt to interpret data from this battery to each student to aid him in making realistic choices and sound decisions as his academic career progresses.

During the 1958-1960 biennium, the division proposes to engage in several significant undertakings. Another faculty handbook, containing sections on the philosophy and curriculum of the General College, as well as descriptions of various administrative and academic policies, will be prepared. Staff members will schedule individual appointments with counselors in Twin Cities high schools for the express purpose of explaining and describing the role of the General College in the University. Finally, a very important five to ten year study of General College students will be started during the fall quarter, 1958. Meanwhile, the entire student personnel program will, as usual, be under continuous study.

Natural Science and Mathematics—During the 1956-58 biennium, this division of the General College has focussed its attention upon experiments with new course offerings, new teaching techniques, and meeting the problem posed by the shortage of experienced science and mathematics teachers.

For the past eight years, the division has been gradually developing a new, four-part program in mathematics for General College students, three parts of which are now in operation. A beginning was made with the establishment of special courses in the mathematics of business and investment transactions. During the past biennium, the courses in Applied Mathematics, including the mathematics laboratory, were revised and became a firmly established part of

the curriculum. A third part of our mathematics program came into being winter and spring quarters, 1958, when a course in statistics was offered experimentally for the first time.

These courses are designed to give our students an opportunity to study the branches of mathematics most useful to them. Many of these students would not be accepted in the mathematics courses given in other colleges, nor would they find these courses suitable for their purposes. Thus, our program fills a need particularly evident today, and all the classes our budget permits us to provide are filled to saturation quarter after quarter, in spite of a steady increase in the number of sections offered.

The Division has given much attention to evolving a systematic program of in-service training to young instructors. This training is directed at classroom techniques, the subject matter of our courses, and its unusual organization.

Literature, Speech, Writing, and Philosophy—During the 1956-58 biennium, this division of the General College directed the major portion of its activity toward evaluating the program in reading and writing which had been crystallized in a revised curriculum in the spring quarter, 1956. During any quarter in the General College, more than 40 per cent of the student body take classes in composition. The evaluation of these courses is elaborate and penetrating.

For the first time in the history of the college, a general education course in a foreign language was tried experimentally in the winter and spring of 1958. The course in French culture was intended to provide students with insights into a civilization other than their own. With this in mind, the students read about the French educational system, about French politics, about certain French authors and artists, and developed an elementary reading knowledge of the language. Student response to the course was overwhelmingly enthusiastic, as questionnaires revealed. Standardized tests in French were administered. Although their results are still being analyzed, tentative returns suggest that the students learned almost one year of high school French in a single quarter.

General Arts—This is the newest division of the General College, for it was established in 1956, when instruction in art and music was placed under the direction of a single head. This unification has been successfully accomplished, and its effects have already proven beneficial to faculty and students alike.

Two significant innovations in the division's music courses should be noted here. During the 1956-58 biennium, a General College choral group was reorganized and trained so successfully that it presented two excellent public concerts. In addition, the faculty has put recording tapes to new instructional use by recording music synchronized with explanatory comments and listening assignments, and employing them as teaching aids in the music classes.

Social Studies—During the biennium just completed, three new courses have been developed by the division of social studies, five courses previously taught by borrowed instructors have been revised and staffed by our own instructors, and examination and evaluation of the total course offering in the social sciences has begun.

The faculty spent 1956-1957 in a series of exploratory meetings, background readings, and philosophical discussions in order to lay the groundwork for the latter task. The next step came in 1957-58, when the faculty made a series of studies designed to determine again the nature and needs of our present student body, and to identify current trends in the areas with which the social sciences are concerned. This information has been assembled, and is presently being evaluated and collated. The next step will be to reexamine objectives for our program, and to test the extent to which present courses satisfy these objectives. This task, combined with that of devising new and effective teaching methods, will be our primary concern during the coming biennium.

Course Deletions—The foregoing divisional reports quite naturally emphasize courses which have been added to the curriculum. It must be noted also, however, that in conformity with the curriculum control procedures described

in the last biennial report, a number of courses have been reviewed and dropped during the current biennium.

Faculty—During the biennium just completed, Dean Morse served as consultant on general education to the University of Delhi and the India Ministry of Education from September through December, 1957. Associate Dean Vaughan received the Faculty Recognition Award from the All-University Congress, spring, 1958. Four faculty members completed the requirements for the doctor of philosophy degree, three received research grants from the Tozer Foundation, and one was awarded a Danforth Fellowship. The faculty has served as members and officers of a wide variety of national and state professional organizations, a partial list of which included such agencies as the American Personnel and Guidance Association, The Twin City Vocational Guidance Association, the National Council of Teachers of English, the College Conference on Composition and Communication, the Minnesota Historical Society, the United World Federalists, the Minnesota Geological Society, the Advisory Committee on Junior Colleges to the State Board of Education, the Northwest Princeton Alumni Association, and the National Council for the Social Studies. In addition, two faculty members appeared weekly in programs which were part of the University's presentation on the new educational channel, KTCA-TV.

During the spring quarter of 1958, Professor Louis T. Safer was awarded a quarter leave with salary that enabled him to develop early experiments in painting upon, and in bond with, sculptured plaster and cement panels, a new and interesting art technique. One of the objectives of this project was to combine the realms of sculpture and of painting on an equal footing. The panels created as a result of this project are complete artistic expressions as paintings or as sculpture, and are harmoniously blended within one framework.

Thus, the vitality and creativity implied in the divisional reports above are reflected in the professional and service activities of the faculty of the General College.—H. T. MORSE, *dean*

UNIVERSITY COLLEGE

The University College continues to meet the special needs of students whose vocational requirements cause them to seek work in several colleges. In a number of instances, a student wishes to take courses in Agriculture, Business and the Liberal Arts and yet such a combination would not be acceptable for a degree in any one of the colleges. Hence the University College, which has neither courses nor faculty but an administrative arrangement whereby students may cross college lines and yet obtain a Minnesota degree.

Whenever it is possible for a student to meet his needs through work in one college and a limited sampling in another he is advised to remain in the former college. University College consequently selects only students who are clearly "inter-collegiate" in character and for the most part they are people of clear objectives and strong motivation.

Between June 1956 and June 1958, there were 47 graduates from University College. At the present time the enrollment in the college numbers 52 students.

There is a University College Committee of 17 people which advises on the operation of the program.—RUSSELL M. COOPER, *acting chairman, University College Committee*

DULUTH BRANCH

July 1, 1957 marked the tenth anniversary of the establishment of the Duluth Branch as a co-ordinate college of the University of Minnesota. State leaders joined area residents during University Week in saluting the growth of the Duluth Campus and the Board of Regents called special attention to the anniversary at the June, 1957, Commencement. Visitors interested in seeing the new campus and seeking information on the general status of the Duluth Branch have been numerous during the biennium.

Registration—In the fall of 1957, a new record was established when 2,153 students registered. Included were 367 seniors, 424 juniors, 553 sophomores, 718 freshmen, and 91 adult specials.

Graduation—The class of 1957, numbering 307, heard Harry C. Johnson, professor of education, at Cap and Gown Day and Governor Orville L. Freeman at Commencement. Addressing the 380 members of the class of 1958, the largest in campus history, were Olga Lakela, professor of biology, at Cap and Gown Day, June 4, and David Botter, New York City, assistant managing editor of *Look* magazine, at Commencement, June 12.

Facilities and Development—Kirby Student Center during the biennium became the true center and social keystone of the campus with usage far in excess of that anticipated by the planners. Completion of a modern self-service Bookstore between Kirby Student Center and the Library became a reality.

Science Addition, a \$575,000 facility provided for by the 1955 Legislative session, was occupied during the first summer term of 1957. A deficiency appropriation in 1957 made possible completion of the structure including a Business Office and direct passageway leading into Kirby Student Center. New offices for the Division of Science and Mathematics and administrative offices for the Provost and Academic Dean were provided in addition to classrooms, laboratories for geology, and a telephone switchboard to serve the new campus.

The new Humanities Building was occupied in April, 1958. An original appropriation of \$800,000 made during the 1955 legislative session and a supplementary appropriation of \$170,000 from the 1957 legislature provided funds for construction. Developed simultaneously with the Humanities Building was the Tweed Gallery made possible by gifts totaling \$228,000 from Mrs. Alice Tweed Tuohy and Mrs. Bernice Tweed Brickson, and a 1957 legislative appropriation of \$150,000 to complete connecting portions of the gallery and building.

Groundbreaking for the \$800,000 Social Science Building occurred April 15, 1958. On May 13, 1958, ground was broken for construction of ten residence hall units to house 120 students. A federal loan of \$345,000 and a \$126,000 legislative appropriation made in 1957 assured construction. A \$600,000 first phase of a Central Heating Plant was begun in June, 1958.

Sale of Olcott Hall was consummated in May, 1958. The Golden Hour Evangelistic Association, an affiliate of the Apostolic Lutheran Church of America (Finnish), became the new owner.

Activities—*National Science Foundation Institutes*—During the first summer terms of 1957 and 1958, National Science Foundation Institutes for high school teachers of science and mathematics were held.

Fundamental Education—A workshop for educational and community leaders associated in the Board for Fundamental Education projects at Northland College and Arnold School was held September 19, 1957.

College Conference—The Association of Minnesota Colleges met on the Duluth Campus November 9, 1957. Among items discussed were articulation between the junior colleges and the colleges and universities of the state, observance of the Minnesota Statehood Centennial on Minnesota campuses and enrollment trends.

Centennial Conference—Under joint sponsorship of the Social Science Division and the St. Louis County Historical Society, a Minnesota Statehood Centennial Conference was held May 13-14, 1958.

Governor's Conference—A conference on exceptional children called by Governor Orville L. Freeman was conducted on the Duluth Campus, April 14, 1958.

Education Day Established—With the April 23, 1957 observance, a new tradition, Education Day, was established on the Duluth Campus.

Lake Superior Study—During the summer of 1956, the Duluth Campus was established as a center for field studies of Lake Superior under a program

sponsored by the Minnesota State Department of Health and directed by the University of Minnesota School of Public Health. In June, 1958, the former Lester River Fish Hatchery, a federal facility given to the University in 1948, was converted into a field laboratory for further investigation of the lake.

Athletic Titles—The UMD basketball team won its first Minnesota Intercollegiate Athletic Conference title in the spring of 1958 and participated in the national small college playoffs at Kansas City. The UMD hockey team won the Minnesota Intercollegiate Athletic Conference championship in 1957 and 1958.

Student Leadership—Two UMD students, Peter Thorsteinson, president, and John Hill, vice president, UMD Student Commission, were among five U. S. students chosen to make a good will visit to Iceland in October, 1956, under auspices of the U. S. State Department.

The UMD Student Commission in May, 1958, was among 15 U. S. campus student governments chosen for an 18-month study of student responsibility by the U. S. National Student Association.

UMD Student Commission president, Richard Miller, Duluth, was chosen one of 15 leading U. S. college students to attend an international student relations seminar at Harvard University in June, 1958.

Research—Research activities carried on by members of the faculty have increased rapidly during the biennium largely due to the encouragement of grants in aid made by the Graduate School. Some projects have been expanded as a result of support from state and federal agencies. Single-quarter leaves for members of the faculty have hastened completion of several research projects.

Future Needs—Additional classrooms and auxiliary facilities to accommodate an estimated 4,100 students by 1970 and commensurate increase in faculty and staff are among the well established needs on the Duluth Campus. Campus development is being geared to move all operations to the new campus as soon as possible. Waste of time and funds associated with the present split-campus operation should be eliminated.

Housing—On-campus accommodations for 288 additional single and married students are almost certain needs of the coming decade.

Classroom Buildings—Instructional space should include an Industrial Education Building, Classroom Building for the Division of Education and Psychology, Humanities addition, Home Economics Building, Social Science addition, Science addition, Physical Education Fieldhouse, and a Laboratory School.

Other Construction—Construction of physical plant shops, a new Health Center, relocation of Darling Observatory, Library addition, an Administration Building, Theater, Auditorium, and Stadium are necessary items if the campus is to be completed as now projected.

Major Rehabilitation and Development—Construction of pedestrian-utility passageways to replace present underground installation of steam mains has major emphasis in future planning. It is anticipated that they will connect major buildings for all-weather pedestrian use. Elevators in Science Addition, Humanities and Tweed Gallery, acoustical treatment in Science Building and Humanities, revision of the campus electrical system including construction of an electric substation, underground coal storage and coal handling equipment at the heating plant, installation of an additional boiler, truck and equipment garage and repair shop, and general development of roads, lawns, landscaping and lighting are major deficiencies on the new campus.

Instruction—Definite steps must be taken during the coming decade to attract and retain fully qualified staff members; this is especially true in the several fields of science and mathematics.

Increases in the support given to the Library and supply budgets generally must be made in order to maintain quality instruction. A substantial

increase in the allocation for the Office of Student Personnel Services is a well established need. Installation of electronic processing machines should receive early consideration. Additional personnel in counseling is essential to serve the students and provide necessary assistance in the preparation of teachers.

The role of the Duluth Branch in educational television for the area should be clearly defined prior to the class of the 1958-59 academic year. Establishment of Tweed Hall as a Center for Continuation Study and headquarters for extension work merits consideration in light of recent experiences and the increased interest in all phases of adult education.

In general the curriculum pattern at the Duluth Branch is serving the needs of most of the young people of the area. Improvement of instruction for an ever-increasing number of students is a major concern among faculty members as they consider a second decade of service in a regional college.—
RAYMOND W. DARLAND, *provost*

GENERAL EXTENSION DIVISION

Evening and Special Classes—In considering the over-all statistics for evening classes during the biennium, it is most important to realize that this period represents an increase in both instructors' salary scales and tuition fees which took place between the two years represented. The instructional salary increase, which ranged from about eight per cent for new evening class teachers to approximately 18 per cent for the senior grade in point of extension service, was felt to be an absolute minimum in our constant effort to find some means of keeping pace with the regular academic staff increases. The tuition fee increase, from \$6 to \$7 per quarter credit or equivalent, was made after a study of the going rates for other institutions, which indicated that it would bring us within the top third bracket of other comparable operations. Past experience had shown us that we might expect up to 10 per cent decline in enrollments during the first year of an increased tuition rate. We feel it is most significant, therefore, that instead of this anticipated slight decline, our comparison statistical figures for the two years indicate an approximate 5 per cent increase in over-all enrollments.

There were several additional developments during this biennium:

1. The termination of Extension Division administration of all subcollegiate classes for day school students.
2. The establishment of an Engineering Aide Program leading to the award of basic and senior certificates carrying a work load equivalency of one and two full-time academic years study respectively.
3. A 65 per cent increase in enrollments in off-campus courses operating from the Twin Cities and Duluth offices.

The Evening Class Department had for several years been questioning the practical efficiency and academic suitability of having subcollegiate classes of the day school administered by the Extension Division. The delegation of this work to the extension division had originally come about by virtue of the fact that preparatory composition had originally been planned and developed by members of the extension staff, who also held part time appointments with the English Department of SLA. When it became necessary for the University to operate subcollegiate daytime classes in the fields of SLA mathematics and IT solid geometry, they were established through the Extension Division in a pattern similar to that used for preparatory composition. In 1956-57, however, 1446 daytime students were enrolled in subcollegiate classes in composition, mathematics and geometry through the Extension Division. Consequently, discussions were held with the faculties of the English and Mathematics Departments of SLA and the Mathematics Department of IT, as well as with a special curriculum revision committee of the University Senate. In the spring of 1957 the committee recommended that the administration of all subcollegiate classes by the Extension Division be terminated and turned over to the day school departments and the office of Admissions and Records. This recommendation was approved by the Senate and the day school departments took over these classes at the end of the spring quarter

1957. Thus the over-all subcollegiate statistics should be considered in the light of the elimination of 1446 subcollegiate class registrations and a loss of approximately 1300 individual students in 1957-58. For the same reason, the figures on tuition receipts and amount paid to instructors should be considered to include deductions of some \$26,000 and \$16,000 respectively.

The second item of importance mentioned above was the establishment of the Engineering Aide Program by the Extension Division. This program, which we believe to be one of the most valuable of the Division's certificate offerings, was initiated at the beginning of and developed during this two-year period by Albert M. Fulton, the department's coordinator for curriculum development, with the assistance of Harold J. Alford, resident manager of the St. Paul Center. This development was accomplished through innumerable conferences with the Relations with Industry Committee of the American Society for Engineering Education, the Minnesota Highway Department and the departments of mechanical, electrical and civil engineering of the Institute of Technology. The program in essence was geared to fill a pressing need indicated by industry for men trained on a definite collegiate level in fundamental mathematics and sciences and in practical engineering theory in those major fields; men who could fill competently a noticeable gap in the supply of trained personnel between the skilled technician and the graduate engineer. We would like to make special note of the most valuable cooperation and assistance received from the department heads and staffs of mechanical, electrical and civil engineering in the Institute of Technology. We believe that the development of this program has led to the establishment of an excellent working arrangement between the Extension Division and these departments, which will have permanent value to us in any future operations in the engineering fields.

The third item of interest which was mentioned above is the increase in off-campus class enrollments from 1,031 to 1,668, which figures represent both registrations and individuals as there are virtually no double registrations in these classes. There are two factors which should be noted in connection with

TABLE I. EVENING AND SPECIAL CLASS DEPARTMENT

Summary of Enrollments		
	1956-57	1957-58
Minneapolis, St. Paul and Duluth		
Arts and Sciences	9,577	11,145
Business	6,692	6,104
Engineering	5,149	5,117
Total Registrations	21,418	22,366
Off-campus registrations	1,031	1,668
Summer registrations	1,140	866
Grand Total Registrations	23,589	24,900
Increase in registrations		1,311
Individuals registered	14,471*	15,534*
Increase in individuals		1,063
Subcollegiate Classes		
Registration	1,446	
Total registration for 1956-57 including subcollegiate classes	25,053	
Individuals registered	1,300*	
Total individuals registered 1956-57 including subcollegiate classes	15,711*	
Number of short courses given	23	17
Number registered	3,044 ¹	809
Mortuary Science		
Resident	67	70
Non-resident	37	33
Total	104	103

* Estimated

¹ Includes 2,058 registrations in *Freud and Modern Man*

this increase. First, at the request of the United States Office of Public Health, a special arrangement was entered into with the School of Public Health at the University for the teaching of courses in Public Health Nursing, PH 62 and 63, in communities in the states of Iowa, Kansas and Missouri. Nine sections were taught during 1957-58 with a total enrollment of 305 students. The second item to be noted is the offering of off-campus classes during the last half of the biennium in the program of special education courses in the College of Education, taught on a circuit basis to a number of Minnesota communities. This program in 1957-58, under the supervision of Dr. Dewey A. Force, conducted double courses in the teaching of retarded and gifted children at Brainerd, Cloquet, Grand Rapids and Virginia with a total enrollment of 389. These circuit offerings in special education are expected to be continued and expanded during the next several years. Excluding these two new groups of off-campus classes, the out-state offerings in other subjects, mostly educational, were in approximately the same volume for each half of the biennium.

In connection with the figures on summer enrollments which appear in the over-all summary these were for classes run during the summers of 1956 and 1957. In explanation of the apparent decline in these classes it should be explained that in 1956 in response to several apparently urgent requests we decided to experiment with the offering of some of the basic beginning courses for degree and certificate programs. While we did manage to operate a few of the scheduled classes it was quite apparent that there is not sufficient demand for any type of regular academic courses during the summer months, consequently this type of offering was abandoned in 1957 and the figures there represent almost entirely the usual recreation classes mostly for children plus some special non-credit language classes.—HUNTINGTON MILLER, *assistant dean*

Correspondence Study Department—The Correspondence Study Department has just completed a near record-breaking biennium. The 9,099 enrollments accepted in 1956-58 are exceeded only by the inflated registrations during the war biennial years of 1944-46. The 1956-58 biennium exceeds the 1954-56 period, when 7,455 registrations were accepted, by 1,644 or 22.5 per cent. The 4,992 registrations in 1958 marked the second highest yearly enrollment in the history of the department.

There seems to be no distinct subject matter pattern in the significant increase in home study. Higher enrollments are noted in such diverse areas as Art, Business Administration, Economics, Education, Engineering, Mathematics, History, English, Psychology, Astronomy and Political Science. Registrations in high school subjects account for 10 per cent (1167) of the biennial enrollment. Enrollments under special contract with the United States Armed Forces Institute totaled 770 or about 8.5 per cent, and veterans registrations (311) were 3.5 per cent.

The high school correspondence program has received considerable administrative attention in the biennium. It should continue to have special consideration with the aid of other agencies—the Minnesota State Department of Education, the Minnesota Secondary School Principals Association, the University of Minnesota College of Education and the University High School—as a means of equalizing educational opportunities at the secondary school level, and to provide more science, mathematics and languages in our high schools.

The new correspondence courses written or proposed in the biennium include Scientific Russian, Abnormal Psychology, Prehistoric Man and Culture, Cultural Anthropology, Culture and Personality, The Gifted Child, Psychology of Atypical Children, Psychology of Parent-Child Relationships, Building a Better Marriage, History of the Ancient Near East, Humanities in the Modern World III, Methods in Supervision of Recreation, Introduction to Physical Science, Public Personnel Administration, Survey of Dramatic Literature, High School Biology, and new sequences in Freshman English and American History. Additional courses are needed in Engineering, Education, and Agriculture.

In June of 1958 the tuition fee for correspondence courses was increased from \$6 to \$7 per credit hour. A \$2 per course nonresident fee was retained. In the short interval since the increase in fees, there is no evidence that enrollments have declined because of additional costs.

In May 1958 the instructional rates for teaching and writing correspondence courses were increased. Lesson service was raised from 80 cents per paper to 90 cents, and the writing fee was increased to \$175-200 for a sixteen-lesson, 3-credit course. The marked increase in the payment for writing is in keeping with the recommendation of the University Self Survey Committee.

The department faces the future with considerable promise and it will probably continue its steady, quiet growth.—F. LLOYD HANSEN, director

TABLE II. CORRESPONDENCE STUDY DEPARTMENT

	1956-57	1957-58
Regular Courses		
Registrations in force beginning of year	3,340	3,657
New registrations during the year	4,107	4,992
New registrations made through the USAFT	380	390
New registrations made under the G. I. Bill of Rights	60	251
Reinstatements from previous years	136	124
Reinstatements (Registration expiring within the year)	452	422
Total registrations in force during the year	7,583	8,773
Registrations terminating during year	4,378	4,675
Registrations in force at close of year	3,657	4,520
Special Course—Citizenship		
New registrations during year	55	49
Individuals Enrolled (Regular courses)		
New registrations	3,391	4,234
Total active registrations during years	6,318	7,324
Lesson Reports Received		
Regular courses and citizenship	39,990	44,808
Geographical Distribution of New Students		
Minnesota	2,319	2,964
Other states	873	1,100
Out of the United States	56	50
Army Post Office	82	62
Fleet Post Office	61	58
Number of states represented	49	47
Number of foreign countries represented	16	15
Courses Offered		
	297	298
Instructors		
	127	132
Financial Report		
Receipts*		
Total Receipts	\$111,162.27	\$166,607.53
Expenditures**		
Total Expenditures	62,237.20	137,912.83

* These figures do not include appropriations from the University budget for the support of the Department.

** These figures do not include salaries of members of the staff.

Department of Radio and Television Broadcasting—KUOM's Twentieth Anniversary—May 2, 1958, marked the twentieth anniversary of the University of Minnesota's expanded radio broadcasting service. The anniversary was observed with appropriate ceremonies, in addition to which there were other references to the anniversary during the ensuing week. There also were several stories in the press about this event, praising highly certain aspects of KUOM's unique program services.

Awards for KUOM Programs—During 1956-57, KUOM won awards in nationwide competition from the twenty-first American Exhibition of Educational Radio and Television Programs (held by the Institute for Education by Radio-Television):

First Award—To "Land of Volcanoes and Glaciers," from *Let's Take a Look at Our Minnesota*, written by John Bens, a program designed for in-school use by pupils in intermediate grades.

Honorable Mention—To "Silly Miss Tootwhistle Learns About Christmas," from *Old Tales and New*, written by Betty Girling, a program designed for in-school use by pupils in intermediate grades.

During 1956-57, KUOM won an award from the National Safety Council:

Public Interest Award for Exceptional Service to Farm Safety—Made to KUOM through Raymond Wolf, farm director, for his work in planning and producing agricultural programs on farm safety.

Television Activities—On March 16, 1957, the Department of Radio and Television Broadcasting was officially created by the University of Minnesota. In addition to continuing the operation of radio station KUOM, which had been its major function previously, the new department became responsible for administering the University of Minnesota's television program services over KTCA-TV. The planning of these programs began at once: Equipment was ordered and installation begun to prepare Studio 4 for originating television programs to be microwaved to the St. Paul campus studios of KTCA-TV; and a television program director was appointed to assume general charge of that phase of the department's activities.

On September 16, 1957, the University of Minnesota inaugurated its nightly broadcasts over KTCA-TV. Five days a week, Monday through Friday, 52 weeks a year, University Television presents an hour of programming from nine to ten o'clock each evening.

In addition to 19 program series, most of which ran for 13 weeks, certain special, one-time broadcasts were scheduled periodically. Most notable of these was the hour-long adaptation of the University Theater's production of "The Taming of the Shrew."

With the exception of one half-hour a week—the *Agricultural Extension* series, "Town and Country"—all programs originated in Eddy Hall, and were microwaved to the St. Paul campus for broadcast by KTCA-TV. Studio 4, a radio studio which has been re-equipped for television, proved barely adequate for this purpose, since it imposed severe limitations in terms of floor space, ceiling height and control room space. In addition, there was no adequate storage or construction space other than the crowded studio itself. These cramped conditions resulted in considerable loss of operating efficiency, and imposed great limitations on the production techniques available for any given program.

Other television activities undertaken by the department in the course of the biennium are described below.

Magic Doorways—During 1957-58, the department produced 65 kinescoped programs of "Magic Doorways" for the Educational Television and Radio Center in Ann Arbor for nation-wide distribution.

Cooperation with Speech and Journalism Classes—During the past two years, the department's television facilities were used by Speech 65, Radio and Television Speech; Speech 66, Radio and Television Drama; Speech 170, Radio and Television Programming; and Journalism 85, Television News Writing. During 1956-57, in addition to the above named courses, Speech 134, 135, 136, Production of Television Drama, made extensive use of KUOM's facilities.

Institute for Volunteer Leaders—On June 10, 11, and 12, 1957, KUOM, KTCA-TV and the Center for Continuation Study conducted an Institute on Educational Television Techniques for Volunteer Leaders. Fifty persons registered for the Institute and at least that many more were turned away because of limited space.

KUOM Television Workshop—The KUOM Television Workshop was composed of students who, as an extra-curricular activity, met regularly on Tuesday and Thursday afternoons to learn and practice television production techniques. It was from this group that crews were drawn for such television programs as "Magic Doorways," and the Speech and Journalism class projects. With the inauguration of regular broadcasts over KTCA-TV, the activity of the Television Workshop was sharply curtailed because of space limitations and conflicts with broadcast activities.

Closed Circuit Consultation and Assistance—Both engineering and production consultation were given by staff members to the Dental School faculty in planning and installing their closed circuit television facilities.

Faculty Payment—Beginning in the winter quarter, 1958, faculty members who assumed responsibility for a series of television broadcasts and who received no load relief from their department for this purpose were paid \$25.00 per program by the Department of Radio and Television Broadcasting. This policy proved very helpful in securing faculty participation in the University's television offerings.

A grant of \$37,500 was received from the Ford Foundation to be used during the next three years to compensate departments for faculty time released to prepare and participate in television programs. None of this money may be used for direct payment to faculty participants, but it should offer additional assistance in developing departmental interest in television broadcasting.

KUOM Radio Broadcasts—KUOM broadcasts on 770 kilocycles with 5000 watts power. Sharing time with WCAL, the St. Olaf College station in Northfield, the station broadcasts Monday through Friday from 10:30 a.m. to local sunset, and on Saturday from 10:30 a.m. to 12:30 p.m., and 2:00 p.m. to sunset.

Adult and General Programming—During 1956-58, KUOM offered the citizens of Minnesota a balanced program of educational, informational and cultural features. As always, the station drew upon the resources of the University of Minnesota, the greater metropolitan area of Minneapolis and St. Paul, the National Association of Educational Broadcasters, the British Broadcasting Corporation, and other sources for broadcast material. Besides reflecting the educational and cultural activities of these groups, KUOM created many programs of its own. Further details may be found in the annual reports for 1956-57 and 1957-58, and in Appendix A of the 1957-58 report.

Grants Received in 1957-1958:

- \$2,400 from the Minnesota Centennial Commission for the research, planning and production of 39 Centennial programs
- 400 from the National Association of Educational Broadcasters to help with a survey of the impact of in-school educational TV programs on the Minnesota School of the Air audience
- 3,000 from the Louis W. and Maud Hill Foundation for research in and collection of Minnesota folk music
- 1,576 to the Museum of Natural History from the Louis W. and Maud Hill Foundation for the planning and writing of 30 science programs for primary grades to be broadcast by the Minnesota School of the Air.

Music—To provide the best and most varied music programs possible, KUOM endeavored to obtain the most complete serious music record library in this area. Accordingly, almost 1000 new long playing discs were added during this period, giving an excellent basic library plus many special and unusual recordings. There are now about 2200 long play discs in KUOM's active file. In addition to recorded music, KUOM has brought to its listeners many live music programs of importance. It has, for example, continued its close association with the Minneapolis Symphony Orchestra. All of the Minneapolis and St. Paul Young People's Concerts were broadcast. In the summer months of 1957 and 1958 the station broadcast programs of music recorded exclusively by KUOM at Friday night subscription concerts in Northrop Auditorium. "Music From Scott Hall," a series of 11 half-hour programs featuring artists from the faculty and student body of the University's Department of Music was also presented by KUOM. "Saturday at the Opera" continued a long tradition of broadcasting complete operas every Saturday afternoon through the summer months. These were designed to keep up the Saturday opera-listening habit established by the Metropolitan Opera broadcasts in the fall and winter. Other special programs that have become a traditional part of our schedule are the annual "Christmas Music Festival" and the "Lenten Music Festival."

Programs from the St. Paul Campus—The Information Service staff of the St. Paul campus contributed two programs to KUOM each weekday: the "Homemaker's Quarter Hour" from 10:45 to 11:00 a.m. and the "University Farm Hour" from 12:30 to 1:00 p.m. Responsibility for the first of these was assumed mainly by Josephine B. Nelson, extension assistant editor, and for the latter by Ray Wolf, information specialist, and Lester Swanson, information assistant. The annual reports of the Information Service staff of the Institute of Agriculture cover these in detail.

Engineering (Radio)—During the biennium the Engineering Department maintained its regular broadcast operations, while making several improvements in technical facilities and operation. In October 1957, KUOM began

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using the new KUOM-KTCA-TV tower for regular broadcast services. In January 1958, KUOM began full remote control operation of its transmitter from the Master Control Room in Eddy Hall.

The department continued to supply engineering advice and assistance to those departments of the University using mobile radio communications.

TABLE III. MUNICIPAL REFERENCE BUREAU

	1956-57	1957-58
Inquiries	2,689	2,705
Publication		
Magazine		
Monthly circulation	8,300	8,441
Average pages per issue	32.7	27
Reprints and Publications:		
Legislative Proposals to be Debated		Analysis of Municipal Liquor Store Operations for 1956
Analysis of Municipal Liquor Store Operations for 1955		The OASI Referendum and Tax Levies
Legislative Proposals Adopted at Legislative Conference		Municipal Swimming Pools
To Improve Our Municipal Streets		Developments in Olmsted County under the County Board of Health Act
Vote "Yes"		Directory of Minnesota Municipal Officials—1957
Summary of New Pension Laws		
Directory of Minnesota Municipal Officials—1956		
WHAT and WHY booklet		
Conferences		
Annual Convention	42nd—Detroit Lakes 743 delegates 148 municipalities	43rd—Duluth 866 delegates 143 municipalities
Legislative Conference	Detroit Lakes	
Regional Meetings	17 meetings 1,178 officials 264 municipalities	17 meetings 1,264 officials 269 municipalities
Special conference in cooperation with Governor's office on Community Development and Planning—September 1956		
Special conferences on planning for metropolitan area—December 1956		
Research and Consulting Service		
Municipalities receiving charter or municipal reorganization consultation service	16	10
(See annual reports of Executive Secretary of League to identify cities)		
Short Courses	Attendance 1957	Attendance 1958
Juvenile officers institute (June 1956)	23	41
New Mayors and Councilmen	36	52
Juvenile officers institute (January)	63	52
Assessors	230	238
Water	92	88
Sewer	84	86
Police Chiefs	37	44
Mayors and Councilmen	35	50
City Managers	14	19
Finance Officers	40	66
Public Works	33	57
Fire School	246	225
Traffic Court Conference	38	71
Institute Delinquency Control		16
Legal Institute on Local Government		45
Building Inspectors		43
League Committees	1956-57	1957-58
Study Committees appointed to prepare legislative recommendations	3	9
Field Service		
Municipalities visited	32	81
Officials seen	50	103
Miles traveled	1,050	1,460

KUOM acted as the originating station for networks of stations during the 1957 and 1958 football seasons. It also provided engineering services to out-of-state radio stations for independent program pick-ups of various University athletic events.

Engineering (Television)—A complete single studio television center was installed during the summer of 1957 at Eddy Hall for the purpose of originating live telecasts for KTCA-TV. Since then, extensive improvements have been made in the technical qualities of programs, through equipment improvements and studio lighting techniques.

The department continued to provide engineering service and supervision in the maintenance of television equipment at the University High School. It also provided technical personnel for the complete installation and maintenance of the closed circuit television equipment at the University's School of Dentistry.—BURTON PAULU, *director*

Municipal Reference Bureau—The Municipal Reference Bureau serves as a University division for students' reference work and, as headquarters of the League of Minnesota Municipalities, extends its facilities to government officials throughout the state. Table III is a summary of activities the past two years in outline form.—C. C. LUDWIG, *director*

Center for Continuation Study—The time, the thought, and the effort which the staff of the University of Minnesota has given to the planning and conducting of various Center activities is most gratifying. For this we offer them a sincere thank you. Also, a word of appreciation is due the many persons of the Twin City community who so generously support Center courses as participants and consultants.

The Center finds itself hampered in its operation for reasons of inadequate facilities. During the last biennium there has been an increased number of courses offered, of course hours and course days, of participating faculty and registrants. During the year, July 1, 1957 to June 30, 1958, the Center presented 163 courses. This put an undue strain on our facilities. If we are to meet the demands of groups seeking this kind of education, it seems quite imperative that more adequate class room, dining room, dormitory and office space be provided. It is hoped that consideration will be given to the recommendation that Center facilities be expanded and updated.

With respect to trends in programming at the Center it seems quite obvious that more and more demand will be made for courses in a variety of scientific fields. This has already been pointed out by the demand for such courses during the past year and for the year to come. Some of the courses of this nature held recently at the Center include Parachute Engineering and Retardation, Utilization of Scientists and Engineers, Teaching of Mathematics in the Elementary Schools and Teaching Science in the Elementary Schools.—FRED E. BERGER, *director*

TABLE IV. CONTINUATION COURSES AND INSTITUTES

	1954-56	1956-58	1936-58	Per Cent or Average
Number of courses	292	313	2,049	...
Number of registrations	20,071	20,142	119,410	100
Minnesota	15,887	16,283	93,039	78
Other U. S. states	3,973	3,591	25,082	21
Foreign countries	211	268	1,289	1
Male	12,845	13,672	76,880	64
Female	7,226	6,470	42,530	36
Number on faculty	4,928	6,115	33,271	16
Course hours	6,116½	7,299¾	63,098¾	31
Course days	974½	1,154½	11,330	6
Average attendance				
Total				58
Minnesota				45
U. S. states				12
Foreign				1

TABLE V. CONTINUATION COURSES AND INSTITUTES BY TYPES, NOVEMBER 13, 1936 TO JUNE 30, 1958

	Number of Courses	Registration	From Minnesota	From Other U.S. States	From Foreign Countries	Men	Women	Number of Faculty	Course Hours	Course Days
Educational	266	18,348	15,704	2,572	72	7,464	10,884	4,736	5,749¼	951
Medical	366	18,248	7,544	10,183	521	16,979	1,269	7,424	14,917	2,678½
Hospital Service and Public Health	211	12,899	9,833	2,983	83	2,185	10,714	3,804	9,857¼	2,324½
Technological	89	12,526	9,675	2,580	271	12,505	21	1,521	1,245¾	192
Commercial	170	11,666	10,464	1,134	68	10,506	1,160	2,507	3,205¼	475½
State Municipal	176	10,671	10,461	174	36	10,036	635	3,153	3,451¾	549¼
Social Welfare	145	8,743	7,797	919	27	4,151	4,592	2,247	3,350½	566¾
Nursing (7-1-48/6-30-58)	109	7,220	5,785	1,372	63	272	6,948	2,101	2,124¼	421¾
Civic and Cultural	108	6,691	6,267	403	21	2,262	4,429	2,023	2,186¾	370
Dental	254	4,699	3,172	1,489	38	4,005	694	1,717	7,368¾	1,237
Labor	42	3,411	3,055	320	36	3,111	300	812	806¼	126¼
Legal	25	1,716	1,689	27	0	1,659	57	245	504¾	83¼
Pharmacy	20	1,088	1,013	73	2	871	217	385	415¼	55¾
Kenny Technique (for Technicians and Nurses)	38	537	29	476	32	10	527	261	7,062	1,140
National Defense	6	506	505	1	0	450	56	147	155	22
Kenny Technique (for Physicians)	24	441	46	376	19	414	27	188	699	136½
Totals to June 30, 1958	2,049	119,410	93,039	25,082	1,289	76,880	42,530	33,271	63,098¾	11,330

TABLE VI. ATTENDANCE BY TYPE OF COURSE 1936-38

	Number of Courses	Registration		Average Attendance Per Course
		Attendance	Per Cent	
Education	266	18,348	15.4	69
Medical	366	18,248	15.3	50
Public health and hospital service	211	12,899	10.9	61
Technological	89	12,526	10.5	141
Commercial	170	11,666	9.9	67
State-municipal functions	176	10,671	8.9	61
Social welfare	145	8,743	7.2	60
Nursing	109	7,220	6.1	66
Civic and cultural	108	6,691	5.5	62
Dental	254	4,699	4.0	19
Labor	42	3,411	2.8	81
Legal	25	1,716	1.4	69
Pharmacy	20	1,088	1.0	54
Kenny Technique (technicians and nurses)	33	537	.4	14
National defense	6	506	.4	84
Kenny technique (physicians)	24	441	.3	18
	2,049	119,410	100.0	58

Audio-Visual Extension Service—Statement of Function—To provide visual materials and instructions for their use to schools and other educational institutions, community organizations, business and industry and any other group in the State of Minnesota.

To maintain a film-rental library for the above purposes.

To continue to enlarge the library by adding new titles and duplicate prints to meet the demand for these materials.

To conduct instructional training institutes, conferences and workshops in audio-visual methods of instruction.

To assist school superintendents, principals, supervisors, in setting up a program or improving their existing program.

To cooperate with the other departments of the Extension Division in assisting them with their audio-visual problems.

Statement of Accomplishments—The growth in all areas is increasing quite rapidly during this biennial period. Many more adult groups, business and industry and civic groups have been served. More films in specialized areas, such as, college level materials, medical field, mortuary science, salesmanship and others have been added to our many films. The use of audio-visual materials by our schools, colleges, business, industry, in fact all groups, has increased at a very rapid rate. New titles and duplicate prints are added constantly. Over 1400 prints were added to the library during this biennial period. About 6000 requests for films could not be filled because films were not available when needed.

We are constantly trying to improve our services to the people of the state. Requests for institutes, conferences, and workshops have increased each year. Every request has been filled. We have called upon and cooperated with the College of Education, Center for Continuation Study, and the State Department of Education in conducting these many conferences.

Statement of Plans—Our plans are to steadily increase the size of our film service to meet the demands. Each fiscal year, 500-800 prints must be added.

We must continually work to improve our conferences, institutes and workshops.

We must make plans to increase our staff, an assistant to the director, to assist with the many activities of a growing department.

We will continue to use our tape recording equipment to copy and distribute the Center for Continuation Study addresses, panel discussions, etc. We shall continue to develop the use of tapes for Correspondence Study.

—ERWIN C. WELKE, director

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TABLE VII. AUDIO-VISUAL EXTENSION SERVICE

	1955-56	1956-57	1957-58
Number of communities served	2,503	2,489	2,494
Number of visual programs furnished	45,495	47,488	48,437
Number of shipments	19,927	20,605	21,930
Number of prints in library	5,540	6,229	6,850
Number of titles in library	2,908	3,274	3,592
Total receipts	\$90,748.49	\$107,162.83	\$118,734.94

State Organization Service—World Affairs Center—The University, through the work of this department, recognizes the great value to the state of the work done by the many voluntary associations in Minnesota. These associations promote the health, safety, welfare and civic and cultural education of our citizens. It is estimated that there are over 400 state and around 12,000 local organizations of this character in Minnesota.

The State Organization Service helps strengthen the programs of these groups by providing its member organizations with clerical and administrative services for which they pay the department. This service frees officers of the association to devote more of their time to their educational functions. State Organization Service does not seek, in any manner, to influence the content of the programs of these organizations.

The State Organization Service has shown a growth in services in this year as shown in Table VIII.

TABLE VIII. STATE ORGANIZATION SERVICE

	1954-56	1956-57	1957-58	1956-58
S.O.S. member organizations	37	37	35	35
Individual members of S.O.S. organizations	23,689	22,256	22,536	22,536
Work orders from member organizations	1,189	665	564	1,229
Number of units processed	616,036	643,301	565,947	1,209,248

The State Organization Service administers the Minnesota World Affairs Center which is a regional center for education in world affairs composed of and directed by Minnesota organizations interested in this field. A number of these organizations are members of the S.O.S.

TABLE IX. WORLD AFFAIRS CENTER

	1954-56	1956-57	1957-58	1956-58
W.A.C. member organizations	26	27	25	25
Individual members of W.A.C. organizations	342,719*	45,429	46,241	46,241
Requests for program planning assistance	334	186	198	384
Distribution of pamphlets	63,543	31,072	27,429	58,501

* Total figure represents family memberships not included in 1956-58 records.

Table IX shows a comparison between Center activities in this and the previous years.—WILLIAM C. ROGERS, *director*

—JULIUS M. NOLTE, *dean*

SUMMER SESSION

The biennium 1956-58 was a period of expansion and progress for the Summer Session, not only in numbers of students served, but in the extent and variety of courses, workshops, institutes and services offered. In 1957 total registrations exceeded those of any other major institution reporting to the National Association of Deans and Directors of Summer Sessions.

Enrollment rose 6.4 per cent in 1957 and 8.95 per cent in 1958. The estimated national averages for those years were approximately 4.0 and 5.0 per cent. The total enrollment for 1957 was 15,017, for 1958 it was 16,361.

This represented an overall increase of 8.95 per cent exceeding expectations by about 3 per cent, but exceeding national estimates by approximately 6 per cent.

Once again in 1958 an effort was made to strengthen the summer staff at the upper ranks by increasing maximum salaries from \$1,000 to \$1,150. Because this new salary scale was only roughly comparable to academic year increases already granted, it did not bring salaries at the upper ranks into line with academic year levels, but it did keep pace with those increases.

Institutes—In 1957 and 1958 institutes in science and mathematics for high school teachers were made possible on both the Minneapolis and Duluth Campuses through the support of the National Science Foundation and the Louis W. and Maud Hill Family Foundation. The Minnesota Mining and Manufacturing Company cooperated in the establishment of a Distinguished Lectureship in Chemistry with an internationally renowned British chemist presenting the lectures in 1957, and in 1958 they were presented by one of the most eminent contemporary German chemists.

A grant from The Ford Foundation supported an institute for economics teachers of liberal arts colleges under the direction of the School of Business Administration in 1957 and again in 1958, with Minnesota one of a very limited number of universities receiving a second grant. The University was also host to a summer institute in advanced statistics which brought to the campus distinguished statisticians from universities throughout the nation.

Special Events—The staff of Coffman Memorial Union cooperating with the Summer Session engaged in a number of special programs and the Department of Physical Education for Women conducted a number of significant activities.

The University Theater season for the summer of 1957 included an original revue by a member of the staff of the Department of Speech and Theater Arts, Professor Robert Moulton, called *Some Like It Hot*; the Aaron Copland opera, *The Tender Land*, produced in cooperation with the Opera Production Workshop, planned by the Departments of Music, Music Education, and Speech and Theater Arts; *Arms and the Man* by George Bernard Shaw; and *Finian's Rainbow*.

In 1958 the introduction of the highly successful Showboat for the centennial year celebration was hailed by students, staff members and critics alike.

The Department of Concerts and Lectures once again provided programs of distinction during the biennium. The Andahazy Ballet Company in 1957, the Summer Session Symphony, piano recitals, the presentation of renowned folk singers, and other cultural features enriched the summer life of the student population during both seasons.

On the regular film program, a weekly newsreel, a feature film, and noteworthy educational films were presented with the cooperation of the Department of Audio-Visual Education. Foreign films not ordinarily available to theatergoers were included in the program.

Research Study—During the biennium the dean of the Summer Session and the staff of the Bureau of Institutional Research continued to edit and study results of the intensive research program which was begun in 1956. This study constitutes the first intensive examination of the objectives and accomplishments of a major summer session as distinguished from similar studies during the academic year, and the results are being incorporated into a 200-page publication available in the autumn of 1958 in a limited edition. The results of a study have already affected very directly the summer program, and will unquestionably have far-reaching implications for changes in the future.

One of the most valid indices of the distinction of the work of a major summer session is undoubtedly the extent, variety and quality of the graduate work offered and taken. Cooperation between the Summer Session and the Graduate School has been active and fruitful, as indicated by a substan-

tial increase in the number of advanced and graduate courses offered, graduate degrees conferred, and special workshops and graduate institutes presented. This is a trend which it is hoped will be continued in the future.—
E. W. ZIEBARTH, *dean*

DEPARTMENT OF PHYSICAL EDUCATION AND ATHLETICS

The following report of the Department of Physical Education and Athletics is submitted for the years 1956-57 and 1957-58.

The overall program in physical education, athletics, intramurals and recreation continues to grow and expand.

The survey made by Hammel and Green, architects, of facilities projecting our future needs was completed and submitted to the Administration and Board of Regents. The report showed that the stadium was the most important facility problem of the department. President Morrill, recognizing the importance of this problem appointed a Stadium Committee to consider whether the present stadium should be remodeled and expanded, or land purchased and a new stadium erected.

The Committee, after several months of diligent work reported their conclusions as follows:

- a. That the present stadium and related facilities are not adequate in the long range planning of the University.
- b. That it is not desirable to acquire adequacy by remodeling the present stadium.
- c. A recommendation that the University include in its long range planning a new stadium.
- d. That if the recommendation for a new stadium in the long range planning of the University is accepted, it is suggested that early consideration be given to the acquisition of adequate land area.

All of our home games in 1957 were sellouts. Due to this increased income we have been able to retire the department's indebtedness and now have a surplus building fund.

Property was obtained near Delta Field for new Intramural fields which was improved, sodded, fenced, and lighted at an expense of \$71,149.96. This gives us two additional touchball and four softball fields in the area of Delta Field, thus consolidating our softball and touch football intramural programs.

Due to continued expansion in the Engineering School, part of Northrop Field has been designated for the new building for the School of Architecture. With the help of the Administration and department funds in the amount of \$65,000 the property consisting of a half block on Harvard Street from the stadium to Washington Avenue was purchased and improved for a football practice area.

The University was host to the NCAA Hockey Tournament which was the first time the tournament was ever held on a university campus. The tournament was highly successful. At the same time the National Hockey Coaches Association held a meeting in St. Paul.

The University of Minnesota baseball team again won the Big 10 Championship under Coach Dick Siebert. Also, our wrestling team, under Coach Wally Johnson, won the Big 10 Championship in 1957.

Mr. Jim Kelly, our track coach, was selected as the head United States track coach for the Olympic games in Australia. The American team scored a smashing victory in track and field for the United States.

Following is a record of season play on our golf course, tennis courts, and ice rink:

	Golf		Tennis	Skating	Total
	9 Holes	18 Holes			
1956-57	26,016	31,362	17,225	30,437	105,040
1957-58	24,016	35,571	13,689	31,981	105,257

Special Events—Each year the department conducts a number of special events in addition to the regular scheduled activities. Some are conducted by

the department but others are carried on in cooperation with the state or Twin Cities school boards. A list of these special events follows:

1956-57

1. Intersectional Ice Hockey series with the Winnipeg Rangers and Yale University.
2. State high school championship meets in basketball, gymnastics, swimming, track, golf, tennis.
3. Twin City high school football game.
4. Minneapolis and St. Paul high school games in basketball and hockey.
5. High school dual swimming meets.
6. Northwest Gymnastics Meet. Midwest Open Gymnastics Meet.
7. Coaches clinics in basketball, swimming, wrestling, hockey, gymnastics, football, baseball, tennis.
8. Basketball tournaments: St. Ignatius, Twin City high school, Minneapolis high school, District 17, District 18, Region V, Region IV.
9. Hockey tournaments: Region II, Region VI, Private Schools.
10. Track Meets: High school dual meets, Metropolitan High School, Outstate and Private High Schools, Parochial and Private School dual meets, Minneapolis high school relays, Minneapolis High School Meet, District 18, Region V.
11. Big 10 Conference Swimming Meet.
12. Golf tournaments: District 17, St. Paul high schools, Twin City high schools.
13. Tennis meets: Region V, Twin City.
14. American Red Cross Life Saving Classes.

1957-58

1. Intersectional Ice Hockey series with Harvard.
2. State high school championship meets in basketball, gymnastics, golf, tennis, track.
3. Twin City high school football game.
4. Northwest Open Gymnastics meet.
5. Minneapolis and St. Paul high school games and meets in track, swimming, basketball, hockey.
6. Coaches clinics in basketball, hockey, gymnastics, swimming, wrestling, track, tennis, football.
7. Basketball tournaments: District 17, District 18, Region IV, Region V, Twin City high schools.
8. Track tournaments: Metropolitan high school, Out-state high school, Twin City high school, Private and Parochial high school, District 18.
9. Minnesota Swimming Relays.
10. Hockey tournaments: NCAA, Region II, Region VI, St. Paul high school B teams, Minneapolis Park Board play-off.
11. Golf tournaments: District 17, District 18, Region V, Twin City high schools.
12. Tennis tournaments: Region V, Twin City high schools.
13. American Red Cross Life Saving classes.

Physical Education—During the past two years the several programs in physical education have been carried on with an increase in enrollment and interest. The three main areas of this division, professional preparation in physical education and recreation leadership, organized activity programs and intramural athletics have been promoted with increased enthusiasm and participation.

In the professional preparation area the same trends in enrollment prevailed. The objective of this division is not to increase the number of those enrolled but rather through selective recruitment and admission procedures to furnish well qualified and expertly trained physical education teachers for the schools of Minnesota and the nation. The time is approaching when the supply of men teachers in this field will equal and perhaps exceed the demand and the emphasis will need to be upon quality without too much concern for quantity.

The recreation leadership division continued to train men and women to administer and conduct recreation programs for many types of institutions. Graduates are being employed for positions in the Red Cross, hospitals and many other social, educational and industrial organizations. One of the most significant and pertinent contributions of this area is the preparation of students for hospital recreation. The mental hospitals are especially concerned with the need for recreation directors. The University of Minnesota

TABLE I. STATISTICS ON INTERCOLLEGIATE ATHLETICS 1956-57 AND 1957-58

Activities and Head Coaches	Total No. Games		No. Conference Games		No. Non- Conference Games		Total No. Receiv- ing Athletic In- struction Includ- ing Freshmen		No. Varsity Candidates		No. Varsity Candi- dates Eligible for Intercollegiate Competition		No. Having Competition		No. "M" Awards		No. Freshmen Candidates		No. Freshman Numerals Awarded		No. Games Won		No. Games Lost		No. Games Tied	
	56- 57	57- 58	56- 57	57- 58	56- 57	57- 58	56- 57	57- 58	56- 57	57- 58	56- 57	57- 58	56- 57	57- 58	56- 57	57- 58	56- 57	57- 58	56- 57	57- 58	56- 57	57- 58	56- 57	57- 58	56- 57	57- 58
Baseball Siebert	26	31	11	14	15	17	143	139	47	39	33	24	21	18	12	15	96	100	29	28	16	27	8	4	2	0
Basketball Cowles	22	22	14	14	8	8	107	76	29	15	15	12	15	13	11	10	78	61	16	16	14	10	8	12	0	0
Cross County Kelly	5	5	2	2	3	3	21	20	12	6	10	6	6	6	6	6	9	14	4	4	2	3	3	2	0	0
Football Warmath	9	9	7	8	2	1	182	160	73	74	53	62	33	39	31	37	109	86	45	33	6	4	1	5	2	0
Golf Bolstad	19	16	5	4	14	12	45	44	29	33	21	24	8	20	8	10	16	11	16	11	15	14	3	2	1	0
Gymnastics Johnson-Piper	10	14	7	9	3	5	29	51	18	24	12	11	7	9	5	5	11	27	8	12	0	7	10	6	0	1
Hockey Mariucci	29	27	24	24	5	3	106	87	24	27	23	22	21	20	17	15	81	60	18	20	12	16	15	11	2	0
Swimming Thorpe-Heusner	7	9	6	5	1	4	70	45	31	30	19	21	15	16	11	15	39	15	13	9	2	5	5	4	0	0
Tennis Murphy	11	11	5	8	6	3	22	20	12	12	8	11	7	9	7	6	10	9	8	8	5	6	6	5	0	0
Track Kelly	9	7	7	5	2	2	65	78	27	34	21	25	21	21	15	16	38	44	12	16	7	6	2	1	0	0
Wrestling Johnson	16	18	8	10	8	8	34	45	22	30	18	13	17	15	11	10	12	15	5	10	14	14	1	4	1	0
Totals	163	169	96	103	67	66	824	765	324	324	233	231	171	186	134	145	499	442	174	167	93	112	62	56	8	1

is one of the leading institutions in the country in all recreation leadership training and is especially noted for its hospital recreation program.

Graduate work in physical education is in our opinion becoming more strongly established. The addition of Dr. William Heusner reinforced the staff considerably. It is hoped that he will be able to establish and promote a needed research program in physical education. The greatest enrollment on the graduate level is in the summer session but there is also a gradual increase in the graduate registration during the regular school year.

Of great concern is the situation with regard to the physical activity programs for the men students in the University. The cancellation of the requirement in physical education by the General College in 1955 caused some apprehension concerning the entire program. It was found, however, that the enrollment in the organized activity classes was not appreciably affected. The total number of students registered for physical education classes has gradually increased and is showing an upward trend almost parallel to the general University registration. While the idea of an elective program is good, the net result is that those students who need the physical activity the most do not elect the courses. It is hoped that more and more students will take advantage of the opportunities offered to them for learning experiences in healthful recreational activities that can be followed in their school days and later years.

Since there is no physical education requirement it is essential that an extensive program of intramural athletics be conducted so that as many students as possible may participate in some recreative physical activity. To this end the intramural department has in an increasing degree actively promoted an extensive program of competitive and recreational sports. The expansion of the Delta Field area has increased the amount of space but its longer distance from men's residence halls is not conducive to extensive use. More outdoor space and separate indoor facilities are necessary if an adequate program is to be conducted. It is hoped that this important phase of student life will be given serious consideration in the plans for the expansion of the campuses of the University.

The extent and kind of participation in intramural activities is shown in Table II.

TABLE II. INTRAMURAL PARTICIPATION

Activity	Teams		Games		Individuals		Participations	
	1956-57	1957-58	1956-57	1957-58	1956-57	1957-58	1956-57	1957-58
Archery						22		22
Baseball	39	21	77	52	559	349	1,359	929
Basketball (F)	152	147	200	224	1,530	1,534	2,933	2,993
Basketball (W)	188	192	450	528	1,791	1,950	5,969	6,462
Bowling (F)	116	131	1,332	1,575	828	909	3,935	4,760
Bowling (W)	120	143	1,311	1,635	837	956	3,926	4,972
Bowling (S)	71	89	624	805	496	596	1,765	2,368
Cross country	7	2			33	19	33	19
Free throw	35	41			242	297	242	297
Golf	29	35	34	27	287	214	319	238
Handball	15	11	85	99	68	55	108	117
Hockey	53	46	107	101	672	628	1,749	1,610
Judo				14		14		28
Paddleball	18	14	136	184	84	81	137	163
Sigma Delta Psi					41	13	87	19
Softball	128	151	296	337	1,798	2,123	5,222	6,322
Squash			54	147		24	30	74
Swimming	18	32			135	136	230	325
Table tennis	52	38	427	345	222	192	390	302
Tennis	30	37	305	307	173	173	296	298
Touch football	114	125	267	307	1,508	1,773	4,403	5,324
Track	29	38			196	205	374	366
Volleyball	71	68	326	738	784	781	1,625	1,919
Wrestling	30	30	109	94	109	94	218	187
Total	1,315	1,391	6,140	7,519	12,401	13,138	35,370	40,174
Increase	5.8 per cent		22.4 per cent		5.9 per cent		13.6 per cent	

These figures include organized competition only. A large number of students recreate in informal "free play" activities such as golf, swimming, tennis, handball, etc.—ISAAC J. ARMSTRONG, *director*

DEPARTMENT OF ALUMNI RELATIONS

The Minnesota Alumni Association

Among the most important gains in 1956-58 were the achievement of a close partnership with the University administration in legislative activities, initiation of an alumni policy of positive action, and adoption of a new legislative program as a result of a study and recommendation made by Senator Leslie E. Westin. The Alumni Association is encouraged by its success in this area and looks forward with confidence to its ability to give continued help to the University when needed.

The fiscal year 1956-57 was the first year when the Minnesota Alumni Association worked under a new plan, de-emphasizing class organization and emphasizing college alumni activity. By the end of this biennium five constituent groups had joined the overall alumni program of the University, raising the total of such groups to eight.

With 200,000 degree holders expected by 1970, automation of alumni records seemed essential at the beginning of this biennium. As a result of a study and recommendation by the Executive Secretary, conversion to IBM records system was adopted by the Board of Directors of the Association and approved by the President of the University to become effective July 1, 1958.

Another important achievement during this biennium was adoption of a new membership plan on basis of an actuarial study. The new membership plan was approved and incorporated into the By-Laws of the Association effective July 1, 1958. The membership rates have been changed to the following:

Annual membership	\$ 5.00
if non-resident of the United States	6.00
Five-year membership	20.00
Life membership	75.00
Husband-wife memberships:	
Annual membership	\$ 6.00
Five-year membership	24.00
Life memberships	100.00
Special membership rates available to graduates out of school not more than six years:	
First year out	Regents' membership (free)
Second year out	\$1.00
Third year out	2.00
Fourth year out	3.00
Fifth year out	4.00
Sixth year out	5.00

Officers—Officers of The Minnesota Alumni Association for 1956-58 were as follows:

For 1956-57

President	Glenn E. Seidel, BME'36
First Vice President	Leif R. Strand, DDS'29
Second Vice President	J. D. Holtzermann, BA'21
Secretary	Charlotte Winget Chope, BA'27
Treasurer	Wendell T. Burns, BA'16

For 1957-58

President	Leif R. Strand, DDS'29
First Vice President	J. D. Holtzermann, BA'21
Second Vice President	Wendell T. Burns, BA'16
Secretary	Catherine C. Knudtson, Ed'23
Treasurer	Sam W. Campbell, BA'25, LLB'27

And Ed Haislet, BSEd'31, as Executive Secretary

Office—For the third consecutive biennium the Department of Alumni Relations staff has remained constant with 18 full-time and four part-time employees.

Budget—Total income from The Minnesota Alumni Association for 1956-57 was \$43,568.67, plus \$61,212.00 from the University, making a total of \$104,780.67. For 1957-58 the budget totalled \$119,518.18—\$49,606.18 representing in-

come for the year from the Association, and \$69,912.00 received from the University.

Field Service—The field service program was severely curtailed during the second year of this biennium due to the reassignment of Mr. Ray Chisholm from his work with alumni clubs to working with constituent groups. Also, Mr. Chisholm was on leave of absence during months of January and February of 1958, working with the State Department in Burma training Burmese boxers for Asian Games.

During the two years 64 alumni clubs were visited by the field representative and 74 additional community contacts were made. Nine new alumni clubs were organized. The total number of Minnesota alumni clubs is 103—57 in-state clubs, 46 out-state, two alumnae clubs, and three alumni clubs outside the continental limits of the United States.

The Association received 55 requests for speakers from the University faculty, and 222 service-program requests (films, slides, etc.) during the biennium. The number of service-program requests shows a definite decrease in comparison to last biennium and is perhaps primarily due to the failure of Minnesota football team in 1957-58.

In the past two years Minnesota alumni clubs held 113 reported meetings with 16,427 Minnesota people in attendance. The in-state clubs averaged 3.40 meetings a year during 1956-57 and 2.70 meetings during 1957-58; the out-state clubs had an average of 1.73 meetings a year.

Membership—In 1956-57 for the first time since 1952 membership went over 13,000 and in 1957-58 passed the 14,000 mark—again, for the first time since 1951. Effective June 30, 1958, the total number of the Minnesota Alumni Association members was 14,070. The actual numbers of members for this biennium were:

	1956-57	1957-58
Regents	4,733	5,209
Paid-in-advance	425	860
Life	44	84
Annual	3,966	3,801

As in the past, the paid-in-advance and the life memberships show a steady increase.

The paid-in-advance memberships:

	Number	Amount in operating fund	Total amount in five-year reserve fund
1956	1,401	\$4,812.00	\$ 9,026.40
1957	1,570	5,778.00	10,224.85
1958	2,052	6,579.00	12,123.95

The life membership fund at the end of 1957-58 had \$112,948.27 or \$131,-627.34 in market value.

The life membership time payment plan started in 1953 secured 42 members during 1956-57 with 10 time payments completed; and 74 members during 1957-58 with 63 completed.

The renewal figure in 1956-57 showed a 8.8 per cent increase in returns over the previous year and in 1957-58 another increase of 1.4 per cent.

Constituent Groups—While no new constituent associations were formed during 1956-57, the 1957-58 fiscal year showed a rapid progress in the forming of such alumni groups. Five new alumni groups became a part of the overall University alumni program. The Veterinary Medical Alumni Association, School of Dentistry, College of Pharmacy, University of Minnesota Duluth Branch, and Mortuary Science Alumni Association joined the already existing Institute of Technology, School of Business Administration, and the College of Education alumni groups. While in the year 1956-57 it was felt that a real progress had been made in selling the idea of constituent groups, in 1957-58 it materialized and proved to be successful.

During the past two years contacts were also made with alumni groups of School of Agriculture, Institute of Agriculture, School of Journalism, Women's Physical Education, School of Mines, General College, College of Sci-

ence, Literature, and Arts, and the "M" Club. Progress definitely has been made in this phase of the alumni program and it is believed that it is a matter of time before the groups already contacted will join The Minnesota Alumni Association.

Special Events, Services, and Promotion—During the biennium The Minnesota Alumni Association has offered the alumni of the University the following:

The official University of Minnesota ring has become an accepted tradition of the University and continued to be the number one item with the alumni.

"Echoes from Memorial Stadium"—the record of Minnesota songs—is the second best seller.

The maroon and gold University of Minnesota playing cards were added to the list of loyalty items in 1956-57 and are selling well.

The Minnesota Chippendale hanging tray replaced the insignia tray during this biennium and is a favorite with many alumni.

A modern Minnesota book rack was introduced in 1956-57 too as a companion piece to the tray but it is the slow seller of the group.

The Minnesota chair sells well for a large item.

A personalized king size Minnesota ash tray is the newest item on the list and was introduced in 1958.

The above merchandise items are promoted through advertisements in the *Gopher Grad* and inserts in all renewal and membership mailings. The University of Minnesota ring is also offered to all graduating seniors with a special brochure in the commencement packets.

The St. Paul Quarterback Club was again sponsored by the Alumni Association for the sixth and seventh consecutive years. Mr. Elmer Engelbert, past member of the Board of Directors of the Association, has been chairman and host for the meetings which are held on Monday noons after the football games at the Minnesota Club in St. Paul.

Football meetings again were held in conjunction with the football games in 1956 and 1957.

The 1956 Homecoming was held November 1-3, Minnesota vs. Pittsburgh, with the slogan "Scuttle Pitt."

The 1957 Homecoming was celebrated November 2 with the Hoosiers of Indiana visiting us for the first time in many years. "Hoe Down Hoosiers" was the motto.

In both years the Alumni Association worked in close cooperation with the student Homecoming committee, and alumni served on committees for judges of the Homecoming parade, house decorations, queen contest, bonfire, and pep fest. The coffee hour after the game was the only event sponsored in its entirety by The Minnesota Alumni Association in both years.

The 54th and 55th annual reunion celebrations were held according to the new reunion plan administered for the first time this biennium with the Alumni Association sponsoring only the 50th and the 25th class reunions. The results were gratifying.

Other classes, such as Class of 1913 in 1958, and Classes of 1912, 1922, and 1942 in 1957, also held their reunions.

The time and effort on the part of staff to promote a large reunion successfully requires that future plans call for concentration of efforts on the Golden Anniversary Class with probably a two-day program.

In 1958 also *special reunions* were held: a Doc Spears reunion for all those who played in the Spears era; the 1927 Class of Electrical Engineering reunion, and the first annual Southwest Alumni Reunion in Phoenix, Arizona, sponsored by the Valley of the Sun Club in Phoenix, the Tucson Alumni

Club, the Northern California Alumni Club in San Francisco, and the Southern California Club in Los Angeles.

An Alumni Honors Day Luncheon has become a part of the general alumni program during this biennium. It was held on Charter Day, February 28, 1957, for the first time in the Main Ballroom of the Coffman Memorial Union, and its primary purpose was to honor all former recipients of the Outstanding Achievement Award at a proper occasion especially planned for this. Some 324 special guests of the Alumni Association attended the Luncheon in 1957, and of the 229 Outstanding Achievement Award recipients 37 were present.

The Luncheon was repeated in 1958, again on Charter Day, February 27, with 290 guests and 31 former Outstanding Achievement Award recipients in attendance.

As in the previous biennium, also, for the past two years the Alumni Association has continued to distribute commencement packets to the graduating seniors, thus presenting the only opportunity for the student to visit the Association's office during his University career.

Also, in 1957 as well as in 1958, the June Commencement class was presented to the Alumni Association immediately after the conferring of degrees by President Morrill. In 1957 the Executive Secretary introduced the President of the Association to the class, but in 1958 he gave a short talk on what it means to be an alumnus.

Alumni Magazine—During the 1956-57 fiscal year nine 36-page issues of the alumni magazine, *Gopher Grad*, were published, October through June. Number of copies printed each month varied between 13,000 and 13,300. In 1957-58 also nine 36-page issues were published with the number of copies averaging 13,200 for the fall months but after January steadily increasing to 14,200 in June. Also, this biennium the regular issues were preceded by special (16-page) publications which came out in September and went to the 73,000 non-members of the Association. The special issue was limited to subjects concerning the University as a whole.

In 1956-57 the editorial objective was to decrease the number of speeches and reprints substituting general educational features and treating alumni as intelligent adults who look to the University to broaden their knowledge; to increase the number of alumni personality sketches; and to use campus stories written exclusively for the *Gopher Grad*. In 1957-58 the same policy was followed with a special emphasis on special issues that dealt with only one subject probably because of the urgent need for complete and thorough coverage of subjects demanding public understanding.

Board of Directors—The Board of Directors of the Association met five times each fiscal year and among the significant actions not covered in the above report were:

The approval of a report and recommendation of an alumni committee after two-year study of the Greater University Fund and authorization that the study be presented to the President and the Board of Regents, if approved by the Greater University Fund Board of Trustees.

Transfer of Dad's Association from the alumni sponsorship to that of the Dean of Students.

Inauguration—with approval of the Senate Committee on Intercollegiate Athletics—of a new system of alumni athletic awards to the outstanding athletes in each of the intercollegiate sports.

Approval of a study to be made of all alumni who have made significant contributions in service to the Alumni Association, the University, or to any of its colleges or departments, so that the Alumni Service Award can be properly initiated.

Appointment of a special committee to study the need of new alumni quarters.

The appointment of special committees to discuss with President Morrill matters pertaining to public education and athletics.

Amendment of Association's By-Laws so that presidents of special alumni groups not able to achieve constituent status are eligible for ex officio Board

membership on $\frac{2}{3}$ vote of the Board of Directors, and immediate invitation of presidents of "M" Club and the Alumnae Club to become such members.

Approval of a new Minnesota Alumni Association position of Assistant to the Secretary and appointment of James A. Daly, BBA '58, to fill this position.—ED HAISLET, *director*

GREATER UNIVERSITY FUND

The 1956-58 biennium included the 10th Anniversary of the Greater University Fund. The steady growth picture of gift support to the University through the Fund was continued during this period.

Alumni representatives on the Board of Trustees during the biennium included: John K. Fesler, Louis Gross, C. R. Carlson, Edwin A. Martini, Bradshaw Mintener, Betty Sullivan, Henry Mackall and Lloyd Hatch. Alumni representatives are appointed for two year terms by the Board of Directors of the Minnesota Alumni Association and may serve a maximum of two terms. This rule brought to a close the many years of direction and leadership to the Fund by John K. Fesler. Other Board members are: President J. L. Morrill, Vice President William T. Middlebrook, Vice President Malcolm M. Willey, and representing the Board of Regents, Lester A. Malkerson. Edwin L. Haislet, alumni secretary, serves as the secretary for the Board of Trustees and R. P. Provost as the director. The Trustees met seven times during the biennium.

The office staff remained at the same level during this biennium. The staff is made up of the director, a secretary, a cashier and a clerk-typist. Office space was again provided in 205 Coffman Union with use of alumni records and alumni mailing facilities in TSMc.

During the 1956 calendar year campaign, gifts totaling \$335,500 from 4,929 contributors were channeled through the Greater University Fund. During 1947, the totals were \$420,500 in gifts and 5,025 donors.

As in previous years, the special project program of the Fund expanded. Over 100 new projects were added to the special projects program. Of these, 85 per cent were in the student aids area. This points up the fact that primary emphasis was given during the biennium to increasing student aid type projects at the University.

On the national scene during this period, there was a general growth pattern of giving to American higher education. The Advertising Council undertook the public service task of helping higher education tell its story of financial need. Various corporations, both local and national, placed in operation programs matching alumni gifts to their alma mater.

The future plans of the Department revolve around an automatic records system and improved alumni giving and the development of new gift support from the constituent groups of the Minnesota Alumni Association. A Century Club program, in the planning stage, should provide renewed support to the freshman scholarship and graduate fellowship programs of the Fund.—ROBERT P. PROVOST, *director*

INDUSTRIAL RELATIONS CENTER

The Industrial Relations Center was established by the University of Minnesota on February 21, 1945, to integrate and coordinate the services of the faculty and facilities of the University for training and research in the field of industrial relations. Through continuing research studies, professional training, development of library and reference facilities, the Center provides labor, management and the public with a growing body of current knowledge and understanding in employment relations.

A Faculty Committee, which is the policy making arm of the center, has been drawn from several departments of the University, including Agricultural Economics, Business Administration, Economics, Engineering, Law, Psychology, Public Administration, Political Science, and Sociology. Its decisions guide the Center's training, research, and service activities.

The Center's Advisory Council consists of a number of representative citizens of Minnesota whose knowledge, experience, and professional activities

ensure a well-balanced understanding of and a keen interest in industrial relations. The Council has proved invaluable in assisting the Center in major policy decisions, in suggesting and appraising research projects, and in assessing training needs.

Research—Research is given high priority in the Industrial Relations Center program because research is an essential foundation of sound professional training in industrial relations. In six special laboratories research teams work on problems of major interest and promise to the Center's continuing program.

Triple Audit and Basic Research Laboratory

The Triple Audit is a study of functional relationships between and among (1) manpower management policies and practices; (2) economic characteristics of employing organizations, and (3) employee reactions to manpower programs. Many principles of manpower management are stated in the form of functional relationships. The Triple Audit gathers data from firms and employees to evaluate these principles. During the past two years, surveys have been made of (1) criteria or yardsticks used in manpower management in U.S. manufacturing firms; (2) methods of computing absentee rates; (3) complete Triple Audits for 50 Twin City manufacturing firms.

Management Development Laboratory

A system of classifying management jobs has been developed in the laboratory and applied to 500 managerial jobs. Predictors of management "potential" in individuals have been evaluated. In a current study of management appraisal, the "performance standard" approach is being compared with the "trait" approach.

Labor Marketing Laboratory

Factors which influence wives to seek employment outside the home are being checked in a study of 427 families in St. Paul.

Professional Standards Laboratory

Since 1948, the Industrial Relations Center has conducted annual studies of staffing ratios (the number of industrial relations staff specialists needed in proportion to the total number of employees in a firm), salaries of industrial relations executives, and expenditures for fourteen major industrial relations functions. The published reports of the continuing studies have provided industrial relations practitioners with data for comparisons of their own programs with those of other firms. An analysis of the specific duties assigned to principal industrial relations staff positions in industry, government, and labor unions is nearing completion.

Personnel and Labor Relations Laboratory

Research efforts have been concentrated on three major areas of investigation: (1) Employment problems of physically handicapped individuals in Minnesota. Results of these studies are published in a new bulletin series entitled "Minnesota Studies in Vocational Rehabilitation." (2) Employee-management communication practices which are related to successful supervisory and managerial performance. (3) Attitudes of unionized employees toward their union and their company, sometimes called studies of "dual loyalty."

Union Studies Laboratory

A Union Member Attitude Questionnaire has been developed and used with several union groups to check possible relationships between attitudes of union members and the policies and practices of specific unions. Results of

this study have been published in IRC Bulletin 18, "Understanding the Union Member." Factors which affect membership participation in union activities are also being analyzed.

Training—To provide professional training for students whose career objectives are in the field of industrial relations, the Graduate School has approved a program of study leading to the Master of Arts in Industrial Relations. During the biennium, 38 students received this degree. Continuing strong demand for these graduates to fill industrial relations positions immediately upon completion of the degree attests to the effectiveness of this program.

Conferences, usually of two or three days duration, are planned for practicing manpower managers and labor union leaders. Each conference is built around a current problem area or theme. Seven conferences were attended by 861 people.

Courses in industrial relations are offered in evening classes in cooperation with the General Extension Division. A Certificate in Industrial Relations may be earned by a student who completes 45 credits of course work and passes the Industrial Relations Classification Test administered by the Center. In 1956-58, six certificates were awarded.

Workers' Education courses, also offered in cooperation with the General Extension Division, are of special interest to union officers and members. These classes were attended by 405 union members in 1956-58. Summer institutes which are part of the Workers' Education program provide week-long workshops led by nationally known teachers and union leaders. Seven institutes in the summers of 1956 and 1957 had a total attendance of 327. In addition, members of the Workers' Education staff aided other groups in planning conferences on Consumer Problems, Credit Union Administration, Labor's Stake in World Affairs, Union Communications, and Mental Health As It Affects Labor.

Members of the Center's staff have guided and assisted labor organizations in Minnesota in establishing scholarships at the University. In 1957 and 1958, staff members participated in the selection of 50 winners of these scholarships.

Service—Through the service activities of the Industrial Relations Center the results of research and training programs are made available to the public. During the biennium, six bulletins, 13 articles in professional journals, and proceedings of several conferences were published. These publications received wide distribution through a classified mailing list of 5500 persons who have indicated an active interest in the IRC program.

The Reference Room, a research library of professional industrial relations literature, is used extensively by members of the research staff, students, and faculty members in industrial relations and related fields. In addition, 580 requests for information were received from representatives of companies, unions, and government agencies. In 1955, a special collection was established in the Reference Room by the St. Paul Allied Printing Trades Council as a memorial to Clarence G. Lofquist, a past president of the Council. Generous contributions from unions, groups, and individuals throughout Minnesota have made it possible to expand the collection during 1956-58.

Members of the staff reported on research at 87 meetings or conferences held by professional societies in industrial relations. They held offices in the following professional or civic organizations: Industrial Relations Research Association; Society for the Advancement of Management; Committee on Employment and the Family of the Social Science Research Council; Committee on Labor Relations, Minneapolis Junior Chamber of Commerce; Minnesota Association for Mental Health. They served on several advisory groups to government agencies such as the Federal Advisory Council, Bureau of Employment Security; Employment Security Advisory Council, State of Minnesota; St. Paul Fair Employment Practices Commission.—HERBERT G. HENEMAN, JR., *assistant director*

Divisions of Academic Administration

OFFICE OF THE DEAN OF STUDENTS

Our staff has shown continued professional improvement during this biennium. Six staff members obtained Ph.D. degrees. Several important research projects were undertaken, and 57 papers were published. Twenty-one staff members were selected for important positions in professional organizations.

Orientation Program—We coordinated and supervised the University-wide orientation program consisting of seven major activities. Parents and students attended Parents' programs, convocations, and classroom demonstrations. Yearly attendance was 435 at six New Student Camps. The camps emphasized initiating understanding of the personal, cultural, and social changes each new student will experience during his college days. During the biennium 12,227 new students participated in the two day orientation program during August and September of each year.

The Parents' Day Program was attended by approximately 2,200 parents in 1956 and 2,450 in 1957.

There were 7,500 copies of the New Student Handbook distributed annually to new students and parents in advance of registration.

In 1956, 165 students attended special orientation programs for foreign students. In 1957, 248 attended.

Residence Counseling—A total of 142 residence counselors were selected and supervised for special work with students living in University residence halls, fraternities, sororities, and rooming houses.

There were 427 special training meetings for residence counselors during the past two years. Nine members of the Counseling Bureau served as consultants for these residence counselors. Four members of the Student Activities Bureau, one member of the Student Housing Bureau, and four University Services head counselors provided direct supervision of the residence counselors.

Residence counseling was introduced into several private rooming houses. Special program objectives of the biennium included: increasing the educational content of residence programs, working with student government groups to increase scholastic performance and academic motivation, and encourage participation in cultural activities.

St. Paul Campus Branch—The staff of the St. Paul Office consists of representatives of the Student Housing Bureau, Student Counseling Bureau, Student Activities Bureau, Foreign Student Adviser's Office and the Office of Religious Coordinator.

In the academic year 1957-58, there were 15,785 interviews with this staff. This was 4,078 or 35 per cent more contacts than the previous year's total.

The staff met with several academic departmental groups on the St. Paul campus to discuss students' problems of mutual concern.

The new dormitory on this campus will increase the number of students living in University-owned housing from over 100 to approximately 400.

Coordinator of Student Religious Activities—The program of inter-religious cooperation established in 1947 continued to function effectively and has attracted attention from other institutions. The first Inter-Collegiate Student Conference on Religious Activities, representing 25 middle west state universities was held on our campus on April 18 and 19, 1958. Student religious organizations played a significant role, not only in the promotion of Religion in Life Weeks and Brotherhood Weeks, but in the general process of freshman orientation, particularly in Religious Fellowship Night during Welcome Week. Processing of voluntary religious census cards through the religious coordinator's office continues to be a major service provided to the religious founda-

tions; 75 per cent of the students filled out these cards in 1956-57; in 1957-58 it was 77 per cent. Adoption of the Regents' policy encouraging the construction of religious foundation buildings on 17th Ave. between University Ave. and 4th St. S. E. has resulted in two attractive structures viz., the Episcopal Foundation at 317—17th Ave. S. E. and the Presbyterian Foundation, 1628 4th St. S. E.

On the St. Paul campus two new religious organization buildings were established on Cleveland Ave.: a Lutheran Student Foundation's Luther Hall, dedicated in May 1956, and the United Campus Christian Fellowship House, maintained by the Congregational, Evangelical and Reformed, and Presbyterian Churches.

Foreign Student Adviser—The number of foreign students increased by 19 per cent (635 to 823) during 1956-58. By the end of the biennium 823 students from 68 countries were affiliated with the University. Of these, 74 per cent were registered in Graduate School. China—106, Korea—92, (including 55 members of the staff of Seoul National University), India—86, Canada—63, Philippines—38, and Japan—32 were the countries with the most foreign students. Students from Germany and Norway decreased in numbers, and during this biennium we received our first students from Poland since World War II. The number of students from Argentina increased with the change in government in that country.

The number of interviews with foreign students increased from 14,152 in 1955-56 to 14,744 in 1957-58 and the total contacts of all types increased from 30,841 in 1955-56 to 32,245 in 1957-58. In 1957-58 there were 628 meetings involving 11,387 participants.

During the biennium the Foreign Student Council was organized and in April 1958 staged the first International Festival sponsored by foreign students. In 1957-58 seminars on American Life were held for twenty foreign students with positions of leadership in student life in their home countries. Dr. Forrest G. Moore was elected to the presidency of the National Association of Foreign Student Advisers and received a grant from the Carnegie Corporation to conduct a study on the University's relationships with its foreign alumni.

During 1957-58 two students were hospitalized with mental illness and a student from Pakistan died.

Bureau of Student Loans and Scholarships—There was a tremendous increase in both case load and dollar volume of student financial assistance during this biennium. This increase may be attributed to (1) the establishment of 40 new scholarship funds, (2) a revised student loan program, and (3) the effects of the 1958 recession of summer and part-time job opportunities.

During this biennium, \$1,331,215.48 in loan and scholarship aid was granted from University funds as compared with \$639,900.65 during 1954-56.

Approximately 15 per cent of those given loan assistance were graduate students with an average loan of \$277.31. The average for undergraduates was \$230.31.

Undergraduates constituted approximately 93 per cent of students receiving scholarship assistance with an average for both graduates and undergraduates of \$276.34.

The Big Ten Athletic Conference initiated a new financial aid plan for athletes in 1957-58; 187 students received \$77,664.40 in scholarship and grant-in-aid assistance.

The freshman scholarship program has expanded. In 1949, the first year of the program, 112 applied; during the past biennium, 1,568 prospective freshmen applied.

Student Activities Bureau—At the end of the biennium, 1956-58, there were 345 student organizations under the supervision of the Student Activities Bureau. The staff of the Bureau had 68,181 conferences, meetings, interviews, and informal relationships with leaders of student organizations, as well as with members of the staff and faculty in carrying out its program of service, supervision, and education through the organized extra-curriculum. Approvals for campus publicity, social programs, movies, scholastic eligibility, and off-campus speakers totaled 13,049. During the biennium student organizations raised a total of \$129,251.39 from charitable projects and drives.

Major developments included a clarification of relationships between the Union Boards of Governors and the Senate Committee on Student Affairs; a policy statement on the resolution of conflicts between student groups and University departments in scheduling events; a continuing emphasis upon the improvement of scholarship through the extra-curriculum; and the participation of student government in appraising future needs of student groups for space and facilities.

The special Deans' Retreats for gifted freshman students have continued as an experiment in the utilization of an extra-curricular setting for intellectual purposes. The addition of a social psychologist to the staff marked an emerging interest in social-psychological research in the dynamics of the extra-curriculum.

The financial status of student organizations is summarized as follows:

	1956-57	1957-58
Deposits	\$577,437.34	\$578,243.44
Withdrawals	\$569,176.38	\$577,339.58
Ending balance	\$ 88,952.13	\$ 89,855.99

Disciplinary Counseling—Reported cases of student misconduct in 1956-58 increased 14 per cent from the preceding biennium. During 1956-58 there were 509 new discipline and rehabilitation counseling cases (140 females and 307 males). The total individual case work load, including recidivists, cases reopened for further dispositions, services to closed cases, and consultation cases increased from 1,016 in 1954-56 to 1,091 in 1956-58.

Of the individual cases referred, 25 per cent were classified as minor misconduct and approximately 25 per cent as miscellaneous, including scholastic dishonesty, misuse of privileges, liquor violations, and psychologically disordered personalities. The remaining 50 per cent were distributed in five approximately equal categories: financial irregularities, disorderly conduct, theft, sex misconduct, and admissions irregularities.

The All-University Committee on Student Behavior met 25 times to hear charges against 15 students and to review three actions previously taken. The All-University Student Judiciary Council met on 11 occasions to deliberate on two cases: an allegation of discrimination in membership standards and a charge of violating the "Consultation Policy."

The Disciplinary Counseling Office has continued to emphasize the development and expansion of student judiciary boards in residences. The 63 judiciary boards functioning in 1957-58 held 568 meetings, heard charges against 1,418 students, and took 1,597 actions. In 1956-57 the 40 judiciary boards held 165 meetings, heard charges against 879 students, and took 1,145 actions. About 75 per cent of all charges were violations of hours regulations for women.

Speech and Hearing Clinic—During this biennium, 963 persons received therapy in the Speech and Hearing Clinic. In addition, this clinic provided 12,453 individual appraisals including 9,823 speech and hearing appraisals for new students and 2,630 special appraisals for students entering the College of Education. These figures compare with 875 receiving therapy and 11,554 appraisals in 1954-56.

There were 70 graduate or undergraduate students who obtained professional therapy training under the supervision of the clinic staff.

This biennium has shown marked staff readjustments with the assistant director and two other major staff members resigning.

Student Counseling Bureau—The Student Counseling Bureau provided professional counseling and teaching services to University students and con-

	1956-58
Total number of counseling cases	5,584
Total number of interviews	14,863
Number of psychological tests administered	727,806
Total cases in education skills clinic	708
Number of student visits to clinic	9,730
Total number of case clearances	10,715

sultation to University, college, and high school faculty members. Of the 16 professional staff members, 13 now hold doctorate degrees. This staff provides teaching service through the graduate clinical practicum, vocational orientation class, and classes in social psychology.

These data indicate increases in each category except the total number of cases. The total number of interviews increased by 482, indicating a further intensity of case work with student clientele. Significantly, more staff time was devoted to consultation with other staff members about students.

Significant research projects completed included a counseling evaluation project, development of a personality inventory, and a project in group counseling.

The counseling staff gave 200 professional speeches and lectures. Several now serve as officers of professional organizations. Dr. Ralph Berdie was elected chairman of Division 17, Counseling Psychologists of the American Psychological Association.

Student Housing Bureau—The residential status of students enrolled in the University the fall quarter of each year of this biennium was as follows:

	1956-57	1957-58
Parents' homes	8,146	9,264
Relatives' homes	500	548
Own or rent own home	1,403	2,021
Residence halls	2,289	2,427
University Village	619	583
Fraternities and sororities	1,218	1,259
Apartments	3,435	4,376
Rooming houses	2,539	2,329
Friends' homes	76	184
Employers' homes	84	157
Residence not identified	2,342	127
	22,651	23,275

Personal interviews with students to assist in securing approved housing increased during this biennium. Stricter enforcement of city housing standards and destruction of rooming houses and apartment units for University expansion reduced the units available in the southeast area of Minneapolis, thus more students were forced to secure housing at a greater distance from the campus. Such dispersion of students increased the complexity of placement as well as of the supervision of rooming houses and apartments. An increased number of students, both single and married, are now living in apartments. The number of interviews with students and householders were:

	1956-57	1957-58
Interviews with householders	1,672	1,939
Interviews with students	7,567	7,833

The number of householders with units available during the fall quarter was 3,438 in 1956-57 and 3,843 in 1957-58. Enforcement of the Minneapolis Housing Maintenance Code of 1956 increased the disapproved units.

The number of Health Service Inspections requested by the Bureau increased 5 per cent from 1,048 in 1956-57 to 1,103 in 1957-58. Complaints against students and householders adjudicated increased from 237 in 1956-57 to 386 in 1957-58. The staff made 910 referrals to other offices in 1956-57 and 1,010 referrals in 1957-58. Over 50 per cent of the students referred were directed to the residence halls and University Village.

University Veterans' Counseling Center—The University Veterans' Counseling Center provided counseling for veterans. The total number counseled was 2,184. Of these, 83 per cent were veterans requesting counseling on a voluntary basis under Public Law 550. The remaining 17 per cent were disabled veterans.

During this biennium there were 2,737 interviews and 9,585 tests administered.—EDMUND G. WILLIAMSON, dean

UNIVERSITY OF MINNESOTA LIBRARIES

Development of the Library's Resources—On June 30, 1958, the accessioned holdings of the University of Minnesota Libraries totaled 1,905,678 volumes. Of these, 1,829,531 volumes comprised the collections in libraries on the University's Twin City campuses.

For lack of an adequate book fund, the past two bienniums have seen an alarming drop in the number of volumes added to the libraries of the University. In 1954-55, there were 63,705 volumes added in contrast to only 52,798 volumes during 1957-58.

Why has this decline in library growth occurred in the face of an expanding University program of teaching and research and rising student enrollments? It is because the Library's budget for books and periodicals has not kept up with increased prices and new demands. An enormous number of new periodicals have appeared in the past decade, and entirely new subject fields have arisen. Among American research libraries, Minnesota ranked seventh in size in 1953-54, and ninth in 1956-57. We are already falling behind as a major scholarly library.

The Book Budget Dilemma—With the discontinuance of the library portion of the Incidental Fee, which for many years was a growing source of funds earmarked for the book budget, the basic book appropriation has been, in effect, almost static for several years. Some temporary relief has come from the allocation of a small per cent of new funds for books, but the major help has come from annual, non-recurring grants from anticipated Research Overhead funds. The precarious dependency upon such allotments has been of great concern, since there is no assurance that the entire annual tentative allotment will be realized. In the Spring of 1958 an administrative decision to reduce the Library's 1958-59 allocation in order to finance other University activities has left the Library with a smaller total book fund than it had last year. To date no remedial action has been taken. If an adequate book budget is not provided, the Library will simply have to turn down an increasing number of faculty recommendations for needed publications.

Special Collections—The various special collections in the Library continued to grow in importance. The James Ford Bell Collection particularly is developing in international significance, largely through the contribution to scholarship that is being made by its publication program. The four works published from the Collection during the biennium are: *From Lisbon to Calicut*, translated by Professor Alvin Prottegeier, with commentary and notes by John Parker; *The Strait of Anian*, with text by John Parker, and including reproductions of three maps in the Collection; *Tidings Out of Brazil*, translated by Professor Mark Graubard, with commentary and notes by John Parker; and an attractive brochure entitled *A Letter from Olivier Van Noort*, a translation with historical commentary by Professor Jan O. M. Broek. A total of 1,782 items, including books, maps, manuscripts, documents, pamphlets, and broadsides were added to the Collection in 1956-58.

The Kerlan Collection of illustrated children's works continued to grow at a rapid pace. In the late Spring of 1958 Dr. Kerlan made arrangements to convert the original loan of the collection to an outright gift to the University.

During the biennium the Library received several notable gifts from the University Memorial Fund. One fund of over \$500 is in memory of Professor James Hillhouse of the English Department; another of over \$700 is in memory of Harold G. Russell, former Assistant Director of Libraries.

One of the most significant gifts to the University Library during the biennium was a microfilm file of the *Minneapolis Tribune*, presented by the publisher, as a public service to the people of Minnesota. The file covered the years 1867 through 1943, completing the Library's holdings, which began in 1944 with the microfilm edition.

Operational Highlights—The culmination of long years of planning for a new Bio-Medical Library was finally realized in 1958. The 1955 legislature appropriated \$400,000 for this purpose, and in 1957, an additional \$432,000 was voted. It is expected that the completion date will be in late 1959 or early 1960.

On November 15, 1957, the University Library dedicated the Harold G. Russell Room, to provide a center for special collections. The Library has never before had a suitable facility for such resources. The Russell Room, which now fills this longfelt need, will house many specialized gift collections.

One of the increasingly valuable segments of the Library is its newspaper files. A careful study was made in 1957-58 to determine the gaps that needed to be filled, and a Newspaper Librarian was appointed to develop the collection. A significant step was taken last year to establish an adequate Newspaper Room in the Library basement space that had never been finished for use. With the new lighting and the installation of equipment soon to be completed this will become the central service unit for all newspapers in the Library.

Study Space—One of the problems which the University as a whole faces with increasing urgency is the provision of adequate study space for students. Because no other suitable study facilities exist for them on campus, the various Library reading rooms have simply run out of seats during their busy daytime hours. Last year the Main Library gave up book storage space to establish a study hall in the basement. However, because of the great need for more study space throughout the campus, this did little to alleviate the situation. The problem is of such magnitude that only the establishment of large study halls in other locations will provide a really effective solution.

The situation is already causing concern, even with present enrollment. The need will become critical as the enrollment increases. One partial solution could be provided if every new academic building contained in it a sizable room assigned for study use. No adequate solution will be found until the University's central administration takes action to provide study halls in several campus buildings.

Personnel Changes and Development—In addition to the normal turnover the Library had an unusual number of changes at the Department Head level. Wesley C. Simonton, Chief Catalog Librarian, resigned to accept a full-time appointment in the Library School. He was succeeded by Paul Berrisford. Hubert Sauter, Institute of Technology Librarian, left the University to accept a position in industry and was succeeded by Francis B. O'Leary of Columbia University. Harald Ostvold, Institute of Agriculture Librarian, took the position of Chief of the Science and Technology Division of the New York Public Library. This vacancy was filled by H. Donald Ferris of the University of Tennessee. James M. Kingsley, Chief Acquisitions Librarian, was named to the newly created post of Chief Bibliographer, and was succeeded in the Acquisitions Department by W. Carl Jackson, Jr. of the State University of Iowa.

In cooperation with the Library School, the Library began a program of work-study appointments, termed Graduate Library Assistantships. Half-time appointments are made for twelve months, during which the student continues his studies in the Library School.

Library Needs in Relation to Campus Expansion—When the general Library was opened in 1923, the University's collections totaled 400,000 volumes. For 35 years there has been no addition to provide for the growing collections and the larger student body. Today the library holdings of the University exceed 1,900,000 volumes. At the current rate of growth, new acquisitions take up more than a mile of additional shelving each year.

Seven years ago, the new Freshman-Sophomore Library provided some space relief, and an additional stack area is now being finished in the Library sub-basement. When the proposed Bio-Medical Library is completed, some further space will become available in the central Library building. With library resources growing at the rate of 50,000 volumes a year, however, these new areas will be more than offset by current accessions in the next few years.

The problem of seating readers is already fully as critical as the provision of shelf space for books. Study halls in other buildings have not been forthcoming. The situation will clearly get worse before it gets better. Against this setting, the Senate Library Committee was asked, early in 1958, to study the library's space problem in relation to campus expansion.

Faculty Consultation—In a series of weekly meetings, over a period of several months, the Committee carried on consultations as to specific library needs, with representatives of many academic departments. Units participating in these discussions include American Studies, Anthropology, Art, Business Administration (and the Industrial Relations Center), Classics, Education (and the Institute of Child Development and Welfare), English, General College, Geography, German, History, Journalism, Philosophy, Political Science (and Public Administration and the International Relations Center), Psychology, Romance Languages, Slavic and Oriental Languages, Social Work, and Speech and Theater Arts.

In the course of these conferences, it became evident that if most of the departments in the College of Science, Literature, and the Arts, as well as other large units move to the west side of the river, new library facilities of considerable magnitude will be required in that area. The Library administration has pointed out that if large resources are moved to the West River facility, substantial new funds will have to be provided for additional staff and selected duplication of titles that may be needed in more than one location on the campus.

Accessibility and Departmental Interdependency—The discussions made it evident that a central location, to provide maximum accessibility for all departments, will be essential. It is also clear that although some resources can still be housed in the present Main Library, the large core of active reference and collateral reading material will have to be moved. Most of the Social Science departments consulted would like to see constructed a new centrally located West River Library with active collections arranged along broad subject lines in open-shelf reading rooms. The two major units in such a library would be a Social Sciences Library and a Humanities Library, connected, if possible, with adjacent departmental buildings.

Certain holdings, including possibly the newspaper collection, rare books and other special collections, and library service for the College of Education, might then remain in the present General Library, where the currently overcrowded stack area will be needed for housing large units of cataloged publications. Lower division students will still need some type of Freshman-Sophomore Library or Reserve Book Collection.—E. B. STANFORD, *director*

OFFICE OF ADMISSIONS AND RECORDS

In the face of increasing enrollments, the Office of Admissions and Records continued in its effort to give prompt, personalized service to students, while making its facilities available to the staff for additional research. Studies were undertaken to guide the development of the office through the next decade in doing its work better with fewer employees per thousand students. Job analyses were made in several areas of the office. Revised work assignments and new classifications of employees were established, consistent with these most recent results. The committee assignments of staff members were broadened and redistributed; heads of divisions or bureaus were brought more fully into assisting with the work and planning of the University. The assistance of the office to certain of the colleges was more clearly defined and supplemented. The service to research, particularly to studies called for by the faculty or surveys required by central administration, continued to grow and occupied a major part of the time of top-level personnel in the office.

The lack of adequate building space for the efficient management of office work and the safe handling of student groups during rush periods continued to be a serious handicap of the office. Building areas available per employee were generally far below the standards set in industry for effective work and necessary efficient records handling. The almost nonexistent public areas of the office provided so poorly for students and callers as to put the work of the office in a bad light. These areas were generally so poorly arranged that handling the large crowds of people, who necessarily come to the office during rush days in each academic term, was difficult. Operation was, therefore, both handicapped and fraught with some hazards because of inadequate housing.

Special Surveys and Research Reports—The Office continued to participate in the work of the California and Western Conference Cost and Statistical Study although burdened with an increasing number of sporadic questionnaires dealing with almost every aspect of University statistics and operation. In an attempt to reduce the work on questionnaires, representatives of the University joined with the registrars of other Big Ten institutions, at a May 1958 meeting in Chicago. There an attempt was made to systematize the exchange of necessary information among the colleges and universities with which the University of Minnesota has most direct association. Major new research and development projects to which significant contributions were made were (1) those having to do with formulation of a new long-range building program for the Legislative Interim Commission on State Building Needs, and (2) the work of the West River Development Committee applicable to the Minneapolis Campus. The office was a major contributor both with respect to data on students and their programs and in the management of the departmental interviews which sought to establish the relationships between units of the University for purposes of good campus planning. The work methods and statistics, which evolved from studies of the kind referred to, generated new demands for assistance to higher learning—locally, nationally, and internationally.

Committee Work Related to the Office—The committee assignments carried by the administrative heads of the different sections of the office continued to grow and to become more diversified. For example, the increasing work of the University Scholarship Committee and the new national emphasis on scholarships, fellowships, and student loans brought with them expanded duties ranging all the way from greater participation in committee work to the provision of records for larger numbers of people. The Board of Review for Resident Classification saw many students, mostly young married veterans recently arrived in the State of Minnesota, who had complex problems of residence and tuition rate determination.

On the rapidly growing campuses of the University, the problems of assigning or reassigning building areas and of moving or consolidating operating units were many and difficult. These were dealt with both by expanded staff activity and through the operation of the Advisory Committee on Space Allocation which served the Dean. In the face of growing enrollments, the refinement of entrance requirements was studied with several of the faculties. The personnel of the Admissions and Records Office necessarily participated, and frequently provided both background information and follow-up studies. The relationships with the secondary schools of the state and with prospective University students received a new impetus, consistent with the development of a staff which is interested and competent in coordinating school work for the growing number of young people in Minnesota.

Assistance to Students in Connection with Military Service—The Korean veterans, largely under the benefits of Public Law 550, are not identified in the tabulations which follow (inasmuch as they paid their own fees as regular students), hence it is important to note that they averaged about 5635 through 1956-57 and 4865 during 1957-58. In January of 1957, the functions of the Veterans Activities Unit were transferred to this office. World War II veterans, 119 in 1956-57 and 92 in 1957-58, included disabled veterans plus an occasional World War II GI. The added duties were mainly those of authorizing books and supplies and preparing brochures covering benefits for the new groups. New duties were also assumed in connection with Public Law 634, which went into effect October 1, 1956, providing educational benefits for children of veterans who died of injuries or disease resulting from military service. The 1957-58 enrollment of these "War Orphans" averaged about 40, and is expected to increase. A leaflet covering these benefits has also been prepared. The office continued to provide Selective Service Boards with information and certification on students enrolled under educational deferment, a group that averaged about 3500 during the biennium. A variety of other services are performed for students whose status indirectly involved veterans' rights, or the military.

Annual Enrollment—The University served a record breaking total of 83,611 different persons in 1956-57 and 82,473 in 1957-58 (Table V). The slight decline noted for the 1957-58 business recession year was mainly in the adult education programs such as evening extension classes, extension and agriculture short courses, and the Center for Continuation Study. The day college enrollment for the academic year and summer session (Table I) was 33,846 in 1956-57 and 34,900 in 1957-58 compared to 31,990 in the second year of the previous biennium, a continuance of the trend of increasing numbers of students that began in 1951. This trend is expected to continue for a decade and beyond as a result of increased birthrate and an increasing proportion of high school graduates seeking higher education.

Enrollment in the Day Colleges—(Table I)—During the present biennium, the academic-year, day-college enrollment has increased from 27,235 in 1955-56 to 28,995 in 1956-57 and to 29,993 in 1957-58, an overall increase of 10 per cent. The greatest growth during this period was in Institute of Technology students, up 22 per cent, and in Agriculture, Forestry, and Home Economics students, up 19 per cent. Increases in the other populous colleges ranged from 8 to 12 per cent. It is significant that the enrollment in 1957-58 showed an increase over the previous year despite the business recession then current.

Men and Women—Enrollments of both men and women students increased during the biennium. The composition of the student body continues to approximate 73 per cent men and 27 per cent women during the academic year. (Table I, Fig. 3)

Out-of-State Enrollment—(Tables XA, XB, Fig. 3)—The proportion of out-of-state students in the total student body has continued to be 14 per cent. The Graduate School, the School of Public Health, and the School of Veterinary Medicine have the largest ratios of non-residents with no significant change from the previous biennium. The per cent of non-resident students in these units in 1957-58 was 49, 56, and 33 respectively. Foreign students totaled 809 in 1956-57 and 939 in 1957-58 which was about 3 per cent of the total student body. The student body of the University is made up primarily, 86 per cent, of Minnesota residents.

New Matriculants—The number of new students at the University was greater in 1956-57 than at any time since the post-World War II years of 1946-47. This record enrollment included 5987 freshmen and 2342 advanced standing students for a total of 8329. In the recession year of 1957-58, there were a few less freshmen, 5703, but more advanced standing students, 2370, for a total of 8073. (Tables VIIIA, VIIIB, IXA, IXB, Fig. 1)

Source of Matriculants—As usual, approximately 92 per cent of the entering freshmen during the biennium were from Minnesota high schools. These again, as usual, were 25 per cent from Minneapolis Public Schools, 11 per cent from St. Paul Public Schools, 54 per cent from other public schools in Minnesota, and 10 per cent from Minnesota private schools. There was also no change in the proportion of advanced standing students, 56 per cent, entering from Minnesota colleges.

Degrees Conferred—The University granted 5125 degrees in 1956-57 and 5474 in 1957-58. (Table VIIA, Fig. 2). This is a continuance of the trend of increasing number of degrees that began during the previous biennium and is expected to continue in the foreseeable future.

Summer Sessions—Enrollment in the summer was 10,342 in 1956 and 10,758 in 1957, again, an increase over the previous biennium with the second term approximately 40 per cent of the first. As has been noted in many of the other aspects of enrollment, this is also a trend upward that is expected to continue for many years to come. (Table I)

Extension Division—Evening class enrollment (Table IVA) was 16,846 in 1956-57 and 14,807 in 1957-58. The decline between the years of the biennium can be attributed partly to the transfer of preparatory instruction in English and mathematics to the day college departments and partly to the current

business recession that affected adult education programs generally. Extension short course enrollment likewise declined during the biennium from 3584 in 1956-57 to 1209 in 1957-58. The attendance at the Center for Continuation Study (Table IVB) remained at the high level of 9943 in 1956-57 and 9900 in 1957-58, apparently less affected by the recession. There was a spectacular growth in Correspondence Study (Table IVA) from 5552 in 1955-56 to 6728 in 1956-57 and 7888 in 1957-58.

Subcollegiate Enrollments—During the biennium there was a slight increase in enrollments in the University High School and in the Duluth Laboratory School with no significant change in the Elementary School and Nursery School. The Schools of Agriculture enrollments were generally the same or slightly lower with the exception of the Southern School at Waseca which showed a slight increase. For detailed figures see Table III.

Tables and Charts—Special attention is directed to Table V which summarizes the number of different students instructed at every level each year. The accompanying charts show enrollment trends. Figures 1 and 2 show trends in new matriculants and in degrees awarded. Figure 3 depicts significant data with respect to the composition of the student body. Note especially the extent of the University's Adult Program. Figure 4 contrasts college year enrollment with fall term attendance through the years.—ROBERT EDWARD SUMMERS, dean

TABLE I. COLLEGIATE ENROLLMENTS BY COLLEGES AND SCHOOLS, 1956-1958

College or School	Year 1956-1957			Year 1957-1958			Gain	Loss
	Men	Women	Total	Men	Women	Total		
General College								
Second year	941	177	1118	969	203	1171	53	
First year	1257	317	1574	1236	287	1523		51
Adult Special	58	8	66	81	6	87	21	
Totals	2256	502	2758	2285	496	2781	23	
University College								
Senior	18	22	40	23	20	43	3	
Junior	13	11	24	10	16	26	2	
Sophomore		1	1	1	1	2	1	
Adult Special	3	2	5	1	2	3		2
Totals	34	36	70	35	39	74	4	
Science, Literature, and Arts								
Senior	852	325	1177	949	337	1286	109	
Junior	1042	360	1402	1111	372	1483	81	
Sophomore	1652	782	2434	1624	820	2444	10	
Freshman	1608	964	2572	1556	942	2498		74
Adult Special	315	189	504	293	156	449		55
Totals	5469	2620	8089	5533	2627	8160	71	
Institute of Technology								
5th year	428	1	429	556	2	558	129	
4th year	601	3	604	638	7	645	41	
3rd year	761	9	770	941	6	947	177	
2nd year	993	3	996	1029	13	1042	46	
1st year	1083	15	1098	921	12	933		165
Adult Special	124	3	127	127	4	131	4	
Totals	3990	34	4024	4212	44	4256	232	
Agriculture, Forestry, and Home Economics								
Seniors	195	129	324	237	130	367	43	
Juniors	234	121	355	245	122	367	12	
Sophomores	408	180	588	455	178	633	45	
Freshmen	404	159	563	414	160	574	11	
Adult Special	61	39	100	54	58	112	12	
Total	1302	628	1930	1405	648	2053	123	

TABLE I.—Continued

College or School	Year 1956-1957			Year 1957-1958			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Law School								
Senior	87	1	88	99	2	101	13	.....
Junior	53	2	55	52	2	54	.....	1
Sophomore	112	2	114	99	2	101	.....	13
Freshmen	166	3	169	98	1	99	.....	70
Adult Special	4	.....	4	9	1	10	6	.....
Total	422	8	430	357	8	365	.....	65
Medical School								
Senior	107	5	112	108	6	114	2	.....
Junior	110	5	115	112	6	118	3	.....
Sophomore	112	6	118	122	4	126	8	.....
Freshmen	123	4	127	124	6	130	3	.....
Adult Special	2	.....	2	2	1	3	1	.....
Total	454	20	474	468	23	491	17	.....
Medical Technology								
Senior .....	.....	18	18	5	30	35	17	.....
Junior	7	32	39	.....	32	32	.....	7
Adult Special .....	.....	9	9	.....	13	13	4	.....
Total	7	59	66	5	75	80	14	.....
Occupational Therapy								
Senior	2	18	20	2	22	24	4	.....
Junior	2	24	26	.....	24	24	.....	2
Adult Special .....	.....	.....	.....	1	.....	1	1	.....
Total	4	42	46	3	46	49	3	.....
Physical Therapy								
Senior	5	16	21	6	18	24	3	.....
Junior	6	18	24	3	11	14	.....	10
Adult Special	1	.....	1	1	.....	1	.....	.....
Total	12	34	46	10	29	39	.....	7
School of Public Health								
Senior	68	65	133	59	63	122	.....	11
Junior .....	.....	28	28	.....	24	24	.....	4
Sophomore .....	.....	33	33	.....	30	30	.....	3
Adult Special	21	42	63	35	43	78	15	.....
Total	89	168	257	94	160	254	.....	3
School of Nursing								
Third year	1	89	90	2	91	93	3	.....
Second year	1	81	82	.....	111	111	29	.....
First year	1	127	128	.....	116	116	.....	12
Affiliate .....	.....	116	116	.....	110	110	.....	6
Adult Special .....	.....	6	6	.....	10	10	4	.....
Total	3	419	422	2	438	440	18	.....
School of Dentistry								
Senior	79	.....	79	89	.....	89	10	.....
Junior	93	.....	93	87	.....	87	.....	6
Sophomore	83	.....	88	95	.....	95	7	.....
Freshmen	104	.....	104	106	.....	106	2	.....
Adult Special .....	.....	.....	.....	4	1	5	5	.....
Total	364	.....	364	381	1	382	18	.....
Dental Hygiene								
Second year .....	.....	62	62	.....	47	47	.....	15
First year .....	.....	29	29	.....	50	50	21	.....
Adult Special .....	.....	1	1	.....	.....	.....	.....	1
Total .....	.....	92	92	.....	97	97	5	.....

THE PRESIDENT'S REPORT

TABLE I.—Continued

College or School	Year 1956-1957			Year 1957-1958			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Pharmacy								
Senior	39	4	43	.....	2	2	.....	41
Junior	2	1	3	22	2	24	21	.....
Sophomore	21	2	23	25	1	26	3	.....
Freshmen	29	2	31	32	4	36	5	.....
Adult Special	3	.....	3	3	1	4	1	.....
Total	94	9	103	82	10	92	.....	11
College of Education								
Senior	326	628	954	363	637	1000	46	.....
Junior	303	477	780	293	572	865	85	.....
Sophomore	108	373	481	122	360	482	1	.....
Freshmen	105	298	403	102	301	403	.....	.....
Adult Special	194	286	480	259	284	543	63	.....
Total	1036	2062	3098	1139	2154	3293	195	.....
Business Administration								
Senior	462	14	476	508	12	520	44	.....
Junior	541	25	566	524	12	536	.....	30
Adult Special	45	3	48	50	1	51	3	.....
Total	1048	42	1090	1082	25	1107	17	.....
Graduate School								
Mpls. St. P. & Dul.	2963	676	3639	3299	726	4025	386	.....
Mayos	546	23	569	554	19	573	4	.....
Total	3509	699	4208	3853	745	4598	390	.....
Veterinary Medicine								
Senior	48	.....	48	41	1	42	.....	6
Junior	43	1	44	43	.....	43	.....	1
Sophomore	46	.....	46	46	2	48	2	.....
Freshmen	45	2	47	46	1	47	.....	.....
Adult Special	1	.....	1	1	.....	1	.....	.....
Total	183	3	186	177	4	181	.....	5
Duluth Branch								
Senior	283	100	383	370	118	488	105	.....
Junior	337	110	447	352	132	484	37	.....
Sophomore	428	178	606	425	126	551	.....	55
Freshmen	622	256	878	526	280	806	.....	72
Adult Special	94	72	166	150	75	225	59	.....
Total	1764	716	2480	1823	731	2554	74	.....
Total Academic Year	22040	8193	30233	22946	8400	31346	1113	.....
Less Dups	918	320	1238	1003	350	1353	115	.....
Net Total Academic Year	21122	7873	28995	21943	8050	29993	998	.....
Summer Session								
First Term	5274	3104	8378	5656	3375	9031	653	.....
Second Term	3725	2037	5762	3811	1951	5762	.....	.....
Totals	8999	5141	14140	9467	5326	14793	653	.....
Less Dups	2908	1424	4332	3088	1451	4539	207	.....
Net Total Summer Session	6091	3717	9808	6379	3875	10254	446	.....
Mayo Graduates	509	25	534	490	14	504	.....	30
Net Total Summer Session (including Mayo)	6600	3742	10342	6869	3889	10758	416	.....
Grand Total	27722	11615	39337	28812	11939	40751	1414	.....
Less Dups	4118	1373	5491	4391	1460	5851	360	.....
Net Grand Totals Collegiate	23604	10242	33846	24421	10479	34900	1054	.....

TABLE II A

COLLEGIATE ENROLLMENT BY QUARTERS

1956-1957

College or School	First Summer Session 1956			Second Summer Session 1956			Fall 1956			Winter 1957			Spring 1957			Total Individual Registration*		
	M	W	T	M	W	T	M	W	T	M	W	T	M	W	T	M	W	T
	General College	139	20	159	119	13	132	1883	442	2325	1774	414	2188	1558	375	1933	2323	509	2832
University	6	15	21	6	11	17	28	30	58	27	30	57	24	30	54	38	43	81
Science, Literature, Arts	1097	667	1764	831	453	1284	4650	2369	7019	4421	2139	6560	4084	1992	6076	6143	3167	9310
Institute of Technology	709	7	716	537	2	539	3860	34	3894	3505	31	3536	3317	27	3344	4073	40	4113
Agriculture, Forestry, and Home Economics	131	130	261	160	33	193	1252	647	1899	1145	528	1673	1070	626	1696	1365	701	2066
Law School	54	3	57	56	2	58	424	9	433	407	8	415	390	8	398	415	9	424
Medicine	340	16	356	1		1	453	20	473	450	20	470	449	20	469	457	21	478
Medical Technology	3	15	18	1	9	10	6	53	59	5	53	58	6	46	52	8	57	65
Nursing and Affiliate	1	228	229	1	214	215	3	298	301	4	287	291	3	258	261	3	507	510
Occupational Therapy	2	18	20	2	20	22	4	41	45	4	42	46	4	40	44	4	37	41
Physical Therapy							12	33	45	12	34	46	11	34	45	10	31	41
Public Health	31	133	164	43	100	143	86	122	208	82	121	203	79	113	192	101	299	400
Dentistry	52	2	54	26		26	364		364	358		358	356		356	354	2	356
Dental Hygiene		6	6		5	5		90	90		84	84		74	74		91	91
Pharmacy	11	5	16	7	5	12	92	9	101	88	9	97	87	9	96	91	9	100
Education	399	1042	1441	285	607	892	819	1698	2517	837	1646	2483	821	1671	2492	1407	2964	4371
Business Administration	256	12	268	201	9	210	786	32	818	834	31	865	838	36	874	1083	49	1132
Veterinary Medicine	3		3	1		1	182	3	185	180	3	183	179	3	182	178	3	181
Graduate:																		
Mpls., St. Paul, and Duluth	1610	455	2065	1083	302	1385	2456	528	2984	2385	502	2887	2371	505	2876	3942	1025	4967
Mayos	509	25	534	509	25	534	510	23	533	486	22	508	479	20	499	595	29	624
Duluth Branch	430	330	760	365	252	617	1524	637	2161	1518	599	2117	1369	514	1883	2036	1049	3085
TOTALS	5783	3129	8912	4234	2062	6296	19394	7118	26512	18522	6603	25125	17299	6283	23582	24626	10642	35268
Less Duplicates	42	42	84	23	18	41	188	96	284	222	114	336	196	118	314	1022	400	1422
NET TOTALS	5741	3087	8828	4211	2044	6255	19206	7022	26228	18300	6489	24789	17103	6165	23268	23604	10242	33846

* This represents a net count of individuals with duplicates deducted.

TABLE II B

COLLEGIATE ENROLLMENT BY QUARTERS

1957-1958

College or School	First Summer Session 1957			Second Summer Session 1957			Fall 1957			Winter 1958			Spring 1958			Total Individual Registration*		
	M	W	T	M	W	T	M	W	T	M	W	T	M	W	T	M	W	T
	General College	162	29	191	108	24	132	1834	436	2270	1765	375	2140	1534	334	1868	2389	511	2900
University	12	11	23	6	9	15	23	32	55	25	21	46	28	24	52	38	42	80
Science, Literature, Arts	1162	720	1882	850	422	1272	4558	2421	6979	4440	2167	6607	4161	2009	6170	6198	3193	9391
Institute of Technology	745	9	754	568	3	571	3982	43	4025	3674	38	3712	3339	28	3367	4371	50	4421
Agriculture, Forestry and Home Economics	122	177	299	141	54	195	1181	572	1753	1186	544	1730	1057	535	1592	1467	755	2222
Law School	118	1	119	117	1	118	349	9	358	333	7	340	316	7	323	379	8	387
Medicine	367	15	382	31		31	469	23	492	465	23	488	465	21	486	476	23	499
Medical Technology	2	13	15	3	9	12	5	69	74	5	59	64	6	59	65	6	74	80
Nursing and Affiliate	3	239	242	3	222	225	2	341	343	2	335	337	1	310	311	3	524	527
Occupational Therapy	2	25	27	2	24	26	2	47	49	2	44	46	3	41	44	3	47	50
Physical Therapy	1	1	2				9	30	39	9	30	39	10	28	38	11	29	40
Public Health	28	150	178	34	110	144	88	125	213	89	117	206	91	111	202	96	316	412
Dentistry	54		54	38		38	380	1	381	376		376	370		370	372	1	373
Dental Hygiene		9	9		3	3		97	97		85	85		81	81		97	97
Pharmacy	6	1	7	2	1	3	75	9	84	79	7	86	78	8	86	81	9	90
Education	483	1091	1574	306	593	899	807	1691	2498	807	1613	2420	831	1581	2412	1541	3041	4582
Business Administration	306	13	319	210	9	219	803	25	828	823	23	846	784	20	804	1133	38	1171
Veterinary Medicine	2		2	1		1	176	4	180	175	4	179	175	4	179	169	3	172
Graduate:																		
Mpls., St. Paul, and Duluth	1618	494	2112	1088	238	1326	2648	570	3218	2569	539	3108	2681	557	3238	4133	1062	5195
Mayos	490	14	504	490	14	504	503	15	518	502	15	517	488	16	504	597	20	617
Duluth Branch	463	377	840	303	229	532	1534	664	2198	1519	601	2120	1419	541	1960	2097	1087	3184
TOTALS	6146	3389	9535	4301	1965	6266	19428	7224	26652	18845	6647	25492	17837	6315	24152	25560	10930	36490
Less Duplicates	76	65	141	27	23	50	181	95	276	233	112	345	243	132	375	1139	451	1590
NET TOTALS	6070	3324	9394	4274	1942	6216	19247	7129	26376	18612	6535	25147	17594	6183	23777	24421	10479	54900

* This represents a net count of individuals with duplicates deducted.

DIVISIONS OF ACADEMIC ADMINISTRATION

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TABLE III SUB-COLLEGIATE ENROLLMENT 1956-1958

School or Course	Year 1956-1957			Year 1957-1958			Gain	Loss
	Men	Women	Total	Men	Women	Total		
School of Agriculture, St. Paul								
Seniors	60	15	75	56	15	71		4
Juniors	111	24	135	81	14	95		40
Freshmen								
Unclassed	23	5	28	29	4	33	5	
Total	194	44	238	166	33	199		39
Northwest School and Station, Crookston								
Seniors	99	13	112	78	13	91		21
Juniors	92	19	111	93	15	108		3
Sophomores	81	12	93	89	18	107	14	
Freshmen	80	20	100	70	16	86		14
Unclassed				1		1	1	
Total	352	64	416	331	62	393		23
West Central School and Station, Morris								
Seniors	52	14	66	55	16	71	5	
Juniors	70	16	86	57	16	73		13
Sophomores	69	20	89	80	21	101	12	
Freshmen	95	23	118	66	22	88		30
Unclassed	2	7	9	2	5	7		2
Total	288	80	368	260	80	340		28
North Central School and Station, Grand Rapids								
Seniors	35		35	23		23		12
Juniors	21		21	27		27	6	
Sophomores	31		31	30		30		1
Freshmen	18		18	10		10		8
Unclassed								
Total	105		105	90		90		15
Southern School and Station, Waseca								
Seniors	29	7	36	44	13	57	21	
Juniors	46	14	60	45	7	52		8
Sophomores	44	8	52	40	8	48		4
Freshmen	32	8	40	36	13	49	9	
Unclassed				1		1	1	
Total	151	37	188	166	41	207		19
University High School,								
Minneapolis	217	213	430	231	231	462	32	
Nursery School, Minneapolis	24	24	48	40	33	73	25	
Kindergarten, Minneapolis	13	12	25	11	14	25		
Elementary School, Minneapolis	70	76	146	70	78	148	2	
Laboratory School, Duluth	114	99	213	123	99	222	9	
NET TOTALS SCHOOLS	1528	649	2177	1488	671	2159		18
Short Courses, College of Agriculture, St. Paul								
Aircraft Spraying and Dusting	67		67	79		79	12	
Alumnae Club of University		90	90					90
Alumni Institute	300	250	550	325	275	600	50	
Animal Nutrition	223	2	225	225		225		
Bankers Ag. Credit Conf.				153	6	159	159	
Beef Cattle—Grassland Field Day	302	2	304	368		368	64	
Beekeepers Short Course	28	2	30	28		28		2
Berry Growers	38	2	40	49		49	9	
Bovine Mastitis				32		32	32	
Boys State	336		336	351		351	15	
Canners and Fieldmen	153		153	95		95		58
Concrete Drain Tile Mfg.	78		78	62		62		16
Dairy Bacteriology	33	7	40	36	8	44	4	
Dairy Herd Improvement	60	2	62	70	7	77	15	
Dairy Products	500		500	569	3	572	72	
Dome Club		35	35					35
Dry Milk	16		16					16
Editors	91	15	106	99	9	108	2	
Fair Management	73	33	106	94	15	109	3	
Farm Electrification	81	2	83	67		67		16

TABLE III.—Continued

School or Course	Year 1956-1957			Year 1957-1958			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Farm and Home Week	3000	1000	4000	3000	1000	4000		
Farm Income Tax	401	57	458	371	54	425		33
Farm Power	67		67					67
Fisheries Biol. and Mgt.	34		34					34
F.F.A. Convention	2500		2500	2500		2500		
Flock Selecting and Pullorum Testing Agents	67	3	70	96		96	26	
Flower Arranging and Judging	7	222	229					229
4-H Club Week	425	425	850	455	247	702		148
Grain Elevator Operators	7		7	65		65		58
Home Economics Career Day		200	200		243	243		43
Home Econ. Teachers Conf.					200	200	200	
Horticulture	120	247	367	166	197	363		4
Ice Cream	13	1	14					14
Landgrant Col. Repr.	15		15					15
Lumbermens 4-Week	21	1	22	77	1	78		56
Lutheran Student Meeting				8	8	16		16
L-P Gas	150		150	140		140		10
Livestock Marketing Clinic	82		82					82
Market Milk	16		16					16
Minn. Rural Electrification				37	2	39		39
Minn. State Fire School	312		312	282		282		30
Parents Day	71	87	158	73	71	144		14
Pest Control Conference	200		200					200
Retail Feed Dealers				51		51		51
Rose Growers	30	64	94	27	64	91		3
School Lunch Workshop	17	189	206		78	78		128
Shade Trees	79	1	80					80
Soils and Fertilizer	540	2	542	545	1	546		4
Soils Service Supervisors	82	2	84					84
State Rural Youth	82	61	143	69	57	126		17
Swinefeeders Day	178		178	161		161		17
Tile Drainage Contractors	59		59					59
Weed and Seed Inspections	115		115	118		118		3
TOTALS	11069	3004	14073	10943	2546	13489		584
Northwest School of Agriculture, Crookston								
4-H Club	328	238	566	309	229	538		28
Women's Week		83	83		66	66		17
West Central School and Station, Morris								
4-H Club	308	434	742	313	400	713		29
Women's Club		275	275		251	251		24
North Central School and Station, Grand Rapids								
4-H Club	116	200	316	128	189	317	1	
Homemakers Camps		49	49		41	41		8
Southern School and Station, Waseca								
Special Welding	72		72	48		48		24
Total Short Courses	11893	4283	16176	11741	3722	15463		713
NET TOTALS, SCHOOLS AND SHORT COURSES								
	13421	4932	18353	13229	4393	17622		731

TABLE IV A EXTENSION ENROLLMENT 1956-1958

Department or Course	Year 1956-1957			Year 1957-1958			Gain	Loss
	Men	Women	Total	Men	Women	Total		
General Extension	10878	5968	16846	9078	5728	14806		2040
Extension Short Courses								
Anatomy and Medical Terms	6	42	48	62	115	177	129	
Basic Arrest and Traffic				35		35		35
Basic Science for X-Ray Tech.	7	30	37	7	58	65		28
Better Letter Course	181	12	193	94	21	115		78
Better Technical Writing				27		27		27
Business Management				39	2	41		41
Ceramics Workshop	4	12	16					16
Commercial Flower Grower	31		31					31

TABLE III.—Continued

School or Course	Year 1956-1957			Year 1957-1958			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Criminal Invest. and Pro- cedures, and Arrest Law.....				21	1	22	22	
Criminal Law.....	23		23	20		20		3
Criminal Procedure and Traffic, Basic.....	50		50	21		21		29
Effective Writing and Speaking.....				22	11	33	33	
Efficient Reading.....				61	2	63	63	
Electric Power Systems Eng.....	48		48					48
Exercise in Modern Living.....				6	53	59	59	
Fitness for Peacetime.....	22	59	81					81
Freud and Modern Man.....	1054	1040	2094					2094
Health Inst. and Prob. Sch. Children.....	2	6	8					8
Instrument Rating.....	15		15					15
Job Education.....	22	1	23					23
Labor Problems.....	22		22	39	11	50	28	
Latin American Songs and Dances.....	3	11	14					14
Leadership Training.....	63	75	138	8	1	9		129
Man and Scientific Quest.....	172	95	267	100	41	141		126
Modern Masonry.....	150	2	152					152
Obstetrics.....	22	3	25					25
Painting Workshop.....					22	22	22	
Piano Accompaniment.....		3	3					3
Police Operations, Basic.....	24		24					24
Police Recruit School.....	15		15					15
Profitable Management.....				77	6	83	83	
Public Speaking.....	38	1	39					39
Public Speaking Labor Prob.....	30	3	33					33
Practical Speech Communication.....	15		15					15
Psychology and Guidance.....	32	2	34					34
Psychology and Labor Prob.....				20	8	28	28	
Report Writing.....				22		22	22	
Safety.....				18	1	19	19	
Spanish for Children.....	10	14	24					24
Spanish for Travel.....	6	27	33					33
Sports Clinic.....								
Steward Training.....				48	3	51	51	
Structural Design for Arch.....				31	1	32	32	
Taft Hartley.....	20	2	22					22
Union Administration.....				24		24	24	
Union Leadership.....				49	1	50	50	
Voice.....	3	10	13					13
X-Ray.....	39	5	44					44
Total Short Courses.....	2129	1455	3584	851	358	1209		2375
Correspondence Study.....	3651	3077	6728	4361	3527	7888	1160	
Grand Total, Extension.....	16658	10500	27158	14290	9613	23903		3255
Less Duplicates.....	146	193	339	133	185	318		21
NET GRAND TOTALS.....	16512	10307	26819	14157	9428	23585		3234

TABLE IV B CENTER FOR CONTINUATION STUDY ENROLLMENT 1956-1958

Course	Year 1956-1957			Year 1957-1958			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Administrative Dietetics.....	4	80	84					84
Advanced Safety Eng.....	34		34	38		38	4	
AFSC & M.E. (Lyman Lodge).....				36	9	45	45	
Alcohol Education.....	28		28	33	28	61	33	
Anesthesiology.....	28	1	29	3		3		26
Allergy and Chest Diseases.....	27	2	29					29
Arithmetic.....				10	25	35	35	
Arthritis and Phys. Med.....				15	1	16	16	
Arts and Crafts.....				13	91	104	104	
Assessors School.....	214	16	230	222	19	241	11	
Audio-Visual Inst.....	76	7	83					83
Automation in the Office.....				7	8	15	15	
Bituminous Conference.....	148		148	159		159	11	
Building Inspectors.....	31		31	45		45	14	
Business Mgt. in Public Health.....				34	3	37	37	
Cardiac Child.....					88	88	88	

TABLE IVB.—Continued

Course	Year 1956-1957			Year 1957-1958			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Cardiovascular Disease	73		73	89	2	91	18	
Care of Aged in Institutional Homes	34	76	110	46	79	125	15	
Changing American Family				23	37	60	60	
Chemical Tests Intoxication				18		18	18	
Child-Caring Inst.	44	76	120	38	54	92		28
Church Building				22	4	26	26	
City Managers School	15		15	17		17	2	
Clinical Dietetics	23	85	108		85	85		23
Closely Held Corp.				108	1	109	109	
Community Service to Foreign Leaders	18	38	56					56
Concrete Conference	195		195	155		155		40
Conservation Leaders				78	7	85	85	
Consumers Credit	70	5	75	33	3	36		39
Consumers Problems Inst.	14	7	21					21
Continuity Patient Care				2	97	99	99	
Cosmetology				2	20	22	22	
Counseling of College Students				23	15	38	38	
County Highway Eng	82		82	84		84	2	
Creative Arts					58	58	58	
Credit Union Mgt.				86	13	99	99	
Crown and Bridge	7		7	5		5		2
Curriculum and Superv.	88	32	120	83	47	130	10	
Dental Assistants		61	61		112	112	51	
Dentistry for Children	20		20	19		19		1
Denture Prosthesis				23		23	23	
Dept. Managers Dev. Conf.				22		22	22	
Dermatology for G. Phys.	72	3	75					75
Disaster Nursing	4	66	70		83	83	13	
Drilling Symposium	123		123	134	1	135	12	
Driver Performance				28		28	28	
Education and Guidance of Retarded Children	17	110	127					127
Education—Industry	50	2	52					52
Electrocardiography	74	4	78	51	3	54		24
Elem. Sch. Principals	170	163	333					333
Emergency Surgery	76	1	77	105	1	106	29	
Eminent Domain				126	3	129	129	
Employment and Sec. Pers.	26	17	43	20	15	35		8
Endodontia	16		16	19		19	3	
Estate Planning	125	1	126					126
Exceptional Children in Minnesota	44	80	124	81	46	127	3	
Executive Secretaries of County Welfare Bds.	73	20	93	65	25	90		3
Family and Religious Ed.	18	23	41					41
Far East Seminar				42	33	75	75	
Finance Officers School	53		53	55	10	65	12	
Fish and Wildlife Resources	47	1	48					48
Fractures for Gen. Phys.	80	1	81	100	3	103	22	
Funeral Directors Apprent.	38	23	61					61
Gastroenterology for Gen. Physicians				29	2	31	31	
Government and Politics				9	49	58	58	
Group Work Executives and Prog. Directors	9	13	22	13	4	17		5
Gynecology for Gen. Phys.	49	2	51					51
Gynecology for Spec.				15	3	18	18	
Health in Industry	16	33	49					49
Hematology				10	68	78	78	
Highway Mgt.				41		41	41	
Hospital Accounting				11	42	53	53	
Hospital Administration	63	6	69	75	28	103	34	
Hospital Administrators	57	54	111	52	47	99		12
High Speed Instrumentation	11		11					11
Improved Aseptic Tech.					42	42	42	
Improvement of Inst. of Arithmetic	4	54	58					58
Indirect Impression Tech. for Multiple Restorations	7		7					7
Industrial Relations	112	7	119	138	2	140	21	
Ind. Rel. Labor Conf.	92	16	108	127	16	143	35	
Insurance Agents	26	1	27	38	3	41	14	
Internal Medicine	103		103	97	1	98		5
Instructors in School of Nursing		50	50					50
Japan, Past and Present				4	10	14	14	
Juvenile Delinquency				56	2	58	58	

TABLE IVB.—Continued

Course	Year 1956-1957			Year 1957-1958			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Juvenile Officers	14	2	16	17	1	18	2	
Labor Conf.				138	2	140	140	
Labor's Stake in Intnatl. Affairs	69	38	107	96	19	115	8	
Lake Superior Geology				127	1	128	128	
Lawyer and His Clients Investment	42	2	44					44
Law Enforcement Officers Dealing with Juvenile Offenders	51	13	64	41	12	53		11
Leadership Training	39	8	47					47
Local Government				48	2	50	50	
Machinists Leadership	23	3	26	16	1	17		9
Maternity and Child Health		136	136					136
Mayors and Councilmen Newly Elected	77	1	78	82	2	84	6	
Medical Record Personnel					25	25	25	
Medical Tech. for Technol.	14	82	96					96
Mental Deficiency	69	147	216	34	55	89		127
Mental Health as It Affects Labor	31	33	64					64
Mentally Retarded				5	40	45	45	
Merchandising Forum	29	9	38	26	19	45	7	
Metallurgical Factors and Design in Welding	62		62					62
Mid-Continent Regional Park and Recreation	83	7	90					90
Minnesota Government and Politics	10	58	68					68
Minnesota Traffic Court	52		52	74	1	75	23	
Mining Symposium	571		571	527		527		44
Mod. Mat. Meth. Conf.	53	10	63					63
Mortuary Admin.	96	2	98	48	6	54		44
Motor Vehicle Fleet Superv.	23		23					23
Neurology	28	2	30	34	3	37	7	
New Development in Nursing Home Care	24	86	110					110
Newer Drugs				85	3	88	88	
Nurs. Anesthetists				2	41	43	43	
Nurses on Mental Retardation	2	85	87					87
Nursing Education					43	43	43	
Nursing Service Adm.		98	98	29	228	257	159	
Nursing Serv. Adm. Superv. for Supervisors		50	50					50
Nutrition Ed. in Basic Nursing Curr.		90	90					90
Obstetrics	40	3	43	32	6	38		5
Occupational Nurses	1	81	82	3	79	82		
Ophthalmology				33		33	33	
Operating Rm. Nursing		38	38					38
Oral Medicine				58		58	58	
Oral Pathology				11		11	11	
Oral Surgery	16		16	16		16		
Organ Instruction				5	17	22	22	
Orthodontics				12		12	12	
Parents of Deaf Children	2	11	13	10	17	27	14	
Parent and Family Life Education	8	133	141	14	141	155	14	
Pastoral Counseling				61	1	62	62	
Pediatrics	101	7	108	92	11	103		5
Periodontia Problems	55		55					55
Pharmaceutical Problems	52	10	62					62
Pharmacy Institute				85	14	99	99	
Physicians and Schools	17	4	21					21
Philosophy on Religion				24	1	25	25	
Planning and Building New Schools				76		76	76	
Physical Medicine	21	5	26	28		28	2	
Police Chiefs	42		42	47		47	5	
Piano Workshop	2	23	25					25
Plastic Design of Structural Steel	133		133					133
Plastic Materials and Use	44		44					44
Pre-School Seminar					156	156	156	
Probation and Parole Workers	78	25	103	111	23	134	31	
Problems and Needs in Telev. Service	25		25					25
Problems in Hospital Nursing Sick Infants and Children					13	13	13	

TABLE IVB.—Continued

Course	Year 1956-1957			Year 1957-1958			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Problems in Juvenile Delinquency	38	2	40					40
Proctology	18	1	19	20	1	21	2	
Public Accountants	135	6	141	149	9	158	17	
Public Health Nurses					104	104	104	
Public School Law	90	2	92	56	2	60	20	32
Public Work Adm.	35		35	55		55		
Purchasing Agents	54	2	56					56
Purchasing for School Officials				26	2	28	28	
Radiographic Interpretation	8		8	8		8		
Radiology	15		15	25		25	10	
Radiology for Spec.	185	8	193					193
Radiology, Cardiovascular				299	18	317	317	
Reading Efficiency	6	152	158	7	4	11		147
Rel. Educ. and Teenager				49	36	85	85	
Science in High School				54	5	59	59	
Secretarial Inst.		195	195		115	115		80
Second Symposium Pop. Prob.	21	31	52					52
Secondary Sch. Principals	10	97	107	103	7	110	3	
Sewage School	88		88	89		89	1	
Skin Cancer				44	1	45	45	
Small Business and Anti-Trust Laws	53	1	54					54
Smaller Art Museum				15	10	25	25	
Soil Mechanics and Found. Eng.	94		94					94
Soils Conference				143		143	143	
Speaking and Listening	5	114	119					119
Steel Workers Inst.				87		87	87	
Streamlined Recording in the Med. and Psychiatric Setting	15	44	59					59
Student Personnel Adm.				16	8	24	24	
Study and Practice of Oral Medicine	55		55					55
Study Habits and Attitudes				30	28	58	58	
Summer Labor	55	9	64	34	6	40		24
Surgery for Surgeons	77	1	78	107		107	29	
Teachers in Area of Pract. Nursing		51	51					51
Teaching Child Development	17	25	42					42
Techniques in Gen. Pract.	20		20					20
Telev. Tech. for Vol. Leaders	9	37	46					46
Tuberculosis Control for Lay Persons	3	66	69					69
Trauma	87	2	89	50	2	52		37
Ultimate Design				71		71	71	
Urology	30		30					30
Vocational Rehabilitation				31	9	40	40	
Water Sewage	41		41	43	1	44	3	
Utilization Scientists and Engineers				62		62	62	
Wastes Engineering	44		44	48		48	4	
Water School	97		97	99		99	2	
Writing	3	123	126					126
TOTALS	6435	3508	9943	7101	2799	9900		43

TABLE V ENROLLMENT SUMMARY 1956-1958

	Year 1956-1957			Year 1957-1958			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Collegiate Students	23604	10242	33846	24421	10479	34900	1054	
Sub-Collegiate	13421	4932	18353	13229	4393	17622		731
Totals	37025	15174	52199	37650	14872	52522	323	
Less Duplicates								
Net Totals	37025	15174	52199	37650	14872	52522	323	
Extension	16512	10307	26819	14157	9428	23585		3234
Center for Continuation Study	6435	3508	9943	7101	2799	9900		43
Grand Totals	59972	28989	88961	58908	27099	86007		2954
Less Duplicates	3628	1722	5350	2215	1319	3534		1816
NET GRAND TOTALS	56344	27267	83611	56693	25780	82473		1138

DIVISIONS OF ACADEMIC ADMINISTRATION

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TABLE VI COMPARATIVE ENROLLMENT FIGURES 1956-1958

	Year 1956-1957			Year 1957-1958			Gain		Loss	
	Men	Women	Total	Men	Women	Total	M	W	M	W
General College	2256	502	2758	2285	496	2781	29			6
University College	34	36	70	35	39	74	1	3		
Science, Literature, and Arts	5469	2620	8089	5533	2627	8160	64	7		
Institute of Technology	3990	34	4024	4212	44	4256	222	10		
Agr., For., Home Ec., and Vet. Medicine (including schools of Ag. and Ag. short courses)	14468	5139	19607	14336	4590	18926			132	549
Law	422	8	430	357	8	365			65	
Medicine (including Med. Tech. Nursing, Phy. and Occup. Therapy, and Public Health)	569	742	1311	582	771	1353	13	29		
Dentistry (incl. Dent. Hyg.)	364	92	456	381	98	479	17	6		
Pharmacy	94	9	103	82	10	92		1	12	
Education (including High School, Nursery and Kindergarten, and Elementary Grades)	1474	2486	3960	1614	2609	4223	140	123		
Business Administration	1048	42	1090	1082	25	1107	34			17
Graduate School (incl. Mayos)	3509	699	4208	3853	745	4598	344	46		
Duluth Branch	1764	716	2480	1823	731	2554	59	15		
Summer Session (Net)	6600	3742	10342	6869	3889	10758	269	147		
Totals	42061	16867	58928	43044	16682	59726	983			185
Less Duplicates	5036	1693	6729	5394	1810	7204	358	117		
NET TOTALS	37025	15174	52199	37650	14872	52522	625			302
Extension										
General Extension	10878	5968	16846	9078	5728	14806			1800	240
Short Courses	2129	1455	3584	851	358	1209			1278	1097
Correspondence	3651	3077	6728	4361	3527	7888	710	450		
Totals	16658	10500	27158	14290	9613	23903			2368	887
Less Duplicates	146	193	339	133	185	318			13	8
NET TOTALS	16512	10307	26819	14157	9428	23585			2355	879
Center for Continuation Study	6435	3508	9943	7101	2799	9900	666			709
Summary:										
Totals, Resident Students	37025	15174	52199	37650	14872	52522	625			302
Totals, Extension Students	16512	10307	26819	14157	9428	23585			2355	879
Totals, C.C.S.	6435	3508	9943	7101	2799	9900	666			709
Grand Totals	59972	28989	88961	58908	27099	86007			1064	1890
Less Duplicates	3628	1722	5350	2215	1319	3534			1413	403
NET GRAND TOTALS	56344	27267	83611	56693	25780	82473	349			1487

TABLE VII A DEGREES CONFERRED 1956-1958

Colleges and Degrees	Year 1956-1957			Year 1957-1958		
	Men	Women	Total	Men	Women	Total
Science, Literature, and the Arts						
B.A. <i>summa cum laude</i>	12		12	4	2	6
B.A. <i>magna cum laude</i>	27	18	45	32	18	50
B.A. <i>cum laude</i>	63	40	103	61	51	112
B.A.	467	174	641	531	166	697
B.S.		1	1			
Associate in Liberal Arts	53	38	91	34	48	82
Institute of Technology						
B.S. with high distinction	18		18	14		14
B.S. with distinction	28	1	29	41		41

TABLE VIIA.—Continued

Colleges and Degrees	Year 1956-1957			Year 1957-1958		
	Men	Women	Total	Men	Women	Total
B.S.	11		11	6		6
Bachelor of Aeronautical Engineering with high distinction	2		2	1		1
Bachelor of Aeronautical Engineering with distinction	3		3	2		2
Bachelor of Aeronautical Engineering	28		28	23		23
Bachelor of Agricultural Engineering with high distinction	1		1			
Bachelor of Agricultural Engineering	3		3	3		3
Bachelor of Architecture with high distinction				2		2
Bachelor of Architecture with distinction	1		1	8		8
Bachelor of Architecture	17		17	17	1	18
Bachelor of Civil Engineering with high distinction	2		2			
Bachelor of Civil Engineering with distinction	3		3			
Bachelor of Civil Engineering	33		33	50		50
Civil Engineer	1		1			
Bachelor of Electrical Engineering with high distinction	4		4	4		4
Bachelor of Electrical Engineering with distinction	13		13	12		12
Bachelor of Electrical Engineering	53		53	88		88
Bachelor of Applied Mathematics	1		1	3		3
Bachelor of Industrial Engineering	10		10	4		4
Bachelor of Mechanical Engineering with high distinction	2		2	4		4
Bachelor of Mechanical Engineering with distinction	16		16	17		17
Bachelor of Mechanical Engineering	90		90	138		138
Bachelor of Chemical Engineering with distinction	1		1	3		3
Bachelor of Chemical Engineering	20		20	30		30
Bachelor of Chemistry with high distinction		1	1		1	1
Bachelor of Chemistry	3		3	7		7
Bachelor of Physics with high distinction					1	1
Bachelor of Physics with distinction	1		1	1		1
Bachelor of Physics	2		2	3		3
Bachelor of Geological Engineering with distinction				3		3
Bachelor of Geological Engineering	2		2	7		7
Bachelor of Metallurgical Engineering	5		5	5		5
Bachelor of Metallurgy				6		6
Bachelor of Geophysics	1		1	1		1
Bachelor of Mining Engineering with high distinction				1		1
Bachelor of Mining Engineering	9		9	14		14
Engineer of Mines				1		1
Agriculture, Forestry and Home Economics						
B.S. with high distinction (Agriculture)	1		1	3	1	4
B.S. with distinction (Agriculture)	6		6	7		7
B.S. (Agriculture)	50		50	57		57
B.S. with high distinction (Fish and Wildlife)				1		1
B.S. (Fish and Wildlife)	5		5	10		10
B.S. with distinction (Food Technology)					1	1
B.S. (Food Technology)					1	1
B.S. with high distinction (Forestry)	1		1	1		1
B.S. with distinction (Forestry)	6		6	10		10
B.S. (Forestry)	38		38	40		40
B.S. with high distinction (Home Economics)		2	2			
B.S. with distinction (Home Economics)		6	6		5	5
B.S. (Home Economics)		40	40		37	37
B.S. with high distinction (Science Spec)	1		1			
B.S. with distinction (Science Spec)	3	1	4	1		1
B.S. (Science Specialization)	6		6	7		7
Veterinary Medicine						
Doctor of Veterinary Medicine	48		48	39	1	40
B.S. with high distinction	4		4	1		1
B.S. with distinction	6		6	7	2	9
B.S.	31		31	29		29

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TABLE VIII.—Continued

Colleges and Degrees	Year 1956-1957			Year 1957-1958		
	Men	Women	Total	Men	Women	Total
Agriculture and Education						
B.S. with high distinction (Ag Ed)				1		1
B.S. with distinction (Ag Ed)	1		1	4		4
B.S. (Ag Ed)	30		30	28		28
B.S. with high distinction (Home Ec Ed)		5	5		2	2
B.S. with distinction (Home Ec Ed)		11	11		13	13
B.S. (Home Economics Education)		34	34		28	28
Agriculture and Business Administration						
Bachelor of Agricultural Business Administration with high distinction	1		1			
Bachelor of Agricultural Business Administration	1		1	10		10
Law School						
Bachelor of Laws <i>magna cum laude</i>				2		2
Bachelor of Laws <i>cum laude</i>				10	1	11
Bachelor of Laws	75	1	76	73	1	74
Bachelor of Science in Law	30	3	33	46	1	47
College of Medical Sciences						
Master of Nursing Administration		8	8	1	9	10
Master of Public Health	17	17	34	32	21	53
Master of Hospital Administration	25		25	17	1	18
Doctor of Medicine	105	5	110	108	6	114
B.S. with high distinction (Medicine)		1	1			
B.S. with distinction (Medicine)		5	5			
B.S. (Medicine)	57	6	63	83	1	84
B.S. in Nurs Adm with high distinction					3	3
B.S. in Nurs Adm with distinction		7	7	1	5	6
B.S. in Nursing Administration		2	2		4	4
B.S. with high distinction (Medical Tech)					1	1
B.S. with distinction (Medical Tech)		2	2	1	6	7
B.S. (Medical Tech)		21	21	1	17	18
B.S. with high dist (Occup Therapy)		3	3		1	1
B.S. with dist (Occup Therapy)	1	5	6		6	6
B.S. (Occupational Therapy)	1	10	11	1	14	15
B.S. with high dist (Physical Therapy)	1		1			
B.S. with dist (Physical Therapy)	2	2	4	2	8	10
B.S. (Physical Therapy)	2	14	16	4	9	13
B.S. with high dist (Pub Health Nurs)					1	1
B.S. with dist (Pub Health Nurs)		3	3		7	7
B.S. (Public Health Nursing)		20	20	1	23	24
B.S. in Nursing with high distinction		7	7		13	13
B.S. in Nursing with distinction		22	22		12	12
B.S. in Nursing		31	31	1	31	32
Dentistry						
Doctor of Dental Surgery	78		78	89		89
Graduate Dental Hygienist		27	27		44	44
B.S. with high distinction in Dentistry	5		5	3		3
B.S. with distinction in Dentistry	5		5	6		6
Bachelor of Science in Dentistry	34		34	72		72
Pharmacy						
B.S. in Pharmacy	41	2	43		1	1
Education						
Master of Education	19	17	36	16	35	51
B.S. with high distinction	6	27	33	3	24	27
B.S. with distinction	29	78	107	19	79	98
B.S.	147	356	503	187	343	530
B.S. in Library Science				1		1
School of Business Administration						
B.B.A. with high distinction	8		8	10	1	11
B.B.A. with distinction	30	4	34	25	2	27
B.B.A.	274	10	284	312	7	319
B.S. in Economics	12		12	10		10
B.S. in Business	1		1			
University College						
B.S. <i>Cum laude</i>		1	1		1	1
B.S.	2		2	2	1	3
B.A. <i>magna cum laude</i>	1		1	1		1

TABLE VIIA.—Continued

Colleges and Degrees	Year 1956-1957			Year 1957-1958		
	Men	Women	Total	Men	Women	Total
B.A. <i>cum laude</i>	1	3	4	.....	.....	.....
B.A.	7	13	20	6	8	14
General College						
Associate in Arts	276	41	317	287	49	336
Graduate School						
Master of Arts	292	124	416	312	130	442
Master of Fine Arts	1	1	2	1	.....	1
Master of Forestry	4	.....	4	2	.....	2
Master of Arts in Public Administration	7	2	9	8	1	9
Master of Business Administration	9	.....	9	6	1	7
Master of Science	100	18	118	106	12	118
M.S. in Aeronautical Engineering	8	.....	8	12	.....	12
M.S. in Agricultural Engineering	4	.....	4	5	.....	5
M.S. in Chemical Engineering	9	.....	9	14	.....	14
M.S. in Civil Engineering	33	.....	33	18	.....	18
M.S. in Electrical Engineering	10	.....	10	10	1	11
M.S. in Mechanical Engineering	14	.....	14	10	.....	10
M.S. in Mining Engineering .....	.....	.....	.....	1	.....	1
M.S. in Anesthesiology .....	.....	1	1	1	.....	1
M.S. in Industrial Engineering	2	.....	2	2	.....	2
M.S. in Dentistry	5	.....	5	14	1	15
M.S. in Dermatology and Syphilology	5	.....	5	2	1	3
M.S. in Medicine	31	.....	31	28	2	30
M.S. in Metallurgical Engineering	1	.....	1	1	.....	1
M.S. in Neurosurgery	9	.....	9	2	.....	2
M.S. in Obstetrics and Gynecology	1	.....	1	2	.....	2
M.S. in Ophthalmology	4	1	5	6	.....	6
M.S. in Orthopedic Surgery	4	.....	4	6	.....	6
M.S. in Otolaryngology and Rhin	2	.....	2	.....	.....	.....
M.S. in Pathology	3	.....	3	2	.....	2
M.S. in Pediatrics	2	.....	2	5	.....	5
M.S. in Physical Medicine and Rehab	1	.....	1	.....	.....	.....
M.S. in Plastic Surgery	1	.....	1	.....	.....	.....
M.S. in Proctology	3	.....	3	.....	.....	.....
M.S. in Psychiatry	2	1	3	1	.....	1
M.S. in Radiology	8	.....	8	5	.....	5
M.S. in Surgery	26	1	27	17	.....	17
M.S. in Urology	1	.....	1	1	.....	1
Master of Social Work	25	12	37	12	16	28
Doctor of Philosophy	202	21	223	199	11	210
Ph.D. in Dermatology and Syphilology	1	.....	1	.....	.....	.....
Ph.D. in Medicine	5	.....	5	3	.....	3
Ph.D. in Neurology	1	.....	1	.....	.....	.....
Ph.D. in Pathology	1	.....	1	.....	.....	.....
Ph.D. in Pediatrics .....	.....	.....	.....	2	.....	2
Ph.D. in Surgery	8	.....	8	5	.....	5
Duluth Branch						
B.A. <i>cum laude</i>	14	3	17	17	3	20
B.A.	146	22	168	167	18	185
B.S. <i>cum laude</i>	14	8	22	4	19	23
B.S.	72	66	138	71	74	145
Associate in Arts	18	20	38	16	16	32
Mortuary Science						
Associate in Mortuary Science	30	1	31	26	.....	26
GRAND TOTALS	3676	1448	5124	3992	1482	5474
Honorary Degrees						
Doctor of Science	1	.....	1	.....	.....	.....
GRAND TOTALS	3677	1448	5125	3992	1482	5474

TABLE VII B CERTIFICATES CONFERRED 1956-1958

School, Division, or Course	Year 1956-1957			Year 1957-1958		
	Men	Women	Total	Men	Women	Total
General College						
Certificate in Dental Assistants		23	23		21	21
Nursing						
Certificate in Practical Nursing		21	21		28	28
Public Health						
Certificate in Public Health Nursing		14	14		37	37
Graduate						
Certificate of Specialist in Education	2		2	4		4
Extension						
Business Certificate						
Junior	7		7	14	1	15
Senior	36	1	37	14		14
Engineering Certificate						
Junior	7		7	18		18
Senior	18		18	12		12
Industrial Engineering Certificate						
Junior	4		4	2		2
Senior	6		6			
Industrial Relations Certificate				2	1	3
Liberal Arts Certificate	2	2	4	2	5	7
Public Administration Certificate				2		2
Medical Laboratory Assistant Certificate			20			20
School of Agriculture, St. Paul						
Diplomas	56	14	70	53	12	65
Certificate in Practical Nursing and Home Management		13	13		11	11
Food Technicians Certificate		7	7		5	5
Special Certificate for Swedish and Danish Exchange Students—6 Months	9		9	14		14
3 Months	2		2	4		4
Special Certificate for Dairy Herd Management	9		9	1		1
North Central School of Agriculture, Grand Rapids						
Diplomas	31		31	20		20
Northwest School of Agriculture, Crookston						
Diplomas	101	11	112	77	12	89
Southern School of Agriculture, Waseca						
Diplomas	26	6	32	44	13	57
West Central School of Agriculture, Morris						
Diplomas	46	14	60	54	13	67
University High School, Minneapolis						
Diplomas	44	37	81	38	38	76
TOTALS	406	183	589	375	217	592

TABLE VIII A STUDENTS ENTERED FROM HIGH SCHOOLS 1956-1957

	General	S., L., and A.	Inst. of Tech.	A.G., For., and H.E.	Nursing	Dental Hygiene	Education	Duluth	Total
Minneapolis Public Schools	445	642	165	40	8	5	108	2	1415
St. Paul Public Schools	178	249	96	34	3	2	36	2	600
Other Minnesota High Schools	441	958	404	334	7	14	147	632	2937
Minnesota Private Schools	141	221	63	40	2	3	19	52	541
Total, Minnesota Schools	1205	2070	728	448	20	24	310	688	5493
Other States and Territories	62	138	52	28	3	9	22	43	357
Foreign Countries	6	6	6	1				9	28
TOTAL	1273	2214	786	477	23	33	332	740	5878
Special Students	55	27	3		3		1	20	109
GRAND TOTALS	1328	2241	789	477	26	33	333	760	5987

TABLE VIII B

STUDENTS ENTERED FROM HIGH SCHOOLS

1957-1958

	General	S., L., and A.	Inst. of Tech.	Ag., For., and H.E.	Nursing	Dental Hygiene	Education	Duluth	Total
Minneapolis Public Schools	399	563	164	48	3	8	143	2	1330
St. Paul Public Schools	177	227	83	44	4	2	40	1	578
Other Minnesota High Schools	424	947	377	318	8	13	124	630	2841
Minnesota Private Schools	131	233	66	43	4	1	10	51	539
Total, Minnesota Schools	1131	1970	690	453	19	24	317	684	5288
Other States and Territories	59	142	34	23	.....	7	19	31	315
Foreign Countries	4	16	9	2	.....	.....	2	5	38
TOTAL	63	158	43	25	.....	7	21	36	353
Special Students	28	19	2	3	.....	.....	2	4	58
Missing Information .....	.....	.....	.....	.....	.....	.....	.....	4	4
GRAND TOTALS	1222	2147	735	481	19	31	340	728	5703

TABLE IX A

SUMMARY OF STUDENTS ENTERED WITH ADVANCED STANDING

1956-1957

	General	University	S.L.A.	Inst. of Tech.	Ag., For., and H.E.	Law	Medicine	Medical Tech.	Public Health	Occup. Therapy	Physical Therapy	Nursing	Dentistry	Dental Hygiene	Pharmacy	Education	Business	Vet. Medicine	Duluth	Total
Institutions in Minnesota	47	.....	309	170	81	38	31	3	23	.....	6	34	22	6	9	146	59	.....	114	1098
Institutions in Other States	35	2	247	91	51	17	6	5	52	2	1	6	17	3	1	120	29	9	54	748
Institutions in Foreign Countries .....	.....	.....	16	2	1	1	.....	.....	2	.....	1	.....	.....	1	.....	5	.....	.....	5	34
Totals	82	2	572	263	133	56	37	8	77	2	8	40	39	10	10	271	88	9	173	1980
Special Students	1	.....	150	52	39	.....	.....	2	38	.....	.....	3	.....	1	.....	161	14	1	.....	462
GRAND TOTALS	83	2	722	315	172	56	37	10	115	2	8	43	39	11	10	432	102	10	173	2342

TABLE IX B

SUMMARY OF STUDENTS ENTERED WITH ADVANCED STANDING

1957-1958

	General	University	S.L.A.	Inst. of Tech.	Ag., For., and H.E.	Law	Medicine	Medical Tech.	Public Health	Occup. Therapy	Physical Therapy	Nursing	Dentistry	Dental Hygiene	Pharmacy	Education	Business	Vet. Medicine	Duluth	Total
Institutions in Minnesota	49	.....	309	173	76	15	32	5	24	1	.....	34	21	5	8	150	65	.....	102	1069
Institutions in Other States	26	1	285	89	50	18	11	2	56	.....	3	26	9	4	1	118	28	7	58	792
Institutions in Foreign Countries	1	.....	14	8	6	.....	.....	2	1	.....	.....	3	.....	.....	.....	4	.....	.....	3	42
Totals	76	1	608	270	132	33	43	9	81	1	3	63	30	9	9	272	93	7	163	1903
Special Students .....	.....	.....	149	41	30	.....	1	5	42	.....	.....	8	2	.....	.....	173	16	.....	.....	467
GRAND TOTALS	76	1	757	311	162	33	44	14	123	1	3	71	32	9	9	445	109	7	163	2370

TABLE X A

SUMMARY OF GEOGRAPHICAL DISTRIBUTION OF STUDENTS OF COLLEGIATE GRADE
(OTHER THAN SUMMER SESSION 1956-1957)

	General	University	S.L.A.	Inst. of Tech.	Ag., For., and H.E.	Law	Medicine	Medical Tech.	Public Health	Occup. Therapy	Physical Therapy	Nursing	Dentistry	Dental Hygiene	Pharmacy	Education	Business	Graduate	Vet. Medicine	Duluth	Duplicates	Total	
Counties in Minnesota																							
Hennepin	1619	38	3761	1460	391	168	141	23	53	17	10	109	71	36	32	1423	439	859	12	24	452	10686	
Ramsey	596	11	1354	699	215	64	67	6	19	7	.....	35	35	11	14	466	144	447	12	10	171	4212
Other Minnesota Counties	484	15	2408	1568	1180	169	216	22	47	16	26	179	160	30	52	947	431	839	103	2339	534	11231	
Totals	2699	64	7523	3727	1786	401	424	51	119	40	36	323	266	77	98	2836	1014	2145	127	2373	1157	26129	
Other States and Territories	56	6	522	275	132	26	44	15	113	6	8	96	97	15	5	247	69	1434	59	70	.....	3295
Foreign Countries	3	.....	44	22	12	3	6	.....	25	.....	2	3	1	.....	.....	15	7	629	.....	37	8	809
GRAND TOTALS	2758	70	8089	4024	1930	430	474	66	257	46	46	422	364	92	103	3098	1090	4208	186	2480	1165	30233	

TABLE X B

SUMMARY OF GEOGRAPHICAL DISTRIBUTION OF STUDENTS OF COLLEGIATE GRADE
(OTHER THAN SUMMER SESSION 1957-1958)

	General	University	S.L.A.	Inst. of Tech.	Ag., For., and H.E.	Law	Medicine	Medical Tech.	Public Health	Occup. Therapy	Physical Therapy	Nursing	Dentistry	Dental Hygiene	Pharmacy	Education	Business	Graduate	Vet. Medicine	Duluth	Duplicates	Total	
Counties in Minnesota																							
Hennepin	1676	34	3854	1516	427	143	150	26	53	21	9	99	73	34	27	1546	404	909	15	25	493	11041	
Ramsey	592	15	1399	696	240	50	81	5	14	7	3	39	41	12	10	516	146	514	9	9	192	4398	
Other Minnesota Counties	464	18	2345	1717	1250	150	209	36	45	16	17	177	175	30	55	982	477	940	98	2414	605	11615	
Totals	2732	67	7598	3929	1917	343	440	67	112	44	29	315	289	76	92	3044	1027	2363	122	2448	1290	27054	
Other States and Territories	44	7	514	296	117	21	48	11	113	5	8	101	92	21	.....	235	72	1496	58	76	58	3333
Foreign Countries	5	.....	48	31	19	1	5	2	29	.....	2	4	1	.....	.....	14	8	739	1	30	5	939
GRAND TOTALS	2781	74	8160	4256	2053	365	491	80	254	49	39	420	382	97	92	3293	1107	4598	181	2554	1353	31326	

BUREAU OF INSTITUTIONAL RESEARCH

The 1956-58 biennium was a period of growth and stabilization for the Bureau of Institutional Research. Effective at the beginning of the biennium an administrative research unit was added to the Bureau. Additional staff members were hired to serve in this new unit and to fill the vacancies which had existed in the general educational research unit of the Bureau during the latter half of the previous biennium.

Senate Committee on Institutional Research—Leadership responsibilities for the Bureau's all-university advisory body—the Senate Committee on Institutional Research—were assumed by a new chairman, Dale B. Harris, during the 1956-58 biennium. Other members of the committee were: Robert H. Beck (1956-57), John R. Borchert, Thomas W. Chamberlin, John G. Darley, E. Adamson Hoebel (1957-58), Cyril J. Hoyt (ex-officio), Robert J. Keller, Wilbur L. Layton, Keith McFarland, Paul R. O'Connor, R. E. Summers, Maurice B. Visscher, and Malcolm M. Willey.

Bureau Offices and Personnel—For the 28th year, the facilities of the Office of Educational Research were jointly shared by the Bureau of Institutional Research and the Bureau of Educational Research. The full-time professional staff of the Bureau was enlarged to take care of the increased number of administrative studies and to assume some of the routine duties of the director (the latter to compensate for the time he spends on administrative research projects). The Bureau is particularly proud of the fact that three of the professional staff completed their doctorates during the 1957-58 year.

General Educational Research Unit—Two major studies were completed during the biennium: an extensive evaluation of the summer session program; and an exploratory study of factors influencing the choice of college teaching as a career.

The "Exploratory Study of Factors Influencing the Choice of College Teaching as a Career" was conducted under a grant from the Cooperative Research Program of the U.S. Office of Education (with Ruth E. Eckert as co-director). This study was designed to gather information about: the factors which were influential in motivating Minnesota college teachers to go into college teaching; their educational backgrounds; their family backgrounds; their previous educational and business experiences; the duties of their present positions; personal information; and their appraisals of college teaching as a career, both before and after entering the profession. Questionnaires were sent to a 25 per cent stratified random sample of all full-time faculty members teaching in Minnesota's 32 private and public institutions of higher education, fall term 1956, and a sub-sample of the respondents was interviewed.

The evaluation of the 1956 Summer Session program occupied a good deal of staff time during the biennium. This study involved: (1) detailed analyses of the academic and personal characteristics of the summer session students and some comparisons with the characteristics of students attending the University during a quarter of the regular year, student attitudes toward the summer session program, and reasons for attending the summer session; (2) an analysis of the characteristics of the summer session staff, some comparisons with the characteristics of the regular academic year staff, and staff attitudes toward the summer session program and students; and (3) a careful comparison of summer session curriculum offerings with curriculum offerings during the regular academic year and with the 1951 Summer Session curriculum, to determine similarities and differences and possible trends. At the close of the 1956-58 biennium final copy for the report of this study—"The Summer Session: Its Role in the University of Minnesota Program"—was at the printer. This report will represent the first of a new Report Series which is being initiated to accelerate the publication and improve the distribution of major Bureau of Institutional Research projects.

Other projects completed include: the national administration of the Aliferis Music Achievement Test, College Midpoint Form, development of norms, a reliability study, and item analysis data for the final test; a second study of attitudes of medical students toward psychiatry; a comparison of two methods of vocational counseling; a survey of sources of support for

football marching bands in Western Conference universities; the prediction of state board examination scores for nurses; a complete review of the literature dealing with studies comparing teaching methods, class size, etc.; comparison of three methods of item analyzing an essay test; and development of data forms and procedures for evaluation of the intramural program.

New Projects—In addition to the college teaching study two other studies were developed or proposed during the biennium. One study, still in the developmental stage, will attempt to identify differential attitudes and/or behavior patterns of college teachers in the different types of institutions of higher education, and possibly of researchers and teachers, of effective and ineffective teachers, or of productive and non-productive researchers.

The second study was developed and is being conducted in cooperation with a Sub-Committee of the University Senate Committee on Education. This study, called "A Study of Attraction and Retention of Faculty at the University of Minnesota," was designed to involve four groups of staff members: (1) recent newcomers to the University of Minnesota faculty, (2) people who have recently rejected offers of positions at the University of Minnesota, (3) individuals who recently left (voluntarily) the University of Minnesota staff for positions elsewhere, and (4) faculty members who have received attractive offers to go elsewhere but who have stayed at Minnesota. During 1957-58, groups 1 and 2 were studied, by interview and by questionnaire, respectively. Reports of these two phases of the study are in rough draft form. Preliminary work has begun on questionnaire forms to be sent to individuals who have recently left University of Minnesota jobs for positions elsewhere.

Examination Services—The biennium represented the seventh and eighth years of the examinations consultantship services. During the period four persons served as consultants to many individuals and departments in the University. They assisted in critical study of classroom examinations and served as speakers and discussants for meetings dealing with examinations problems. These services were also in demand from educational units outside the University.

Two new Bulletins on Classroom Testing were written and distributed to interested University staff members. Bulletin No. 8, "How to Make an Item Analysis of an Objective Test," and Bulletin No. 9, "How to Make a 'Content-Objectives' Test Analysis" were sent to about 800 faculty members throughout the University. Demand for these materials from other institutions in the country continued.

Administrative Research Unit—The major attention of the staff of the administrative unit during the 1956-58 biennium was devoted to analyses of data collected in the California-Western Conference Cost and Statistical Study. To meet objections often raised against the use of student credit hours as a basis for allocation of instructional funds, the staff worked to develop a new basis for allocating instructional funds, using the data from the California-Western Conference Cost Study. As a result, a new index was derived which combined measures of student class hour loads and previous expenditures per student class hour for use in fund allocation. This index, which automatically adjusted for colleges which were above average in faculty instructional load or below average in expenditures received, was used to allocate funds for supplementary staff positions for the 1956-57 year. Summaries and comparisons, by college and rank, were made of percentages of time spent by University of Minnesota staff members on such activities as teaching, research, administration, public and professional services, and student services. An inter-institutional analysis compared large and small institutions in terms of unit instructional expenditures and student-class-hour faculty loads, both for specific subject fields and for the total instructional program. Various other analyses involved inter-institutional comparisons of rank of staff, staff salaries, a factor analysis of different types of expenditures, and relative expenditures and staff devoted to teaching and research activities.

A second major project involved a complete study of instructional costs in the five Schools of Agriculture. The methods and forms used in the data collection were patterned after the California-Western Conference Study.

The Third and Fourth Annual Surveys of Minnesota College and University Enrollments were also completed. These surveys provided estimates of 1960, 1965, and 1970 enrollments for each Minnesota college and university as well as actual 1956 and 1957 enrollments.

New Projects—The Legislative Interim Commission on Higher Education has indicated interest in a study to determine costs of higher education in the various types of institutions in Minnesota. Because of its experience in gathering and analyzing data for the California-Western Conference Cost and Statistical Study, the Bureau has been asked to develop a plan for such a study and to prepare preliminary estimates of cost.

The Administrative Research Unit was asked to gather and analyze data of many kinds for the faculty Committee for Planning Development of the West River Area. Included in these projects were analyses of student flow, development of procedures and forms to be used in interviewing department heads concerning interdepartmental and intercollege relationships, and special analyses and summaries of the different kinds and strengths of interdepartmental relationships identified in the study.

Miscellaneous Activities—During the 1956-58 biennium the administrative unit has assumed responsibility for preparing summary data and reports on course enrollments, students graduating, courses offered, sections, and credits, etc. The summaries are based on the quarterly University of Minnesota Course Inventories. The unit has also served as a center for completion of questionnaires sent to the University.

Other Staff Activities—Bureau staff members taught regularly scheduled courses in the College of Education, and in Psychology. In addition, they frequently served as guest lecturers for courses and workshops and as resource persons for seminars or conferences both on and off campus. National professional meetings attended include the Invitational Conference on Testing Problems, the National Conference on Higher Education, the American Educational Research Association, and the American Psychological Association. Several papers were presented at these meetings. During 1957-58, a good proportion of the time of the director was spent as a participant in the Leadership Training Program sponsored by the North Central Association.

Future Plans—The general improvement, during the past biennium, of Bureau budget, office space, and number and quality of staff has been most encouraging. The impending move of the Bureau into new quarters on the third floor of the remodeled Burton Hall, although providing no additional space, will provide an office arrangement which should promote operating efficiency. These combined changes should make it possible for the Bureau to increase the number and kind of research studies, to achieve a better balance between basic and applied research, and to increase and improve its services to colleges and individuals in the university and throughout the state. The new report series, if it can be adequately financed, should alleviate the perennial problem of delay in publication and restricted distribution of research reports.—JOHN E. STECKLEIN, *director*

MINNESOTA STUDENT UNIONS

The 1956-58 biennium has been one of both progress and added pressures for the Department of Student Unions of the University of Minnesota.

Services of the department at its three branches—Coffman Memorial Union, St. Paul Campus Union, and University Village Union—were enjoyed by more persons than in any previous biennium. Program attendance at the three Unions was from four to 13 per cent higher during the second year of the biennium than during the first year.

Improvements were made in the diversification of programs, the organization of personnel so as to achieve the best results, and the promotion of Union activities with a view to giving more persons an opportunity to participate in them.

The Department of Student Unions is ever striving to offer the greatest service to the greatest number of students, faculty, staff members and friends of the University. In the achievement of its goals, the department must keep in mind the physical and staff limitations of its services, and must endeavor to assure adequate physical facilities and personnel to meet the service demands made upon it. A broad step in the direction of adequate physical facilities was made during the 1956-58 biennium. It was during this period that the long-needed Student Center on the St. Paul Campus was started and brought almost to completion.

The pressure of numbers still created a serious problem on the Minneapolis Campus. Coffman Memorial Union, built to accommodate a student body of 14,000, virtually "bulges at the seams" between September and May of each academic year. This inadequacy of space came clearly into focus during the 1956-58 biennium and the problem was pin-pointed for remedial action during the next two-year period.

After World War II the Department of Student Unions set up a 15-year building program. Much of the plan has been brought to fruition since that time.

The renovation of Coffman Memorial Union, one feature of the plan, is continuously in progress. The development of a University Village Union has now become a reality. The new St. Paul Campus Student Center is another feature which is now a reality. The addition to Coffman Memorial Union is under consideration with plans relating to the West River Development. And, an outing center camp, also a feature of the 15-year building program, is being considered. The Union Board of Governors of Coffman Memorial Union has already set aside \$5,000 to be used in developing such a camp when it is procured by the University.

Coffman Memorial Union—Organizations seeking places to meet at Coffman Memorial Union had to be turned away too frequently during the 1956-58 biennium. This was caused by the space limitations of the building. Certain space in temporary buildings was assigned to the Union to provide meeting places for campus organizations and this alleviated the situation to some extent.

The North Star and Ski-U-Mah rooms, serving a double purpose as commuters' lunch rooms and study rooms, could not accommodate all who wished to use these facilities.

Homecoming dances and other events were handicapped by the limited space of the ballroom. The demand for tickets to such events far exceeded the supply.

Every square foot in the building was being used as the Union Board of Governors faced the problem of providing even more facilities and services and an expanded Union program for the ever increasing enrollment.

A traffic survey report in February 1957, revealed that more than 61,900 individuals used the building in one week. This is the largest number ever recorded.

Improvements to Coffman Memorial Union during the 1956-58 biennium include:

(1) a \$250,000 addition on the wings of the fourth floor, providing additional kitchen and luncheon space for the Campus Club, a portion of the building providing club service for the University faculty and staff; (2) refurbishing the main lounge with an increase in seating capacity; (3) installation of new steps in the east stairway; (4) repairs to walls in the service stairway; (5) general improvement in the use and protection of building facilities; (6) re-finishing bowling lanes; (7) raising bowling lane approaches; (8) installation of new bowling ball returns; and (9) the appropriation of funds for installing acoustical tile ceilings in eight more conference rooms, bringing to ten the number of rooms having such ceilings.

The University's physical plant was authorized to study the Union's 17-year-old ventilating system with a view to modernizing it. The biennium ended with a \$15,000 repair project on the roof of the building under consideration.

Future Needs—Among the principal areas of needed expansion as the 1956-58 biennium ended included:

Commuters' eating facilities, ballroom facilities, lounges, student office space, meeting rooms, recreational facilities, and mechanical rooms.

Because of the space problem, it was expected that Coffman Memorial Union would not be able to accommodate all the leagues, tournaments and other such activities for which there would be a demand during the next biennium.

Future plans for expanding student Union facilities of the Minneapolis Campus will be guided by a study made during the 1956-58 biennium. This study, sponsored by the Union Board of Governors and made by an Expansion and Development Committee, determined the needs and wants of students and faculty members with respect to Union facilities and evaluated ways and means of expanding present facilities to meet the anticipated heavy enrollment of the future.

Made under the chairmanship of a student, Steven O'Brien, this study will be used by the University Building Committee in planning for future Union facilities and services.

Union Board of Governors—The Union Board of Governors, governing body of Coffman Memorial Union, is composed of faculty members, students and alumni. This body was the prime mover behind the many well attended events at Coffman Memorial Union during the 1956-58 biennium.

During the two-year period such national figures as Norman Thomas, Augie Garcia, Louis Armstrong, Rus Carlisle and Charlie Schultz appeared in the Union under sponsorship of the Union Board of Governors.

The Board sent delegates to the regional and national Big Ten Conferences and sent table tennis and bowling teams to compete with other members of the Big Ten. It also sponsored Minnesota in the National Billiard Tournaments, sent a ski team to the national meet, and served as host to the state chess tournament.

The Minnesota Statehood Centennial was adopted by the Union Board of Governors as theme of the year for 1957-58. With this came the Statewide Sports Festival which shows promise of becoming an annual event. The Centennial program also brought the Statewide Talent Search and the Creative Arts Festival, both of which were far out front in popularity.

Other accomplishments of the Union Board of Governors include a marked improvement in the personnel program, which brought better leadership training and encouragement and financial assistance to the Student Center of the St. Paul Campus.

St. Paul Campus Union—The 1956-58 biennium ended with the new Student Center on the St. Paul Campus being made ready for occupancy within a few months. Old Dairy Hall, built in 1887, had been in use as a Student Union on the St. Paul Campus for 28 years.

Construction of the new Student Center began in September 1957. It was expected to be occupied early in the 1958-59 academic year. Since the new dining facility adjoining the Student Center was not scheduled for completion during that period, the grill in the Student Center was expected to carry a heavy load for the first year of the next biennium.

Money to build the new Student Center has come from several sources: student fees and department earnings, gifts from business firms, industries, alumni, faculty members and other friends of the University; and from a loan authorized by the University Board of Regents. The total cost of the three-story building is over \$1,100,000.

The new building is centrally located on the St. Paul Campus, being adjacent to a new dormitory and close to other residential buildings.

During the 1956-58 biennium, Dean Emeritus Clyde H. Bailey resumed the fund drive, started earlier by the late University of Minnesota President Walter C. Coffey, to obtain funds for completing the new Student Center. George Wilkins, an alumnus and former board member, served as general solicitation chairman.

In the Constitutional changes of 1953, provision was made for a revised fee structure anticipating changed needs with the advent of the new St. Paul Student Center. A new structure was authorized in 1958. This provides for a little more than ninety per cent of St. Paul Campus and Minneapolis Campus

Students' fees to remain on their respective campuses for operation of buildings and programs with the balance of all students' fees to be used for retirement of bond issues and for building expansion on both campuses.

Much attention was given during the 1956-58 biennium to planning an effective program for the new Student Center on the St. Paul Campus. In order to assure that this program would be built upon student needs and interests, the Union Board of Governors made a study of what students want in the way of a Union program and began planning accordingly.

University Village Union—Unlike the other two Unions, University Village Union has a program and facilities based primarily upon the needs of married students and their families. The Union's Board has taken steps to have the building designated as Married Students' Union, but definite action has not been taken on this matter. A problem arises as to how other married students on the University Campus could be represented in the Union governing body, now composed exclusively of University Village residents, if the Union were re-named as a facility for married students generally.

The Village Union has made notable progress in program diversification and quality as well as in attendance. It has performed an important function in the Department of Student Unions. The careful planning behind its program gives promise that the next biennium will bring even greater improvements in the extent and quality of its service to married students.

Department Programs and Services—Marked improvement in program attendance and service patronage was made by the three branches of the Department of Student Unions during the 1956-58 biennium. Over-all program attendance at the three Unions was 675,092. This attendance was about equally divided between Union-sponsored events and those having other sponsorship. Total program attendance in 1957-58 was 353,765, which was 32,438 or about 10 per cent higher than the total for 1956-57.

During this biennium the Department served more than 8,100 organizations by providing facilities for meetings, conferences and dinners.

Program attendance at Coffman Memorial Union increased 10 per cent between 1956-57 and 1957-58, with total attendance for the biennium being 585,700. This does not include the individuals served by the Campus Club, an area of Coffman reserved for faculty and staff members, and the food serving areas of the building operated by University Food Services. The Campus Club served 331,000 persons at 4210 dinners during the biennium, with the total servings for 1957-58 showing an increase of almost 10 per cent over the total for the previous year. The food serving areas of Coffman served 1,429,300 individuals in 1956-57 and 1,525,523 in 1957-58, a 6 per cent increase being noted between the two years.

The installation of automatic pinspotters in the bowling lanes of Coffman during the summer of 1957 caused patronage of the Union's bowling services to increase greatly. The total bowling lineage in 1957-58 was 75 per cent higher than for the previous year. Total lineage for the biennium was 290,054. Also, in the games service area, total patronage included 141,747 for billiards and 25,934 for Table Tennis.

The St. Paul Campus Union showed an increase of 4 per cent in program attendance between the 1956-57 and the 1957-58 academic years. Total program attendance for the biennium was 66,162. Total patronage of this Union's food service and games was 378,934 in 1956-57 and 429,004 in 1957-58, the second year showing a gain of 13 per cent.

The greatest increase in program attendance was noted at University Village Union, where the 1957-58 total attendance figure was 13 per cent higher than the total for the previous year.

An attempt was made during the 1956-58 biennium to key the Department of Student Unions' program to the interests of students and other members of the University family more than at any previous time.

Summer Program—Summer programs of the Department of Student Unions were more extensive and better organized during this biennium than in previous years.

At Coffman Memorial Union a full summer program with a full-time coordinator began operating in 1957 and continued in 1958. During the sum-

mers of the biennium, open house was held each session. Big events were planned at the Union for Monday, Wednesday and Friday nights of each week.

All game facilities of Coffman were open throughout the summers of 1957 and 1958.

The building was in use every evening until 10 o'clock.

The St. Paul Campus Union, operating on a limited schedule in the summer, remained open each week-day between 8 a.m. and 4 p.m. Its food service and games area operated each summer.—GORDON L. STARR, *director*

UNIVERSITY HEALTH SERVICE

Influenza Epidemic—In the fall of 1957 an epidemic of Asian influenza started the first week of school and continued for approximately an eight-week period. During the first eight weeks of the quarter more than 1200 students were hospitalized. This was more than four times the number hospitalized in the first eight weeks of the fall quarter of 1956.

At the peak of the epidemic which occurred the third week of the quarter, 142 students were hospitalized at one time. Fortunately the disease was mild, and the average length of hospitalization was about four days.

Except for the epidemic of influenza, the general health of students on the campus was good. Although in 1956-57 there was no unusual epidemic, the utilization of the out-patient facilities of the Health Service by students continued to increase at a rate far beyond the increase in enrollment.

Building Expansion—Because of the problems of space shortage which exist because of this increased use of the Health Service, and to provide adequate facilities as the enrollment increases further, the Board of Regents authorized a Building Committee to plan for an addition to the Health Service. Plans for a wing adjoining the present building were drawn and contract let in May, 1958. Construction has started on the Health Service addition, and the completion date is set for September 15, 1959. Financing of the addition was made possible through the use of a reserve fund which the Health Service had been able to establish and a grant from the federal government under the Hill-Burton Hospital Construction Act.

Blue Cross-Blue Shield—A special Blue Cross and Blue Shield plan has been developed for University of Minnesota students. Since the Blue Cross and Blue Shield benefits are a supplement to the University Health Service program the rates are within the reach of every student. The Blue Cross-Blue Shield supplement covers the student while he is away from school, on week-ends, or that portion of the calendar year when he is not actually enrolled, as in summer vacation. It also provides full surgical coverage throughout the year. This program went into effect in the summer of 1958.

On September 15, 1956 a part-time public health nurse was added to the staff of the Health Service. The public health nurse has been able to take over some of the public health responsibilities of the Health Service which were formerly carried on by the medical staff. She has worked very closely not only with the medical staff but also the staff of the Department of Environmental Health and Safety. A well functioning tuberculosis case registry was initiated with great improvement for follow-up cases of tuberculosis occurring among students and staff.

Foreign students continue to have more health problems than do other students. While tuberculosis is still found much more frequently among foreign students than those from this country, there have been only six active cases in the past biennium. An increasing number of foreign students, however, are being seen with severe emotional problems, and several with acute psychoses.

The Health Service has continued to provide a physician to pass upon the medical feasibility of veterans who are counseled at the Veterans Counseling Service on the campus.

General Program—The general program to provide health examinations and hospital care, informal individual health counseling, and the supervision

of the environmental health of the campus has continued. In the fall of 1957 the Health Service portion of the incidental fee was increased, making it possible to provide 30 days of hospitalization per quarter without charge instead of the four days previously provided. The educational program of the Health Service under the direction of the health educator has been expanded and improved. Again this biennium there has been a growth and broadening of the environmental health program. Expanded facilities and research in the field of radiation necessitated the addition of another health physicist to the staff.

Health Examinations—Complete medical examinations were given to 25,724 students during the biennium. While the number of required medical examinations for entrance to the University had increased slightly with increasing enrollment, there has been a continuous rise in the number of periodic health examinations over the past five years. In the year 1957-58 over 4600 students had periodic health examinations.

Medical Care—There were over 220,000 visits made to the Health Service dispensary for medical care during this biennium. This is 48,000 more than in the preceding biennium. A large part of the increase was due to the epidemic of influenza.

Hospital Care—Again because of the influenza epidemic the number of students hospitalized and the rate of hospitalization per 1000 students registered was the highest in the history of the Health Service. The average length of stay in the hospital continues to be low, slightly over three days.

Mental Hygiene—The mental hygiene clinic continues to be used to capacity. During the biennium 1047 new patients and 344 former patients have been cared for in the mental hygiene clinic, making a total of 1391 students interviewed. In 1956 two full-time clinical psychologists were added to the staff of the mental hygiene clinic. With the psychiatrists and psychiatric social workers, this has resulted in a teamwork approach to the mental health problems of students which has been very valuable. The character of the problems seen in the mental hygiene clinic has altered considerably during the last few years. More cases of firmer character neuroses and incipient or latent psychoses are being referred to the clinic. Forty per cent of students referred to the mental hygiene clinic came from physicians in the Health Service; 30 per cent were self-referred; and the remainder referred by counselors, faculty members, friends or other sources.

Tuberculosis Control—A tuberculosis case-finding program has been continued as an integral and routine part of the entrance and periodic health examination program. Until January 1, 1958 this consisted of giving a tuberculin test to each student and a 70-millimeter photofluorographic examination of the chest of each student, regardless of the tuberculin reaction. Likewise, all new faculty and non-academic employees given pre-employment examinations have had this same screening.

Because of the general concern about unnecessary exposure to ionizing radiation, effective the winter quarter of 1958, the Health Service tuberculosis case-finding program was changed. The use of the 70-millimeter photofluorographic examination has been discontinued. The tuberculin test is given, and a 14 x 17 chest X-ray to any reactor to tuberculin.

Routine health examinations revealed 23 cases of active tuberculosis among students, of whom seven were foreign students, and six cases in staff members. There were 137 students and staff members with arrested tuberculosis under observation in the Health Service during the biennium.

Special Diet Table—Students with severe dietary problems have again been provided with meals at the special diet table in the Health Service. An average of 25 students have been served meals each day. The types of special diet required have included those for diabetes, ulcers, allergies, overweight and underweight. In the spring of 1957 the Health Service cooperated with the Laboratory of Physiological Hygiene in providing diets for 17 students who served as volunteers for a research project. Dietary counseling by

a physician and a dietitian was given to more than 1200 students who needed help with dietary problems but did not need to eat at the special diet table.

Special Services—Consultation service in all of the medical specialties has continued to be available to students in the Health Service. In the fall of 1956 a full-time surgeon was added to the Health Service staff because of the increasing need for surgical consultation in the dispensary. In the fall of 1957 a second full-time ophthalmologist was added to the staff because of the increased need for service in that department.

During the biennium over 28,000 doses of poliomyelitis vaccine were given to students.

Health Education—The special program in health education under the direction of the health educator has continued to grow. An extremely valuable part of the program has been the assistance given to the medical staff by the health educator. This has included arranging visual aids for individual physicians' offices, providing educational pamphlets and literature for specific purposes and designing and instructing health exhibits. The health educator has cooperated in the orientation program of the Dean of Students office. A training session has been held for students' sponsors who carry on the orientation program. The main purposes of the program, so far as the Health Service is concerned, are to: (1) acquaint new students with the services available to them; (2) assist students in using these services; (3) prepare them for the medical examination given during Orientation Week; and (4) make the medical examination a positive learning experience.

The health educator has again served as the Health Service representative on the All-University Congress Health Service Liaison Committee and worked very closely with this committee in the development of the supplemental Blue Cross-Blue Shield program. He has also worked closely with the editor and staff of the *Minnesota Daily* and the University Relations Department. During the past biennium considerable time has been spent working with the Social Service Council and sponsoring student groups on such things as the Diabetes Detection Drive, cancer education, heart education, mental health education, etc.

St. Paul Campus—Table VI presents the out-patient and hospital services on the St. Paul campus. There has been a marked increase in the out-patient services during the last biennium, reflecting an increased utilization of the Health Service facilities on this campus by students in residence. Because of the influenza epidemic in the fall of 1957 the number of hospital patients cared for in the St. Paul campus Health Service was the highest in the history of the service. With the increasing number of students on the St. Paul campus an effort is being made to provide as much service as possible in the Health Service on that campus. In addition to general medical service there is now available to students in the St. Paul campus Health Service dental care, eye examinations and consultations in dermatology.

Faculty Examinations—There were 331 medical examinations given to new members of the academic staff and to those promoted to positions implying tenure during the biennium. This is slightly less than during the previous biennium.

Civil Service Examinations—Medical examinations were given to 1284 individuals applying for positions on the regular payroll of the Civil Service staff. This is about 300 less than in the previous biennium. There were 21 individuals found to have disabilities preventing employment for the type of work for which they were applying.

Environmental Health—During this biennium the number and variety of technical services performed by the staff of the Division of Environmental Health and Safety have continued to increase at a rapid rate. The nature of the work has fallen into four general categories: general sanitation, occupational health, radiological health, general safety. However, the staff continued to operate as a team with the several technical skills complementing each other in an efficient manner.

The general sanitation program has provided routine surveillance of the University swimming pools and food services and has responded to many requests for assistance in referrals for a wide range of sanitation problems.

The oldest of the division's activities, inspection of student housing, continues to be of major importance. During the biennium the City of Minneapolis adopted a new housing code. With this new city ordinance, there has been need to hasten the programs of improvements of off-campus dwelling units so as to conform to the minimum standards of the city. The program of housing improvements has been especially critical for the fraternities and sororities because of the necessity of meeting standards for multiple dwellings. As a consequence, the division has been asked to give considerable time for purposes of consultation, inspection, and plan review for the 78 chapter houses. During the past two years, more than 70 of these chapter houses have made major structural alterations or additions in accordance with the recommendations of the division and the City Building Department.

There is a continuing experience of seeing exposures to toxic materials by students and staff, and the occupational health engineer has had an opportunity to work closely with the Health Service physicians where such exposures are seen in the dispensary as a basis for recommended corrective environmental controls to prevent recurrence of exposures.

During the biennium the division has had an opportunity to engage to a greater extent in the review of building plans. Because the problems of laboratory safety are so common to many of the buildings, this has been a principal activity of the occupational health engineer, although the entire staff, including the safety engineer, public health engineer and the sanitarian, have participated in plan review.

The radiological health program has continued to serve an increasing number of staff and research personnel. The completion of the Gamma Irradiation Facility and its accelerated usage has required the full-time services of one of the health physicists. In addition, increasing usage of radioisotopes and the need for greater attention to X-ray installations necessitated employment of an additional full-time health physicist on January 1, 1958.

The problem of storage and disposal of radioactive contaminated solid waste has increased unbelievably fast. The decay storage facility at Rosemount Research Center has proved to be essential and has been further rehabilitated to provide necessary increased storage space for non-combustible solids.

The general safety program which was initiated in January 1955 has moved ahead with very favorable acceptance by students and staff. In fact, referrals to the safety engineer from both students and staff have determined the major work activity. Again the value of Health Service affiliation of the program has been demonstrated by the establishment of an excellent accident report system for those injuries seen by attending physicians in the dispensary. This direct and prompt reporting greatly facilitates investigation and initiation of corrective measures by the safety engineer.

Many departments of the University have shown great interest in correction of safety hazards and prevention of accidents. The Physical Plant Department Foreman's Committee and the General Safety Committee and Nurses Safety Committee of University Hospitals have functioned most productively. Similarly, interest in safety has been expressed by a number of academic departments of the University. The preparation and distribution of an environmental health and safety *Newsletter* has been well received by staff personnel of the University.

Members of the division staff have been actively engaged during the biennium in research, teaching, public service and active participation in their several professional organizations.

Research—A study on the immunization of students against diphtheria and tetanus toxoid has been completed and published. The Health Service has continued to participate in a nationwide study carried on cooperatively with the United States Public Health Service on the incidence of rheumatic fever in college age students. Other studies under way are concerned with staphylococcal infections, the treatment of fatigue due to hypometabolism, trends in height and weight and stature of college students, and factors in the environ-

ment of the University which may contribute to asthma.—RUTH E. BOYNTON, dean

TABLE I. NUMBER OF COMPLETE MEDICAL EXAMINATIONS GIVEN

Year	Entrance	Periodic	Total
1948-49	8,335	3,171	11,506
1949-50	7,721	4,484	12,205
1950-51	7,054	3,570	10,624
1951-52	5,397	4,090	9,487
1952-53	5,831	2,894	8,725
1953-54	6,319	3,095	9,417
1954-55	7,251	3,560	10,811
1955-56	8,260	4,078	12,338
1956-57	8,510	4,375	12,885
1957-58	8,223	4,616	12,839

TABLE II. VISITS TO THE HEALTH SERVICE (MINNEAPOLIS CAMPUS) FOR MEDICAL ATTENTION

Year	Number of Visits*	Average Number of Visits per Student (Academic Year)
1948-49	73,523	2.85
1949-50	74,111	3.11
1950-51	68,947	3.31
1951-52	64,587	3.50
1952-53	83,222	5.09
1953-54	72,684	4.40
1954-55	81,328	4.65
1955-56	91,011	4.62
1956-57	107,060	5.08
1957-58	113,653	5.28

* These totals do not include visits for physical examinations, dentistry, hospitalization, immunity tests, physiotherapy, laboratory or x-ray services.

TABLE III. STUDENT HOSPITAL CARE (MINNEAPOLIS AND ST. PAUL CAMPUS)

Year	Number of Patients			Rate per 1000 Students (academic year)	Number of Hospital Days			Average Stay in Days
	Mpls.	St. Paul	Total		Mpls.	St. Paul	Total	
1948-49	1,428	69	1,497	58.0	5,151	227	5,378	3.6
1949-50	1,355	185	1,540	64.6	5,499	665	6,164	4.0
1950-51	1,189	54	1,243	67.1	4,364	174	4,538	3.7
1951-52	919	37	956	58.3	3,252	112	3,364	3.5
1952-53	1,199	98	1,297	79.3	4,063	199	4,262	3.3
1953-54	1,137	20	1,157	70.0	3,835	64	3,899	3.4
1954-55	1,249	38	1,287	73.7	3,909	161	4,070	3.2
1955-56	1,491	48	1,539	78.1	4,839	144	4,983	3.2
1956-57	1,434	40	1,474	69.9	4,609	117	4,726	3.2
1957-58	2,057	471	2,528	117.5	7,037	1,655	8,692	3.4

TABLE IV. SPECIAL DIET TABLE—KIND AND NUMBER OF CASES

Type of Diet	1956-57		1957-58	
	Number on Diet	Per Cent	Number on Diet	Per Cent
Allergy	10	9.01	3	3.37
Bland	27	24.32	16	17.98
Diabetic	11	9.91	10	11.24
High Calorie	1	.90	0	...
High Calorie Liquid	1	.90	2	2.25
Hypoglycemia	0	...	1	1.12
Low Calorie	55	49.55	47	52.81
Low Cholesterol	1	.90	2	2.25
Low Fat	3	2.70	6	6.74
Low Purine	0	...	1	1.12
Low Residue	1	.90	0	...
Low Salt	0	...	1	1.12
Pregnancy	1	.90	0	...
Total	111	100.00	89	100.00

TABLE V. AVERAGE NUMBER OF PATIENTS SERVED DAILY

Quarter	1956-57	1957-58
	Average Number	Average Number
Summer	25.04	24.25
Fall*	24.42	14.84
Winter	26.49	21.43
Spring	26.86	25.68

* Closed 27 days for influenza epidemic.

TABLE VI. ST. PAUL CAMPUS HEALTH SERVICE: OUT-PATIENT DEPARTMENT

Year	Medical Attention	Number of Hospital Patients	Number of Hospital Days	Total Services Rendered
1948-49	4,259	69	227	6,138
1949-50	4,625	185	665	6,490
1950-51	3,793	54	174	5,302
1951-52	2,675	37	112	3,484
1952-53	2,660	98	199	3,477
1953-54	2,503	20	64	3,594
1954-55	2,428	38	161	4,129
1955-56	3,025	48	144	5,173
1956-57	4,033	40	117	7,612
1957-58	5,006	471	1,655	7,757

UNIVERSITY PRESS

The biennium saw a number of changes. Effective November 30, 1956, Helen Clapesattle resigned as director. She had become director in 1953, following service which extended back to 1937. (Her contributions were given formal recognition when, on April 25, 1958, she was presented with the Outstanding Achievement award by Vice President Willey.) Upon her resignation, Jane McCarthy, production manager of the Press, became interim director until a successor could be appointed. This successor is John Ervin, Jr., who took office on February 1, 1957.

A problem which had beset the Press was insufficient space. This was solved on April 1, 1957, with the move, announced during the previous biennium, to larger quarters at 2037 University Avenue Southeast.

The first grants to university presses in the Ford Foundation's five-year program of support for publication in the humanities and social sciences were made. The Press received \$10,000 for calendar 1957, and a like sum for calendar 1958. Further grants in the series will be applied for.

The production staff continued to turn out handsome books—a statement to which the following awards for design and execution bear witness. In each case the book was designed by Miss McCarthy: American Institute of Graphic Arts, Fifty Books of the Year, 1956, *The Idea of Louis Sullivan*; Midwestern Books Competition, 1956, *From Lisbon to Calicut* and *The Idea of Louis Sullivan*; Chicago Book Clinic, Top Honor Books, Eighth Annual Exhibit, *Travels and Traditions of Waterfowl* and *The Idea of Louis Sullivan*; AIGA, Fifty Books of the Year, 1957, *The Wine of Eternity*; Midwestern Books Competition, 1957, *The Making of the Auden Canon* and *Tidings Out of Brazil*; Chicago Book Clinic, Top Honor Books, Ninth Annual Exhibit, *The Making of the Auden Canon*, *Tidings Out of Brazil*, *Daring Diplomacy*, and *Homeward to Zion*.

Promotion of books continued to be intensive. Sales rose in the first year of the biennium to \$183,312, showing thereby a 20% increase over those of the previous year. The popularity of *Flower Growing in the North* and *The Idea of Louis Sullivan*, both published in October 1956, was an important factor in the increase. In the second year of the biennium, sales dropped by 5%, to \$173,314. The slight decrease is explained by the fact that the best-selling book, *The Face of Minnesota*, was not published until May 1958, so only two months were left in which it could help that year's sales figures—in contrast to the situation in the previous year.

The Press commemorated the 100th anniversary of Minnesota's statehood with its publication of *The Face of Minnesota*, whose preparation by John

Szarkowski was made possible by a grant from the Minnesota Statehood Centennial Commission. Plans were laid for the publication in the fall of 1958 of a history of the arts in Minnesota, in further observance of the centennial.

Particular mention should be made, too, of the publication on April 3, 1958, of William T. Middlebrook's *How to Estimate the Building Needs of a College or University*. This book grew out of a study begun at the request of a commission established by the legislature to examine the state's needs for buildings.

Three books won literary awards: the 1956 Literary Award of the Wildlife Society went to H. Albert Hochbaum for *Travels and Traditions of Waterfowl*, and honorable mention in the Minnesota Statehood Centennial Distinguished Book Competition was given to Knuts Lesins' *The Wine of Eternity* and Joseph Warren Beach's *The Making of the Auden Canon*.

Plans for the future include the extension of representation to the one area of the country in which a representative does not call on booksellers, the South. As to needs, the most important is for an extension of salary support beyond the present support of part of the director's salary. This would enable the Press to achieve more flexibility in its budget and thereby plan with more confidence.—JOHN ERVIN, JR., *director*

BOOKS AND PAMPHLETS ISSUED

July 1, 1956-June 30, 1958

Community Education in World Affairs. By William C. Rogers. Published August 1, 1956. \$1.25. viii plus 86 pages. Paperbound. Edition: 5,000.

Service and Procedure in Bureaucracy: A Case Study. By Roy G. Francis and Robert C. Stone. Published August 1, 1956. \$4.00. viii plus 201 pages. 8 illustrations. Hardbound. Edition: 1,000.

The Potentials About a Point Electrode and Apparent Resistivity Curves for a Two-, Three-, and Four-Layer Earth. By Harold M. Mooney and W. W. Wetzel. Published August 15, 1956. Text (viii plus 146 pages) and set of 2268 Master Resistivity Curves, \$18.00; text alone, \$4.50; set of 2268 Master Resistivity Curves alone, \$15.00. 6 illustrations. Edition: 1,000 books and 500 sets of curves.

Understanding Ourselves. By Marlon L. Faegre. Tenth printing issued August 23, 1956. \$5.00. iv plus 43 pages. 2 illustrations. Paperbound. Edition: 10,000.

Dorati's Instrumentation Chart: A Guide for Composers and Arrangers. By Antal Dorati. Published September 4, 1956. \$10.00. 5 sheets plus instruction leaflet. Edition: 1,000.

Guidance Procedures in High School. The Modern School Practices Series, No. 1. By C. Gilbert Wrenn and Willis E. Dugan. Second printing issued September 5, 1956. \$1.75. ix plus 71 pages. Paperbound. Edition: 2,000.

When Prophecy Fails. By Leon Festinger, Henry Riecken, and Stanley Schachter. Published September 7, 1956. \$4.00. viii plus 256 pages. Hardbound. Edition: 4,000.

The British Press Under Government Controls. By J. Edward Gerald. Published September 7, 1956. \$4.50. xiv plus 235 pages. Hardbound. Edition: 1,000.

Basic Readings on the MMPI in Psychology and Medicine. Edited by George Schlager Welsh and W. Grant Dahlstrom. Published September 21, 1956. \$8.75. xvii plus 656 pages. Hardbound. Edition: 2,500.

Psychology, Psychiatry, and the Public Interest. Edited by Maurice H. Krout. Published October 5, 1956. \$4.00. xv plus 217 pages. Hardbound. Edition: 2,000.

The Idea of Louis Sullivan. By John Szarkowski. Published October 5, 1956. \$10.00. viii plus 163 pages. 94 illustrations. Hardbound. Edition: 3,000.

Minnesota Studies in the Philosophy of Science, Volume I. The Foundations of Science and the Concepts of Psychology and Psychoanalysis. Edited by Herbert Feigl and Michael Scriven. Published October 5, 1956. \$5.00. xiv plus 346 pages. 1 illustration. Hardbound. Edition: 1,000.

The Nature of Brucellosis. By Wesley W. Spink, M.D. Published October 15, 1956. \$8.00. xiv plus 464 pages. 66 illustrations. Hardbound. Edition: 5,000.

On the Economy Theory of Socialism. By Oskar Lange and Fred M. Taylor. Edited by Benjamin E. Lippincott. Fourth printing issued October 25, 1956. \$2.50. viii plus 151 pages. Hardbound. Edition: 2,058.

The Refugee and the World Community. By John G. Stoessinger. Published December 3, 1956. \$4.50. viii plus 239 pages. Hardbound. Edition: 3,000.

British Broadcasting: Radio and Television in the United Kingdom. By Burton Paulu. Published December 3, 1956. \$6.00. xii plus 457 pages. 6 illustrations. Hardbound. Edition: 2,000.

Indian Students on an American Campus. By Richard D. Lambert and Marvin Bressler. Published December 3, 1956. \$3.00. xii plus 122 pages. Hardbound. Edition: 2,000.

Travels and Traditions of Waterfowl. By H. Albert Hochbaum. Second printing issued December 6, 1956. \$5.00. xii plus 301 pages. 75 illustrations. Hardbound. Edition: 3,213.

- The Man in the Name: Essays on the Experience of Poetry.* By Leonard Unger. Published December 10, 1956. \$4.00. xii plus 249 pages. Hardbound. Edition: 2,000.
- The Pattern of Management.* By Lyndall F. Urwick. Published December 10, 1956. \$2.50. viii plus 100 pages. 5 illustrations. Hardbound. Edition: 3,000.
- American Literary Naturalism, a Divided Stream.* By Charles Child Walcutt. Published December 17, 1956. \$5.00. xii plus 332 pages. Hardbound. Edition: 3,000.
- Intergovernmental Fiscal Relations.* Intergovernmental Relations Series, No. 8. By William Anderson and Waite D. Durfee, Jr. Published December 19, 1956. \$3.00. viii plus 131 pages. Paperbound. Edition: 750.
- Men, Books, and Mountains: A Collection of Essays by Leslie Stephen.* Edited by S. O. A. Ullmann. Published January 31, 1957. \$3.50. 247 pages. Hardbound. Edition: 750.
- The Presidency in the Courts.* By Glendon A. Schubert, Jr. Published February 28, 1957. \$5.50. xi plus 391 pages. Hardbound. Edition: 1,500.
- The Mexican Government Today.* By William P. Tucker. Published February 28, 1957. \$6.50. xii plus 484 pages. Hardbound. Edition: 1,500.
- Daring Diplomacy: The Case of the First American Ultimatum.* By Andor Klay. Published April 5, 1957. \$5.00. xiv plus 246 pages. 16 illustrations. Hardbound. Edition: 3,000.
- Minnesota Studies in the Philosophy of Science, Volume I. The Foundations of Science and the Concepts of Psychology and Psychoanalysis.* Edited by Herbert Feigl and Michael Scriven. Second printing issued April 15, 1957. \$5.00. xiv plus 346 pages. 1 illustration. Hardbound. Edition: 1,000.
- The Concept of Development: An Issue in the Study of Human Behavior.* Edited by Dale Harris. Published April 25, 1957. \$4.75. x plus 287 pages. 11 illustrations. Hardbound. Edition: 2,000.
- British Emigration to North America.* By Wilbur S. Shepperson. Published April 25, 1957. \$5.00. xvi plus 302 pages. 7 illustrations. Hardbound. Edition: 750.
- Sheep: Life on the South Dakota Range.* By Archer B. Gilfillan. Published April 29, 1957. \$4.00. xix plus 272 pages. 17 illustrations. Hardbound. Edition: 3,000.
- Agricultural Cooperation: Selected Readings.* Edited by Martin A. Abrahamsen and Claud L. Scroggs. Published May 24, 1957. \$7.50. xiv plus 576 pages. Hardbound. Edition: 3,000.
- Dawn in Arctic Alaska.* By Diamond Jenness. Published May 27, 1957. \$4.75. viii plus 222 pages. 70 illustrations. Hardbound. Edition: 3,000.
- Certain Language Skills in Children: Their Development and Interrelationships.* Child Welfare Monograph 26. By Mildred C. Templin. Published June 1, 1957. \$4.00. xviii plus 183 pages. 9 illustrations. Hardbound. Edition: 1,000.
- Joseph Conrad at Mid-Century: Editions and Studies, 1895-1955.* By Kenneth A. Lohf and Eugene P. Sheehy. Published June 15, 1957. \$5.00. xiv plus 114 pages. Hardbound. Edition: 1,000.
- Understanding Ourselves.* By Marion L. Faegre. Eleventh printing issued June 28, 1957. \$5.00. iv plus 43 pages. 2 illustrations. Paperbound. Edition: 20,725.
- Improve Your Reading: A Manual of Remedial Reading Exercises.* By Frances Oraland Triggs. Eleventh printing issued July 17, 1957. \$1.50. 127 pages. Paperbound. Edition: 3,000.
- Heroic Knowledge: An Interpretation of Paradise Regained and Samson Agonistes.* By Arnold Stein. Published July 22, 1957. \$5.00. xiv plus 237 pages. Hardbound. Edition: 1,000.
- No Frontier to Learning: The Mexican Student in the United States.* By Ralph L. Beals and Norman D. Humphrey. Published August 14, 1957. \$3.25. xiv plus 148 pages. Hardbound. Edition: 2,000.
- Searching for Your Ancestors.* By Gilbert H. Doane. Third printing issued August 26, 1957. \$3.50. xvi plus 176 pages. 4 illustrations. Hardbound. Edition: 2,136.
- An Atlas for the Clinical Use of the MMPI.* By Starke R. Hathaway and Paul E. Meehl. Second printing issued September 10, 1957. \$9.75. xlv plus 799 pages. 8 illustrations. Hardbound. Edition: 1,828.
- Homeward to Zion: The Mormon Migration from Scandinavia.* By William Mulder. Published September 13, 1957. \$7.50. xiv plus 375 pages. Hardbound. Edition: 1,500.
- The Pattern of Management.* By Lyndall F. Urwick. Second printing issued September 17, 1957. \$2.50. viii plus 100 pages. 5 illustrations. Hardbound. Edition: 1,533.
- Niels Henrik Abel: Mathematician Extraordinary.* By Oystein Ore. Published September 20, 1957. \$5.75. viii plus 277 pages. 35 illustrations. Hardbound. Edition: 2,000.
- The Making of the Auden Canon.* By Joseph Warren Beach. Published September 20, 1957. \$4.75. viii plus 315 pages. Hardbound. Edition: 3,000.
- The Occupation of Enemy Territory.* By Gerhard von Glahn. Published October 18, 1957. \$6.50. xiv plus 350 pages. Hardbound. Edition: 1,000.
- Tidings Out of Brazil.* Translated by Mark Graubard. Published October 22, 1957. \$5.00. vi plus 48 pages. Hardbound. Edition: 1,000.
- Triple Audit of Industrial Relations.* Industrial Relations Center Bulletin No. 11. Second printing issued October 25, 1957. \$1.00. viii plus 81 pages. Paperbound. Edition: 1,145.
- The Nation and the States, Rivals or Partners?* By William Anderson. Second printing issued November 20, 1957. \$3.75. xviii plus 263 pages. Hardbound. Edition: 2,079.
- The Sociology of Work.* By Theodore Caplow. Second printing issued November 22, 1957. \$5.00. x plus 330 pages. Hardbound. Edition: 2,013.

The Wine of Eternity: Short Stories from the Latvian. By Knuts Lesins. Published November 25, 1957. \$3.75. xxii plus 119 pages. Hardbound. Edition: 2,000.

Reporting the Wars. By Joseph J. Mathews. Published December 9, 1957. \$6.50. x plus 322 pages. 12 illustrations. Hardbound. Edition: 2,500.

Autonomic Imbalance and the Hypothalamus. By Ernst Gellhorn, M.D. Published December 16, 1957. \$8.50. xiv plus 300 pages. 101 illustrations. Hardbound. Edition: 2,000.

John Rood's Sculpture. By Bruno F. Schneider. Published February 3, 1958. \$7.50. 112 pages. 83 illustrations. Hardbound. Edition: 3,000.

The Bacteriology of Tuberculosis. By Egons Darzins, M.D. Published February 3, 1958. \$10.00. xii plus 488 pages. 58 illustrations. Hardbound. Edition: 3,000.

The Institutions of Advanced Societies. Edited by Arnold M. Rose. Published February 3, 1958. \$10.50. xii plus 691 pages. Hardbound. Edition: 3,000.

Farm Prices: Myth and Reality. By Willard W. Cochrane. Published February 10, 1958. \$4.00. x plus 189 pages. 18 illustrations. Hardbound. Edition: 2,000.

The Anatomy of the World. By Michael K. Macklem. Published February 10, 1958. \$3.50. x plus 139 pages. 4 illustrations. Hardbound. Edition: 1,000.

Child Care and Training. Eighth edition. By Marion L. Faegre, John E. Anderson, and Dale B. Harris. Published February 13, 1958. \$3.00. x plus 300 pages. 32 illustrations. Hardbound. Edition: 10,000.

Summer Unbound and Other Poems. By E. L. Mayo. Published March 17, 1958. \$2.50. viii plus 63 pages. Hardbound. Edition: 750.

Minnesota Studies in the Philosophy of Science, Volume II. Concepts, Theories, and the Mind-Body Problem. Edited by Herbert Feigl, Michael Scriven, and Grover Maxwell. Published March 17, 1958. \$7.00. xvi plus 553 pages. 1 illustration. Hardbound. Edition: 2,500.

Malaya: A Political and Economic Appraisal. By Lennox A. Mills. Published March 21, 1958. \$4.75. xii plus 234 pages. Hardbound. Edition: 1,500.

How to Estimate the Building Needs of a College or University: A Demonstration of Methods Developed at the University of Minnesota. By William T. Middlebrook. Published April 3, 1958. \$15.00. xii plus 169 pages. 31 illustrations. Hardbound. Edition: 2,000.

International Propaganda—Its Legal and Diplomatic Control. By L. John Martin. Published April 25, 1958. \$5.75. vii plus 284 pages. Hardbound. Edition: 2,000.

The Face of Minnesota. By John Szarkowski. Published May 5, 1958. \$5.00. viii plus 304 pages. 203 illustrations. Hardbound. Edition: 15,000.

Radio Free Europe. By Robert T. Holt. Published May 26, 1958. \$5.00. xiv plus 249 pages. Hardbound. Edition: 3,500.

Edward C. Lindeman and Social Work Philosophy. By Gisela Konopka. Published May 26, 1958. \$4.50. x plus 220 pages. Hardbound. Edition: 2,000.

Minnesota's Rocks and Waters: A Geological Story. Minnesota Geological Survey Bulletin No. 37. By George M. Schwartz and George A. Thiel. Second Printing issued May 28, 1958. \$4.00. xviii plus 366 pages. 164 illustrations. Hardbound. Edition: 3,710.

A. E. Housman: Scholar and Poet. By Norman Marlow. Published June 6, 1958. \$3.50. 192 pages. Hardbound. Edition: 1,500.

The Paradox of Progressive Thought. By David W. Noble. Published June 13, 1958. \$6.00. x plus 272 pages. Hardbound. Edition: 1,500.

The Population Ahead. Edited by Roy G. Francis. Published June 16, 1958. \$3.75. x plus 160 pages. Hardbound. Edition: 2,500.

Reptiles and Amphibians of Minnesota. By Walter J. Breckenridge. Second printing issued June 24, 1958. \$4.00. xiv plus 202 pages. 52 illustrations. Hardbound. Edition: 1,005.

Philosophical Studies. Edited by Wilfrid Sellars and Herbert Feigl. Issued October 1956, 750 copies; December 1956, 750 copies; January-February 1957, 1,000 copies; April 1957, 800 copies; June 1957, 750 copies; October 1957, 700 copies; December 1957, 850 copies; January-February 1958, 950 copies; April 1958, 700 copies; June 1958, 850 copies.

TESTS REPRINTED

July 1, 1956-June 30, 1958

Minnesota Reading Examination for College Students. Form A. By Melvin E. Haggerty and Alvin C. Eurich. Reprinted May 1, 1957. Edition: 25,000.

Minnesota Speed of Reading Test for College Students. Form A. By Alvin C. Eurich. Reprinted April 1, 1958. Edition: 25,000.

MISCELLANEOUS ITEMS PRODUCED FOR SPECIAL DISTRIBUTION

July 1, 1956-June 30, 1958

The Frontiers of Criticism. Gideon Seymour Lecture No. 3. By T. S. Eliot. Issued July 17, 1956. Edition: 11,050.

America in the World Today. Gideon Seymour Lecture No. 4. By Walter Lippmann. Issued May 1, 1957. Edition: 8,560.

The Federal Republic of Germany—Our New Ally. Gideon Seymour Lecture No. 5. By James B. Conant. Issued May 17, 1957. Edition: 8,120.

The Distribution of Minnesota Minnows and Darters in Relation to Pleistocene Glaciation. Minnesota Museum of Natural History Occasional Papers, Number 7. By James C. Underhill. Issued October 24, 1957. Edition: 500.

Dight Institute Bulletin No. 10. Issued December 12, 1957. Edition: 1,500.

Where Do We Go From Here? Gideon Seymour Lecture No. 6. By Lester Pearson. Issued December 13, 1957. Edition: 9,600.

Problems of Survival. Gideon Seymour Lecture No. 7. By Harrison Brown. Issued June 2, 1958. Edition: 12,500.

TRANSLATIONS

July 1, 1956-June 30, 1958

German edition of Theodore Caplow, *The Sociology of Work.* Publisher: Verlag Anton Hain, Meisenheim, Glan. Contract dated March 12, 1956, book published July 4, 1956.

Telegu edition of Helen Clapesattle, *The Doctors Mayo.* Contract negotiated with United States Information Agency. Publisher: Videsa Sahiti Granthamada, India. Book published March 27, 1957.

Marathi edition of Helen Clapesattle, *The Doctors Mayo.* Contract negotiated with United States Information Agency. Publisher: S. K. Tankkar, Hindmata, India. Book published April 10, 1958.

Japanese edition of Gisela Konopka, *Therapeutic Group Work with Children.* Publisher: Japanese University Student Press, Tokyo. Contract negotiated 1957, book published 1958.

Spanish edition of Theodore Caplow, *The Sociology of Work.* Publisher: Instituto de Estudios Politicos, Madrid. Contract negotiated 1957, book published 1958.

Norwegian edition of Theodore C. Blegen, *Land of Their Choice.* Publisher: Aschehoug & Company, Oslo. Contract dated January 2, 1957.

Japanese edition of Lyndall F. Urwick, *The Pattern of Management.* Publisher: Toyo Keizai Shimpo Sha, Tokyo. Contract dated October 23, 1957.

MINNESOTA MUSEUM OF NATURAL HISTORY

Research—In ornithology, Curator D. W. Warner is supervising studies by five staff members and graduate students on problems in biogeography, evolution and systematics with the work centered largely in Mexico. His personal work on the ecology of grassland sparrows continues in Minnesota. In mammalogy an eight-year study of the small mammal populations of Cedar Creek Forest was completed in 1957 by Curator Harvey L. Gunderson. Herpetological studies are in progress on a virgin prairie area in Mahnomen County, Minnesota by Museum Director W. J. Breckenridge.

A bioecologic study is being carried on in Mahnomen County, Minnesota, on the maintaining of prairie conditions by Assistant Scientist John Tester. Research Assistant Richard Barthelemy coordinated a cooperative pilot study between personnel of the College of Education, Minneapolis Public Schools and the Museum on aiding gifted students of junior high school ages. Seven annual graduate school grants aided the above studies. Another graduate school special grant provided improved research facilities in new laboratory equipment in Museum Room 307.

Museum specimens were loaned to institutions and individuals in aid of research as follows: 151 mammals, 98 birds, 75 amphibians and reptiles. Museum ornithological studies have required the borrowing of 2121 specimens from other institutions.

Exhibits—The last of the large habitat exhibits for which space is provided in the building (Spring in the Spruce-Balsam Forests) was opened in September 1956. This was aided by the George H. Christian Memorial donation. Work has now turned to smaller displays. The "Buffalo Fish-Western Grebe" group, aided by contributions from Mrs. Jacob H. Cohen, was opened in June 1958. This is the first of a series of fish displays in a new Aquatic Hall. An exhibit of Pine Grosbeaks was completed in April 1957. The series of monthly seasonal displays has been continued and 20 different displays have occupied the temporary spaces on the mezzanine floor. Prominent in this series has been the display of the "Minnesota Man," a loan from our Department of Anthropology.

Our traveling "library" of 125 portable habitat exhibits has made 1310 loans of individual cases for periods of a few days to several weeks each.

The Minneapolis Public Schools make use of a block of 75 of these during each school year. Seventy-three of the cases are loaned to the Minnesota Division of State Parks during the summer thus giving almost 12 months active use of the displays each year.

Attendance—Total Museum attendance for the biennium 1956-58 was 105,150 (1956-57: 53,168; 1957-58: 51,982). These figures do not include persons attending non-museum activities in the auditorium. Guided tours were provided for 706 groups of visitors with total attendance of 23,637 (1956-57: 307 groups, 10,382; 1957-58: 399 groups, 13,255). The Museum bus parking area continues to be very valuable in handling this increasing visitor traffic conveniently and safely.

Lectures—The Museum's free Sunday afternoon public lecture series continues to be popular with attendance showing a marked increase over the previous biennium. The total biennial attendance was 28,610 (1956-57: 16,136; 1957-58: 12,474) an average of 650 each for the 22 programs each season. Some dissatisfaction was expressed over the necessity for waiting for second programs. The present auditorium seats only 470.

In addition to the Sunday series, Museum staff members gave 225 lectures to audiences totaling 43,127 persons (1956-57: 123 lectures to 18,253; 1957-58: 102 lectures to 19,634). In addition to the above lectures, staff members appeared on 21 television programs. Of these 16 were weekly half-hour programs on "Minnesota's Wildlife Resources," produced by the Museum for KUOM and broadcast over KTCA-TV. These extended from September, 1957 to January, 1958.

Gifts—In March 1957, the Minneapolis Audubon Society donated \$100 and in December 1957, Mr. James Ford Bell, \$1000, as initial gifts for a Museum Building Fund. In addition to the above, Mr. James Ford Bell has generously continued throughout the biennium his monthly contributions of \$75 for incidental Museum expenses amounting to \$1800. This fund is kept in the First National Bank checking account under the name of W. J. Breckenridge, Trustee.

Several major contributions of materials to the Museum's collection include:

820 reptiles and amphibians	Mr. and Mrs. George Hedrick and Mr. John Holmes
313 reptiles and amphibians	Dr. Edward Bellas
112 reptiles and amphibians	Mr. Kevin W. Marx
99 mammals	The Barry Campbell Family
90 mammals	Mr. Bruce Hayward
31 birds and 2 mammal skins	Mrs. Ray Steele
110 sets of bird eggs	Mrs. G. F. Abbey

Publications—Museum staff members published 27 articles in various journals as reported in "Publications of the Faculty." Occasional Paper No. 7, a bulletin on Minnesota Minnows and Darters by James C. Underhill, was published through the University Press in October 1957. The University Press reprinted in 1958, Breckenridge's "Reptiles and Amphibians of Minnesota." Royalties from the publications of the Museum sold through the University Press returned \$759.59. This has been deposited in the Thomas S. Roberts Fund, for use primarily in financing further Museum publications.

Library—Greater emphasis on research has resulted in considerable recent expansion in the Museum library facilities. The library had as its nucleus the personal library of Dr. T. S. Roberts, former Museum director, consisting of 1093 bound volumes and a much greater number of pamphlets and periodicals. By July 1, 1956, the number of bound volumes increased, through Museum purchases, library acquisitions and long term loans, and private gifts to a total of 3000 volumes. During the current biennium 204 additional volumes from the same sources have been added. Since 1953, a part time person paid by the Museum budget has been in charge of library functions. It now appears that these services will soon reach proportions to require a trained librarian from the staff of the main library.

Photography—During the biennium 333 2" x 2" color slides were added to the collections. One series, dealing with the "Mammals of Minnesota," was compiled and produced as an educational film strip in cooperation with the Audio-Visual Education Service.

Motion picture work during the biennium was aimed mainly at completing a new one-hour film called "Island Treasure," a popular treatise of the biologic and geologic history of a river island north of Minneapolis. This will be used in popularizing natural history studies in the Museum's program of public lectures. The Museum's extensive library of natural history motion picture films illustrated in part the 16, half-hour television programs mentioned under "Lectures." Sale of prints and television rights on motion picture films produced in cooperation with AVES returned to the Museum \$1759.18, which will aid either further motion picture production or publications.

Several thousand feet of unedited natural history film is being assembled according to subject matter as shorts for class instruction mainly in ornithology.

Park Naturalist Project—The Division of State Parks of the Minnesota Department of Conservation and the Minnesota Museum of Natural History have continued their cooperative Nature Interpretation Program in 11 state parks during the biennium. Four naturalists under Museum supervision have carried on programs of evening talks, trail walks, car caravans, museum exhibits and self-guiding trails in the three most used parks: Itasca, White-water, and Gooseberry Falls. Self-guiding nature trails set up by Museum staff members were provided in eight other parks. Indicative of the service rendered by these workers, in the 1957 season over 700 persons per week per worker were contacted in some personally conducted activity for a total of 28,193 contacts, while the complete 1957 program contacted well over 200,000 park visitors.

Additional Public Services—The Museum maintains in the lobby a small book sales counter as a service to Museum visitors interested in pursuing further some natural history interest. The counter also handles our own Museum publications, University of Minnesota Press books on Natural History, Museum guidebooks and postcards, slides and film strips of the Museum and its exhibits.

Many hours of staff members' time are devoted to answering natural history questions from the general public both by mail and telephone.

Personnel—Mrs. Helen Chapman reached retirement age and terminated her service as artist-receptionist on June 30, 1958. Her interest in and her sincere concern for the welfare of the Museum will be difficult to find in staff replacements. Her duties are being assumed by Mrs. Cornelia Haugland. Miss Beth Doeringsfeld resigned her position as department secretary to accept the position as secretary in the Department of Zoology. Her place will be taken by Miss Margaret Mumford.

Mr. Harvey Gunderson, assistant scientist and curator of mammals for the past 12 years, was granted a special sabbatical leave from September, 1957 till July, 1958, to take work at the University of Michigan toward completing the requirements for his Ph.D. degree. During his absence Mr. Bruce Hayward carried on the curatorial duties.

Mr. John Tester, formerly biologist with the Minnesota Conservation Department, was appointed September 1, 1956, as Assistant Scientist to devote part time to research and to take charge of temporary group planning and construction.

Mr. Richard Barthelemy was appointed research assistant during the school year and park naturalist at Whitewater State Park during the summer.

Mr. Jefferson Benner, retired from the teaching of biology in the Minneapolis Public Schools, has aided in the conducting of visiting school groups.

The Museum appreciates the many hours of volunteer work contributed by Mrs. Anne Winton Dodge and Mr. Kevin W. Marx, as well as the volunteer Sunday checking services of numerous Girl Scouts.

Future Plans—A natural history museum in the minds of many, is simply a place where scholars ploddingly collect specimens and records of the world

of nature about them, little affected by the mad rush of development and industrialization going on about them. Actually such a museum has the mission to urge man to learn more about the natural world in order that he may make fewer unwise mistakes in his use of the natural wealth to which we have fallen heir. Pointing out the possible values before they disappear is an important immediate need. For this reason the Minnesota Museum of Natural History staff feels it should take positive action to expand its present facilities and services in keeping with other expansion within the University and State.

Actual building expansion is of major concern at present in view of the fact that the last major exhibit for which space is provided in the present building has been completed and the expansion of our research activities and personnel as well as study collections are all demanding additional space.

As noted under "Gifts," unsolicited donations have required the setting up of a Museum Building Fund and plans are afoot to make a determined effort to add substantially to this fund. A need for advisory aid in undertaking this project was felt and a Building Committee made up largely of members from outside the University has been appointed and is functioning. The drawing of detailed construction plans are being delayed in a large measure by two unresolved problems, namely the possibility of a larger auditorium and of laboratories for teacher training in natural science teaching. Percentage increases in space for each of the numerous other functioning departments of the Museum have been estimated and on this basis approximate expansion need can be stated to prospective donors to our building fund. When a substantial proportion of our anticipated building needs are secured a direct request for the remainder will be made through appropriate University channels.—W. J. BRECKENRIDGE, *director*

DEPARTMENT OF MILITARY SCIENCE AND TACTICS

General—Military Science and Tactics is the U. S. Army Reserve Officers' Training Corps program, established at the University of Minnesota in 1919, a continuance of military training at the University since 1869. During the biennium Army ROTC continued its primary mission of training male students for commissions as Second Lieutenants in the United States Army Reserve, with the major objective of developing leadership concurrently with the student cadet's attainment of a baccalaureate degree.

Curriculum—The General Military Science (GMS) curriculum adopted in 1955-56 (rather than Army Branch specialty training) has proved to be highly satisfactory. A broad Army leadership program during four years of college leads to commissions in any one of 15 branches of the Army according to individual preference, academic background, and the requirements of the Army. A distinct part of this GMS program is the graduate Lieutenant's attendance at the Officers' Basic Branch School when he first goes on active duty. The active duty requirement continues to be two-years with an option to request only six-months of active duty for training. Effective May 1, 1958, a delay in accepting active duty for up to three years while pursuing graduate study in any field could be obtained.

TABLE I. ROTC STRENGTH AT END OF EACH SCHOOL YEAR

End of School Year	Basic Course		Advanced Course		Total
	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	
1956-57	114	76	61	71	322
1957-58	103	83	67	62	315

Enrollment—The declining enrollment trend since the Korean War peak reached the lowest year-end total in June 1958. However, Fall quarter freshmen enrollments increased in 1957; and for 1958 there are positive indications for over 200 freshmen, a considerable increase over the previous four years.

ROTC Graduates—A total of 179 students were commissioned in the U. S. Army Reserve during the biennium compared with 303 during the previous biennium period.

Individual preferences for length of active duty tours were granted practically 100 per cent, about equally divided between two-years and the six-months tours. Reports of individual standings as student officers at Army Branch Schools show a large majority of graduates in the upper-half of their classes among contemporaries from other colleges and Universities throughout the nation.

There were 33 Distinguished Military Graduates during the biennium; only two applied for and accepted commissions in the Regular Army.

Special Activities—Pershing Rifle Company E-2 won the Regimental Drill Meet for the third consecutive year at Marquette University in April 1958, thus retiring the trophy in the Armory at the University of Minnesota. Sponsored by the Army, Pershing Rifles is composed of ROTC cadets from all three services, Army-Navy-Air Force. The Pershing Rifle Cadet Regimental Headquarters was transferred to Minnesota in May 1958.

Scabbard and Blade Society continued active, sponsoring two special events in 1957-58—a Football Appreciation Dinner for Army ROTC members on the varsity squad, and a luncheon before the Spring Review for parents and friends of the Cadet Regiment; both events were highly successful, indicative of cadet esprit.

The Army ROTC Rifle Team won Second Place in the William Randolph Hearst Trophy competition for Fifth U.S. Army in 1957. The Rifle team won numerous individual honors at the Midwest Match, Booneville, Missouri, and the South Dakota State Invitational Match during both gallery seasons of the biennium.

The Army ROTC Flight Training Program was instituted during the academic year 1957-58; six Army cadets took the program, conducted on an extra-curricular basis for seniors. Thirty-six hours of flight instruction was conducted by the University Flight Facility, and 36 hours of ground instruction by the Extension Division. Successful completion of this flight program leads to 3-years of active duty as an Army Aviator.

The new Army Green uniform was adopted for wear by the Advance Course Cadets in the fall of 1956.

Inspections—The ratings for annual formal inspections continued to be "Satisfactory," the highest rating, with comments as to excellent quality of the program.

Faculty—The number of Army Officers assigned to the faculty is the smallest group since World War II; this is due not only to a declining enrollment but also the nature of the General Military Science curriculum which requires less instructors.

TABLE II. MEMBERS OF THE DEPARTMENT OF MILITARY SCIENCE AND TACTICS

Name	Grade	Branch	Reported	Departed
Robert T. Connor	Colonel	Arty	June 2, 1952	Sept. 10, 1956
Dean M. Eenson	Colonel	Arty	July 27, 1956	
Jesse E. Johnston	Lt. Col.	Inf	Feb. 15, 1956	
Paul R. Flanagan	Major	Arty	Sept. 18, 1953	May 29, 1957
David B. Parsons	Major	Ord	May 17, 1954	June 16, 1957
Francis L. Franklin	Capt.	TC	March 7, 1954	Oct. 10, 1957
George L. Haugen	Capt.	CE	Dec. 4, 1955	July 28, 1958
Richard A. Gessner	Capt.	SigC	March 28, 1956	
Clark Edwards	Capt.	Arty	May 9, 1956	
Robert C. Engle	Capt.	Ord	Aug. 15, 1957	

Table II shows members of the department who served during this biennium.—DEAN M. BENSON, Colonel, Artillery, PMST

DEPARTMENT OF NAVAL SCIENCE

Missions—During the biennium the Naval ROTC Unit continued its primary mission of providing, by a permanent system of training and instruction in essential naval subjects, a source from which qualified Line and Supply Corps officers may be obtained for the United States Navy, the United States Marine Corps and the reserve forces of the Navy and the Marine Corps.

The NROTC Unit also continued to hold command and administrative responsibility for naval officers attending the University under other college training programs sponsored by the Navy Department.

Enrollment—Annual NROTC enrollment consists of two main groups—the “Contract” NROTC Students and “Regular” NROTC Students. Both groups follow the same Naval Science curriculum. The Regular NROTC student is a candidate for a regular commission in the Navy. His training is subsidized by the Navy. The Contract NROTC student is a candidate for a commission in the Naval Reserve.

Contract Student Enrollment—Enrollment of contract students this biennium is shown here: Fall 1954—33; Fall 1955—31; Fall 1956—43; Fall 1957—28.

Regular Student Enrollment—The annual enrollment in the Regular program has remained stable as the benefits to the student are so great that there are always many times more applicants than can be selected.

Curriculum—The Naval Science curriculum remained substantially the same as during the preceding biennium with the exception of the Second Year Course in Naval Weapons. Much more material on guided missiles was introduced during the academic year 1957-58.

Faculty—The following table provides data concerning members of the department who served during the biennium:

TABLE I. MEMBERS OF THE DEPARTMENT OF NAVAL SCIENCE

Name	Grade	Reported	Departed
Robert O. Bowen	Col., USMC	August 26, 1957	
Frank Bruner	Capt., USN	August 24, 1955	June 30, 1957
Frank W. Ayers	Cdr., USN	November 5, 1956	
Merlin L. McCulloh	Lcdr., USN	June 29, 1954	June 17, 1957
Harvey W. Miller	Lcdr., USN	April 12, 1955	June 10, 1958
Albert P. Stello	Lcdr., USNR	April 4, 1955	June 14, 1958
Rex O. Dillow	Maj., USMC	July 31, 1954	January 28, 1957
Louis S. Hollier	Maj., USMC	August 20, 1957	
Eugene W. Ostlund	Lt., USN	August 4, 1955	June 28, 1957
Richard N. Dreese	Lt., USN	August 16, 1957	
Ralph W. Leach, Jr.	Lt., USN	September 22, 1956	
Thomas A. Shannon	Lt., USNR	September 8, 1957	

NROTC Graduates during the Biennium—NROTC graduates of the University of Minnesota were commissioned as follows:

	Academic Year 1956-1957 (Including Summer Sessions 1956)	Academic Year 1957-1958 (Including Summer Sessions 1957)
Ensign, U. S. Navy	13	25
Ensign, U. S. Naval Reserve	11	8
2dLt., USMC	1	4
2dLt., USMCR	0	3
	25	40
Total for Biennium—65		

All students who qualified for commissions were ordered to active military service within a month of being commissioned.—R. O. BOWEN, Colonel, U. S. Marine Corps

DEPARTMENT OF AIR SCIENCE

General—The Air Force ROTC program has declined in total enrollment since the last biennial report as indicated in the following table:

TABLE I. ROTC STRENGTH AT END OF EACH SCHOOL YEAR

End of School Year	Basic Course		Advanced Course		Total
	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	
1956-57	133	58	30	38	289
1957-58	108	60	29	28	225

The changes in requirements placed upon the AFROTC program by the Department of Air Force has resulted in certain changes within the program at this University. The AFROTC program has been designated as the principal source of production of officers for the USAF. Specifically, 80 per cent of the entire officer input into the USAF will be furnished by the AFROTC; also approximately 80 per cent of all personnel entering flying training is furnished by the AFROTC.

Nevertheless, the higher standards required of flying officers have resulted in a decrease in the number of commissions granted through the AFROTC. The flight physical and the Air Force Officers' Qualification Test, instruments of selectivity, serve to disqualify many students who would have been commissioned two or three years ago. Additionally, the Air Force, in attempting to increase the retention rate of its younger rated officers, now requires the cadet who desires a flying career to sign a statement agreeing to remain on active duty for five years.

The above conditions, indicative of an increasing demand for quality rather than quantity, have resulted in a decrease in the number of individuals seeking and gaining commissions.

Attrition—The problem of attrition in AFROTC, particularly in Air Science I, has assumed considerable significance. As an example 210 freshmen were enrolled in Air Science I at the beginning of the 1957-1958 academic year. At the end of the year, only 108 of these students were still in the program. While the majority of this attrition is healthy, a proportion of it represents a real loss of potential. It consists of students who are unable to afford the time required by the program since Air Force ROTC grants only one academic credit for approximately four hours of work per week.

Quotas—The Department of Air Science receives commissioning quotas each year from Headquarters AFROTC. These quotas are broken down by the following categories:

Category I	Pilot
Category IA	Navigator
Category II	Technical Specialist
Category III	Non-rated, non-technical
Category IV	Veterans

To date, the quotas received have been adequate to offer a commission to all who qualify and it is anticipated that this situation will continue to prevail.

Curriculum—The AFROTC curriculum has remained the same for the past two academic years. It is essentially a liberal arts type course and is alternately described as "Air Age Citizenship." The Advanced Course represents a continuation of this Air Age Citizenship education, plus education and training designed to enable the candidate to take his place among the ranks of commissioned officers.

Summer Camp—Each Advanced Air Science student attends summer camp for four weeks, normally between his junior and senior year. There has been increased emphasis placed upon the importance of summer camp and a decided intensification of preparatory training for summer camp at the institution.

Flying Instruction Program—During the 1956-1957 academic year, a new program known as the "Flying Instruction Program" (FIP), was instituted. Air Science students in their senior year, who have been accepted by the Air Force for Pilot Training, are the only ones who are eligible to participate. They receive 36½ hours of flying instruction in light aircraft. This program is for motivational as well as screening purposes. In the first two years of this program, 41 students have participated and out of these, four students requested voluntary elimination.

Special Activities—During the academic year 1957-1958, the AFROTC aided at a number of Minnesota Centennial activities. Cadets acted as escorts and aides for visiting dignitaries. The Singing Squadron performed during one Centennial celebration as well as the AFROTC Band.

Faculty—The faculty of the AFROTC has been stabilized with a tour of three years on a staggered rotation basis.

TABLE II. MEMBERS OF THE DEPARTMENT OF AIR SCIENCE

Name	USAF Grade	Reported	Relieved
Robert D. McCarten	Colonel	June 15, 1955	August 22, 1958
Arthur W. Dern	Colonel	August 1, 1958	
George A. Welch	Lt. Col.	June 1, 1955	June 12, 1958
Charles W. Fatzinger	Major	May 12, 1954	July 9, 1957
Reid O. Clark	Captain	October 28, 1954	October 22, 1956
Fred C. Wagner	Captain	July 17, 1956	
William H. Bush	Captain	October 1, 1956	
William B. Bennett	Captain	April 26, 1957	
James O. Icenhour	Captain	April 17, 1958	
Richard G. Kramer	Captain	August 11, 1958	
Algernon H. Johnson	Lieutenant	June 30, 1957	June 23, 1958

Inspection—The rating system employed by Headquarters AFROTC for inspecting its detachments calls for an overall rating of either satisfactory or unsatisfactory. In the past two years, the AFROTC unit at the University of Minnesota has received a satisfactory rating at its annual inspection. In the inspection of April 1958, special mention was made of the student counseling program and of the Singing Squadron. These two activities were classed as "Outstanding."—ARTHUR W. DERN, *Colonel, USAF*

DEPARTMENT OF CONCERTS AND LECTURES

The Department of Concerts and Lectures was established in 1944 as the agency of the University concerned with the presentation of lecturers and major musical attractions on the campus and throughout the Upper Midwest. During this past biennium it has administered funds under six separate department numbers.

The individual reports from each of these areas follow, and they in turn are followed by a section devoted to future plans and needs.

The sum of these individual reports again points to the strong position of the Department of Concerts and Lectures as one of the major forces contributing to the establishment of the University of Minnesota as the cultural center of the Upper Midwest region of the United States.

During the past biennium, conservative estimates show that attendance at programs offered through the Department of Concerts and Lectures both on the campus and throughout the Upper Midwest totalled 2,342,282.

University Artists Course—During the past biennium the University Artists Course has added a second series called the "Celebrity Series" as a companion series to the Masterpiece Series. The Celebrity Series differs from the Masterpiece Series in that it features four attractions and is designed to present predominately in a lighter vein rather than those on the traditionally more heavy parent series. It also differs in that there is no season renewal

privilege as on the Masterpiece Series. The attractions on the Celebrity Series are not announced until fall when the students are back on the campus, thus the major promotion effort is directed at students, faculty and staff members.

Following is a recapitulation of concerts presented by the University Artists Course during the past biennium:

1956-1957		1957-1958	
Masterpiece Series (8)	Attendance	Masterpiece Series (8)	Attendance
Robert McFerrin	4,785	Richard Tucker	4,532
Goskor Boys Choir	4,922	Moura Lympany	4,407
Robert Casadesus	4,870	Royal Ballet	4,922
Gina Bachauer	4,795	Joseph Szigeti	4,503
National Ballet	4,822	Vienna Choir Boys	4,922
Isaac Stern	4,848	Ernil Gileis	4,784
Rise Stevens	4,875	Lucine Amara	4,497
Philadelphia Orchestra	4,922	Jose Iturbi	4,922
Sub-Total	38,839	Sub-Total	37,389
1956-1957		1957-1958	
Celebrity Series (4)	Attendance	Celebrity Series (4)	Attendance
Carabinieri Band	2,892	Lily Pons	2,842
National Ballet	3,942	Black Watch	8,602
First Piano Quartet	2,440	Ballet Russe	3,349
Marian Anderson	4,169	Obernkirchen Choir	4,553
Sub-Total	13,443	Sub-Total	19,346
Special Concerts (2)	Attendance	Special Concerts (8)	Attendance
National Ballet	2,717	Ballet Theatre	2,648
Parade of Quartets	4,595	Royal Ballet (3)	10,850
Sub-Total	7,312	Parade of Quartets	4,592
Total Attendance	59,594	Mantovani	4,922
Average Attendance	4,257	Ballet Russe	3,492
Total Ticket Sales	\$93,454.60	Louis Armstrong	4,919
		Sub-Total	31,423
		Total Attendance	88,158
		Average Attendance	4,408
		Total Ticket Sales	\$175,262.60

Metropolitan Opera—The annual visits of the Metropolitan Opera to the Upper Midwest have become the most prominent single musical offering of the year. The entire area looks forward to the four performances by the Metropolitan, and responds to the promotion in a dramatic fashion. During the past biennium the announcement of the opening of the mail order ticket sale brought an almost instantaneous sellout of tickets for the 1957 performance of "La Traviata" and the 1958 performance of "Madama Butterfly."

During the past two year period the promotion of the Metropolitan Opera in the major communities of the area was continued. A survey of the 1958 ticket sales showed that of the total of the 19,141 tickets sold for all performances, 6,274 were sold outside the Twin City metropolitan area. Of these 6,274 tickets, 2,812 were sold to patrons living outside the borders of the State of Minnesota. These figures portray the drawing power of this great musical organization.

Ticket prices for the operas were increased in 1958 by fifty cents in the top three price ranges. The increase in prices and the public response were responsible for the largest gross income for any season during the fourteen seasons of Metropolitan Opera in the Upper Midwest.

The Metropolitan is sponsored each year by the University, the Minnesota Orchestral Association and an Upper Midwest Committee of Sponsors and Guarantors.

In 1957 the Metropolitan presented *La Perichole*, *La Traviata*, *Il Trovatore*, and *La Boheme*, and in 1958, *Eugene Onegin*, *Der Rosenkavalier*, *Madama Butterfly*, and *Samson et Dalila*.

Convocations—In this past biennium 60 non-admission convocations were made available to students on the Minneapolis campus of the University. In addition, two admission convocations were offered during the year 1956-1957.

These two attractions were Fred Waring, and Mantovani and His New Music. The estimated average attendance at the 60 non-admission events was 841.

During the biennium eight traditional convocations were offered, eight film lectures, eight programs dealing with world affairs, three folk song programs, 11 musical events, 15 lectures in general fields, five special evening convocations, one jazz presentation, and one performance by the University Theater.

The traditional convocations (which include the President's opening convocation, Charter Day, the annual football awards convocation, and Cap and Gown Day) have the highest average attendance of any of the groups mentioned above. It should be noted that classes are dismissed for three of these convocations, as well as the fact that the President actively urges attendance.

Of the remaining groups attendance figures indicate a lack of interest in world affairs and general lectures, unless presented by persons extremely well known to the public either through mass media or activity in the political field.

The total estimated convocation attendance for 1956-1957 was 23,800 and for 1957-1958 26,880. The grand total for the 60 non-admission convocations presented during the biennium was 50,680.

Special Lectures and Scientific Conferences—One of the least known and most important responsibilities of the Department of Concerts and Lectures is the handling of special lectures on the campus. During the biennium the Department cooperated in bringing 109 special lecturers to the campus for a total of 75 different departments or University organizations. It is significant to note the growing inter-departmental sponsorship of these programs in which several departments join with the Department of Concerts and Lectures in the presentation of a single lecturer. Lecturers are procured at the request of departments or University groups to speak to students and staff on what is usually a highly technical topic or one of special interest to the participating department or departments. This program is an effective means of bringing new insights and personal reports of activity from other campuses and research centers to faculty and students.

Special Cultural Projects Fund—The University's share of the profits from the annual presentations of the Metropolitan Opera is set aside in this Fund and administered by the Director of the Department of Concerts and Lectures. It is used to underwrite projects of broad cultural significance that benefit the public at large, as well as students, faculty and staff of the University.

During the past biennium this fund made possible the following free concerts: A joint University Chorus and Minneapolis Symphony concert featuring compositions by Mozart; and a series of three recitals by Joseph Szigeti presenting 11 20th century violin sonatas. This Fund also made it possible for several prominent composers and musical personalities to visit the campus and appear before classes in the Department of Music.

In addition, Quaintance Eaton of New York City was engaged to write an Opera Handbook, and Kurt Adler of the Metropolitan Opera is preparing a reference book on the art of accompaniment with funds provided by the Special Cultural Projects Fund.

Summer Session Entertainment—While the money for the Summer Session Entertainment programs comes from a recreation fee included as part of the summer session tuition and is controlled and administered by the Office of the Summer Session, the Department of Concerts and Lectures actually handles the arrangements for concert and convocation programs presented in Northrop Memorial Auditorium.

Without the continued generous cooperation of the Minneapolis Musicians' Association, it would be impossible for the University to maintain its unusually high national reputation for presenting fine musical programs in the summer months. Funds to cover two-thirds of the cost of orchestral musicians performing in these summer concerts come through a grant from the Music Performance Trust Fund of the Recording Industry.

University of Minnesota Program Service—The University of Minnesota Program Service, provides concerts, lectures, plays and high quality school

assembly programs to schools, colleges and community organizations in the Upper Midwest.

The following recapitulation and comparative annual totals reflects extensive changes in operation which have affected this division:

	Comparative Statement		
	1955-1956	1956-1957	1957-1958
Number of schools and organizations served	950	940	944
Number of engagements filled	3,998	3,629	3,622
Total receipts	\$220,471.68	\$200,843.74	\$186,460.80

The School Assembly section of the Program Service continues to be the major activity of this division. Serving all schools, public and private, in Minnesota, Northern Iowa and Eastern South Dakota, plus several in Southern Manitoba and Ontario, this service of the University has brought fine programs of educational, cultural and entertainment value to an increasing number of audiences each year.

During the past biennium the concert service was discontinued. The University's pioneering activity in this field met a recognized need on the part of smaller communities in the state that wanted programs of high quality but lacked the knowledge and resources to procure them. In its 12 years of service, the concert bureau successfully met this need and opened new musical horizons in almost 40 communities in the state. In more recent years commercial agencies have shown a growing willingness to work with smaller communities in the state and to carry forward on the foundations this University service provided.

Recognizing the need for University help, which was so apparent at the time the concert service was organized, had diminished, the Department of Concerts and Lectures decided to terminate its concert service and concentrate on other areas in which it was providing more vitally needed services. The decrease in total revenue as shown is due in great part to the cancellation of this activity.

Each summer a group of six high quality concert, lecture and entertainment attractions are made available as convocation programs to those schools which offer a summer session.

The discontinuance of the concert service has had an effect on the programs offered to colleges and universities as convocations during the regular school year. In the past, artists and attractions were chosen for the organized concert associations which would also appeal to convocation programs. This list of attractions was supplemented by a group of lecturers made up largely from the faculties of the University, and occasionally including well-known speakers from other campuses in the region. Without the concert service it has become impossible to maintain a list of attractions as large and as versatile as before. At present there is under study a plan to expand the offering to the colleges by greater use of University staff members and students, supplemented, where practical and feasible, by staff members from other colleges in the area.

Drama Advisory Service and Loan Play Library—During the past biennium aid has been extended to almost every kind of theater group.

The addition of a full-time consultant working on a ten-months appointment in this office has made it possible to be of greater help to the play producing groups in the State.

The workshop program for high school students and teachers continues to grow. In 1956-57, 40 schools sent 400 students and 55 teachers to five one-day workshops. During 1957-58, three-day workshops were held in Austin, Alexandria, Eveleth and Redwood Falls. There were 56 schools which sent 81 teachers to these workshops.

This office again managed the State High School One-Act Play Festival which is sponsored each year with the Minnesota State High School League and the University Theater.

The Curtainline, a quarterly publication, was mailed out to producing groups in the State.

For the past two seasons the Drama Advisory Service has again worked with the Paul Bunyan Summer Theater, a non-profit community organization in Bemidji.

The staff of the Drama Advisory Service is at work in two large theater organizations, the North Central Association and the American Educational Theatre Association. The consultant in this office by tradition is the Executive Secretary-Treasurer of the North Central Association.

In connection with the Minnesota Statehood Centennial this office entered into several projects. The production of plays by Minnesota writers was urged for the State One-Act Play Festival during 1958. Two such plays were produced at the State Festival.

In cooperation with the Centennial Commission, the Drama Advisory Service prepared a pamphlet, "History Through Drama," which has been made available to pageant and play producing groups.

The Loan Play Library continues as a major function of this office. At the end of the biennium a library of 5,378 volumes was on hand. During the two year period 6,692 plays and books were loaned to 1,922 users of this library.

Plans and Needs—Renovation of Northrop Auditorium—The Department of Concerts and Lectures urges the University to undertake a large-scale renovation program in Northrop Auditorium. This building is regarded as one of the finest concert halls on a University campus, but serious thought must be given the need for its renovation and replacement of worn equipment. The following points are regarded as essential in such a renovating program:

- a. Air conditioning and a study of heat-control
- b. Additional space at stage level
- c. Freight elevator for the University Gallery
- d. Replacement of stage lighting controlboard

Increased Funds Needed for Convocations and Special Lectures—The primary need of the Department in sponsoring lectures on this campus is more money. At the present time we are unable to fulfill our moral obligation of presenting enough lectures in specialized fields.

New 2,000 Seat Auditorium Needed—In view of the anticipated growth of student enrollment, serious consideration should be given to the construction of a new all-purpose auditorium seating 1500 to 2000 people.—JAMES S. LOMBARD, *director*

DEPARTMENT OF UNIVERSITY RELATIONS

General—The Department of University Relations has expanded its program of acting in an advisory capacity to all departments of the University which have public relations responsibilities. In this capacity, the Department, during the biennium, has maintained a comprehensive flow of news about the University for its staff members and the general public, and encouraged the use of radio, television, the press, and other news media for disseminating detailed information about the University and its people. The Department has also prepared special films for public relations usage; it has assisted with the publication of special brochures and pamphlets and citations, cooperated with major University fund-raising projects, supervised regular and special campus functions, and participated in the formulation of University policy.

Coordination of Public Relations—Coordination of the public relations work of the various departments of the University is achieved through the regular weekly meetings of the Public Information Council which is made up of representatives from the Department of University Relations, the University of Minnesota Press, the Athletic Department, the Agricultural Extension Service, the University Theater, the General Extension Division, the Department of Radio and Television Broadcasting, the Photographic Laboratory, the Audio-Visual Education Service, the Department of Alumni Relations, the

Greater University Fund, and the World Affairs Center. The Director of University Relations is chairman of the Council. Occasionally, other University staff members are invited to meet with this group when special events, conferences, and releases for the general public must be planned and organized.

Information and News Programs—Daily news in the forms of press conferences, news releases, and personal interviews emanate from University News Services which are located on the Minneapolis, St. Paul, and Duluth Campuses. These news services act as spot-news source contacts for special events; they also provide photographs of University staff members, buildings, and special events for television and the press. On request, they compile background information about the University as a whole as well as about its individual colleges, departments, and staff members for the various news media.

Editorials concerning the University and problems relating to higher education are compiled once or twice each year in a mimeographed publication called "As Others See Us" which is sent to the University Senate voting membership.

The Minnesotan was published 15 times during the biennium and sent to the home of all full-time staff members. This magazine, which has been published for 10 years, is the primary source of internal communication for the University staff.

Parents of University students received eight issues of *Reports from Your University of Minnesota* during the past two years; this publication includes information about University research, projects, educational processes, services to the citizens of the state, expansion plans, legislative needs, and the annual financial statement.

A monthly Calendar of Events was compiled by the Department and sent to several hundred organizations, business firms, and individuals. The Department also prepared the "Official Daily Bulletin" for inclusion in each issue of the *Minnesota Daily* and the *Ivory Tower*. The "Official Daily Bulletin" appears as a separate publication when the *Daily* is not issued.

Department staff members have continued to assist other units of the University in preparing special brochures, pamphlets, and programs. One such project concerns a series of brochures on careers, aimed at high school students. These publications summarize entrance and course requirements for such programs as the physical sciences, industrial engineering, and pharmacy. The Department was also engaged in preparing a new edition of a "Welcome to the University" brochure which will be made available to Minneapolis Campus visitors.

Fund-Raising—By the end of the biennium, Minnesota Masons had raised over \$1 million for the Masonic Memorial Hospital which has been completed, with the dedication date set for October 4, 1958. The Department continued to act as a liaison with particular attention to the information aspects of the dedication ceremony.

Other primary fund-raising projects with which the Department was concerned during the biennium included the Veterans of Foreign Wars Cancer Research Center, the Cedar Creek Natural History Area, the Minnesota Landscape Arboretum, and KTCA-TV, the educational television channel.

Representatives from the VFW presented the sum of \$300,000 to President J. L. Morrill at a meeting of the Board of Regents on January 9, 1958. This sum represented the results of an intensive five-year campaign. Ground-breaking for the actual center itself was scheduled for September 29, 1958. The Director of University Relations has met with the group regularly to provide assistance and to prepare information on all phases of the campaign and plans for construction.

The Cedar Creek Natural History Area was dedicated September 14, 1957. Again, the Department assisted with the plans for the dedication ceremony and with the preparation of information on this project for which money was raised by a group of faculty members and a number of public-spirited citizens.

The Department also assisted with dedication plans and the distribution of information on the Minnesota Landscape Arboretum which was presented

to the University by the Minnesota State Horticultural Society as a Centennial gift to the citizens of Minnesota and dedicated on September 6, 1958. On February 6, 1958, the Society turned over to the University a deed to 160 acres of woodland and meadow for the Arboretum.

The Director of University Relations continued to represent the University in meetings to plan additional fund-raising for the maintenance and continuance of KTCA-TV, which began its programming schedule in September, 1957.

The Department was also concerned with the continued progress of the sale of the Earle Brown Farm of 750 acres for the model housing development known as Garden City. As this unique housing development continues to grow, the University will accrue income from Mr. Brown's generous gift, the funds to be used for the construction of the Earle Brown Short Course Center on the St. Paul Campus. The Director of University Relations continued his participation in the transactions involved in his gift.

During the biennium the University received a gift of automatic roll players for the Carillon on the Minneapolis Campus as an additional gift from Mr. Harry Rowatt Brown who presented the Carillon to the University in 1958 as a memorial to his wife, Frances Miller Brown. The Department worked closely with Mr. Brown on the arrangements for his new gift.

Functions and Special Events—The Department continued, during the biennium, to serve as the operating and administrative agency for opening convocations, Cap and Gown Day convocations, commencements, University of Minnesota Week, Charter Day convocations, baccalaureates, the President's receptions for graduating classes, and the receptions for retiring staff members.

In addition, the Department has been responsible for planning special events for such distinguished friends of the University as former State Senator Gerald R. Mullin, functions which honor recipients of the Outstanding Achievement Awards which are presented to distinguished graduates of the University of Minnesota, and special programs such as the Sidney Hillman Lectures which, during the biennium, brought such speakers as Eleanor Roosevelt and Morris Milgram to the University.

The Department also participated in planning a number of special events held to commemorate the State of Minnesota's Centennial year. The Centennial Convocation held in Northrop Memorial Auditorium on May 9, 1958, was one major responsibility of the Department.

Advice on matters concerning functions was given by the Senate Committee on University Functions of which the Director of University Relations is chairman.

State Fair Booth—University exhibits for the Minnesota State Fair were planned and prepared during the biennium by the Department of Psychology and the School of Dentistry and IGY. Representatives of these two units as well as other staff members were members of committees appointed by the Director of University Relations who was the coordinating officer in the preparation of these exhibits.

Policy—The major responsibility of the Department, that of making the entire University aware of the public relations aspects of University policy and administrative procedures, continued to dominate Department time and efforts. With this responsibility in mind, conferences and meetings, called by the Director, were held during the biennium to carefully consider the public relations implications of decisions regarding University policy.—WILLIAM L. NUNN, *director*

—MALCOLM M. WILLEY, *vice president*

Divisions of Business Administration

PHYSICAL PLANT DEPARTMENT

Land

During the biennium, additions were made to the Minneapolis Campus as follows:

In Block 18, St. Anthony City Addition, bounded by Washington, Walnut, Beacon, and Harvard, three parcels	14,327 Sq. Ft.
In Block 30, St. Anthony City Addition, bounded by Washington, Union, Delaware, and Harvard, Lots 15 and 16 of Barney's Sub-division of Block 30, one parcel	10,752 Sq. Ft.
In Block 33, St. Anthony City Addition, bounded by Oak, Delaware, Walnut, and Essex, eighteen parcels	87,088 Sq. Ft.
All of Block 47, St. Anthony City Addition, bounded by Oak, Essex, Walnut, and Fulton, twenty-two parcels	108,900 Sq. Ft.
In the north half of Block E, Tuttle's Addition to Town of St. Anthony, bounded by University, 15th Avenue, 4th Street, and 16th Avenue S.E., five parcels	27,720 Sq. Ft.
In the north half of Block F, Tuttle's Addition to Town of St. Anthony, bounded by University, 16th Avenue, 4th Street, and 17th Avenue S.E., five parcels	42,240 Sq. Ft.
In Block G, Tuttle's Addition to Town of St. Anthony, bounded by University, 18th Avenue, 4th Street, and 17th Avenue S.E., the southwesterly 48 ft. of Lot 5 and the southwesterly 48 ft. of the northwesterly 44 ft. of Lot 4, one parcel	5,280 Sq. Ft.
In Block 5, Mower's Addition to Minneapolis, bounded by 7th and 8th Streets S.E. and by 16th and 17th Avenues S.E., seventeen parcels	91,047 Sq. Ft.
In Block 12, University Addition to Minneapolis, bounded by 5th and 6th Streets S.E. and by 15th and 16th Avenues S.E., five parcels	21,567 Sq. Ft.
In Block 166, Town of Minneapolis, bounded by Washington Avenue, 21st Avenue South, 2½ Street South, and 20th Avenue South, two parcels	15,514 Sq. Ft.
In Block 167, Town of Minneapolis, bounded by Washington Avenue, 20th Avenue South, 2½ Street South, and 19th Avenue South, three parcels	7,810 Sq. Ft.
In Government Lot 1, Section 24, T29N. R24W, 4th P.M., a small triangular parcel near the 10th Avenue Bridge at the G. N. Ry. R.O.W.	1,430 Sq. Ft.

Additions were made to the St. Paul Campus as follows:

In Section 17, T29N, R23W, 4th P.M., Ramsey County, three parcels 15.88 Acres

Additions were made to the Cedar Creek Forest Laboratory, in T34N, R23W, 4th P.M., as follows:

In Sections 26, 27, 34 and 35 (Anoka County)	591.9 Acres
In Section 16 (Isanti County)	20 Acres
	611.9 Acres

The Minnesota Landscape Arboretum was established in the NW¼ of Section 17, T116N, R23W of the 5th Principal Meridian, Carver County, Minnesota 160 Acres

Buildings and Tunnels

Minneapolis Campus—Contracts were awarded for buildings as follows:

School of Mines quarters are provided in an addition under construction on the West end of the Chemical Engineering Building. The wing differs in design from the original building and is constructed of concrete, steel, and

masonry with brick facing. Approximately 55,860 square feet of usable floor space will be added on its six floors of offices, laboratories, and classrooms.

Total cost of this structure \$1,033,000
 Source of Funds State Appropriation

Territorial Hall, a residence for 550 men, was constructed covering a full block East of Centennial Hall. Constructed of concrete and steel with a brick masonry veneer its five floors contain 100,520 usable square feet.

Total cost of this structure \$2,145,000
 Source of Funds State Appropriation and Federal Loan

A second residence hall for 550 men, named Frontier Hall and of construction identical to Territorial Hall has been started on the block East of Pioneer Hall. This construction includes a new kitchen in Pioneer Hall.

Total cost of this structure \$2,250,000
 Source of Funds State Appropriation and Federal Loan

Two wings were added on the North side of Comstock Hall to enlarge the facilities for women's residence. It is of construction similar to original building and represents an addition of 55,275 usable square feet, and houses 266 women. The present kitchen was remodeled to a cafeteria arrangement and new equipment added to permit serving the additional girls.

Total cost of this structure \$1,123,867
 Source of Funds Federal Loan Housing Reserve

A fifth floor and elevator was added to the Heart Hospital, representing a gain of 13,480 square feet of usable area devoted to laboratories and offices for heart research.

Total cost of this structure \$485,794
 Source of Funds Variety Club, United States Public Health Service,
 Ruth Randall Lockman Fund for Heart Research

Masonic Memorial Hospital, under sponsorship of the Masonic Order, was constructed West of Centennial Hall and will be used to house cancer patients. This reinforced concrete and masonry with brick facing structure has 40,133 usable square feet on its two floors.

Total cost of this structure \$1,202,370
 Source of Funds Gifts of Minnesota Masons and
 Hill-Burton Federal Funds

A building to handle the increased food requirements on the Campuses is being provided by construction of a new Food Stores Building. It will provide 43,300 square feet of space and is constructed of structural steel, reinforced concrete, and cement blocks. Located at Fairmount and 29th Street Southeast near the Chemical Storehouse Building midway between the two campuses.

Total cost of this structure \$756,000
 Source of Funds State Appropriation

Additional dining and lounge area for the Campus Club is under construction on the South side of the fourth floor, Coffman Union. There will be 7,295 usable square feet gained by this addition.

Total cost of this structure \$296,000
 Source of Funds Campus Club Funds and Loan

Construction has started on an addition to the Health Service to provide space needed to serve the increased enrollment. The three floors added on the West end of the present structure will provide 42,249 square feet of usable space. The construction is similar to the original structure.

Total cost of this structure \$1,052,000
 Source of Funds Health Service Reserve, Hill-Burton
 Federal Funds and Loan

St. Paul Campus—Contracts were awarded for buildings as follows:

A new Soil Science Building was constructed North of Plant Pathology. This structure of reinforced concrete, and faced with brick provides 34,545 usable square feet of classrooms, laboratories, and offices for the Soils Department on six floors. The vacated building will be wrecked.

Total cost of this structure \$1,000,000
 Source of Funds State Appropriation

The new Dairy Products Building under construction West of the Veterinary Science Building contains laboratories, auditorium, offices, and classrooms for teaching and research in dairy products. Three floors and 68,839 usable square feet of space constructed of reinforced concrete and masonry with a brick face.

Total cost of this structure \$1,900,000
 Source of Funds State Appropriation

Phase I of a Married Student Housing development named Commonwealth Terrace, consisting of 100 units of one and two bedroom apartments has been completed. The eight and six apartment buildings constructed of wood frame with brick, asbestos and board facing are located South of Thatcher Hall.

Total cost of this structure \$1,099,000
 Source of Funds Federal Loan

Phase II of Commonwealth Terrace, is under construction to provide 120 more units similar to those built under Phase I. Located South of those in Phase I.

Total cost of the structures \$1,332,333
 Source of Funds Federal Loan and State Appropriation

Construction has begun on a dining hall attached to the North side of the new Student Center and by tunnel to Bailey Hall, the new single Student Residence hall. Constructed of reinforced concrete and masonry with brick facing it has 21,471 square feet of usable space.

Total cost of this structure \$700,000
 Source of Funds State Appropriation

The present Student Union on the St. Paul Campus constructed in 1891 was replaced by a new structure located North of Coffey Hall to provide adequate room for student activities. The reinforced concrete and masonry building with brick facing has three floors and contains 47,000 feet of usable space.

Total cost of this structure \$1,095,000
 Source of Funds Donations, Union Bldg. Fund, Loan, University

Bailey Hall, a residence with a wing for 156 men and a wing for 150 women was constructed on Cleveland Ave. West of the new Student Union. Constructed of reinforced concrete and masonry with brick facing, the structure has 69,322 square feet of usable space on its five floors.

Total cost of this structure \$1,141,092
 Source of Funds Federal Loan and State Appropriation

Classrooms, laboratories, and offices were added on the East end of the Veterinary Science Building to house the Dean's Office and the Veterinary Medicine Group. The building matches the original structure and adds 28,860 square feet of usable space.

Total cost of this structure \$700,000
 Source of Funds State Appropriation

A new tunnel replacing an old inadequate tunnel was built from Agricultural Engineering to Music Building. This tunnel will handle steam pipe

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and concrete block with masonry face and brick veneer it adds 14,490 square feet of usable space on its three floors.

Total cost of this structure \$300,000
Source of Funds State Appropriation

Morris—Contracts were awarded for buildings as follows:

A new Administration, Library, and Auditorium Building is under construction on the location of the old Administration Building. Constructed of reinforced concrete, structural steel and masonry with brick facing the structure will have 21,484 square feet of usable space on its two floors.

Total cost of this structure \$300,000
Source of Funds State Appropriation

Waseca—Contracts were awarded for buildings as follows:

Work has started on the erection of a reinforced concrete, structural steel, and masonry with brick veneer Physical Education Building. The 26,815 square feet of usable space contains gymnasium, swimming pool, and lockers.

Total cost of this structure \$450,000
Source of Funds State Appropriation

Rehabilitation

Minneapolis Campus—Contracts were awarded or work performed by the University as follows:

Phase I of Millard Hall rehabilitation has been completed and work is underway on Phase II. Completion of this work will expand the fourth floor to a full story, adding 7375 square feet of usable space for medical school laboratories and offices. Copper piping, electrical, and heating radiation have been rehabilitated and improved. Many offices and laboratories throughout the building have been remodeled.

Total cost of this work \$560,000 (Phase II)
Source of Funds State Appropriation and Federal Grant

Completion of the unfinished area in the basement of Lyons Laboratory has been accomplished providing laboratories, offices, and animal rooms.

Total cost of this work \$90,000
Source of Funds State Appropriation

Phase I of Jackson Hall rehabilitation and remodeling has started. Remodeling will add 5980 square feet of usable space on the fourth floor for expansion of Pathology, and Anatomy Department laboratories and classrooms.

Total cost of this work \$199,000
Source of Funds State Appropriation

Burton Hall auditorium is being rehabilitated and remodeled into classrooms, seminars, and staff offices for the College of Education. A third floor is under construction in the upper portion of the second floor. The new floor will add 13,544 square feet of usable space for 12 offices and two workrooms for educational research groups.

Total cost of this work Additional floor \$144,000
Rehabilitation \$235,000
Source of Funds State Appropriation

When construction on the sub-basement area in the Library is completed, storage space will be added. Rehabilitation plans include finishing the fourth floor to gain further storage and reader space. Total usable space gained will

be 3800 square feet. Piping and electrical work planned under this project has been completed.

Total cost of this work \$176,000
 Source of Funds State Appropriation

Phase II of Chemistry rehabilitation is partially completed. When done, new and rehabilitated laboratories will be provided in rooms 290, 415, 415-A and 445.

Total cost of this work \$200,000
 Source of Funds State Appropriation

A Cardio-vascular Research Laboratory for the Medical School was obtained through remodeling of a residence at 305 Union St. Lack of sufficient space in the Medical School area necessitated using this residence across Union St. from Millard Hall.

Total cost of this project \$60,000
 Source of Funds United States Public Health Service

The General Newton, a sternwheel steamboat obtained from the U. S. Army Engineers, was rehabilitated and remodeled into a river showboat by Physical Plant. A theater seating 210 was constructed amidships and the wheel-house and power plant were deactivated.

Total cost of this project \$58,500
 Source of Funds Minn. Centennial Commission and Univ. Theater Reserve Fund

Crookston—Phase II of the stabilization program to correct settling of the buildings is under way. Grouting by an intrusion method is being used on Robertson Hall, and will continue on other buildings.

Total cost of this work \$100,000
 Source of Funds State Appropriation

Robertson Hall has been rehabilitated providing healthier and safer quarters for students living in the building. Fireproof stairways were installed, all the toilets replumbed, and the rooms remodeled.

Total cost of this work \$145,000
 Source of Funds State Appropriation

Major Improvements and Alterations

Minneapolis Campus—Classroom III, Burton Hall was remodeled providing four offices for the College of Education.

Alterations in Rooms 218, 219, 220, 221, 222 Folwell Hall provided floor covering, lighting, and intercoms generally improving the area for the Department of English.

The Sanford Hall kitchen was remodeled and the equipment removed.

Space for 80 additional corpses was gained by construction of a new cold room in Jackson Hall.

Docking facilities were constructed on the river by the Heating Plant for unloading of coal barges and coal shipments which have been received.

Improved animal quarters were gained by remodeling the fourth floor penthouse on Zoology. Repairs and alterations to the aquarium in Zoology provided increased facilities for Marine life.

A new elevator was installed in the southwest corner of the Library for the Acquisitions Department.

A new floor and elevator shaft are under construction in the Hydraulics Laboratory.

Alterations to the Department of Protection and Safety space on the fourth floor of Johnston Hall provided sound proofed areas and improved office space.

A part of the first floor and basement of the Shopping News Building was rehabilitated to provide space for the University Press.

A new athletic field located between 16th and 17th Ave's and 7th and 8th St's S.E. was provided with sodding, sprinkler system, chain link fence, and lighting.

Two new parking lots on Fourth St. between 15th and 17th Ave's and one on 15th Ave. and 6th St. were graded and surfaced. Parking lot No. 33, the old intramural athletic field, was surfaced.

Docking facilities for the Centennial Showboat were built on the Mississippi River Flats.

St. Paul Campus—Pendergast Hall was wrecked, the space to be used for a new residence.

Rooms 100, 100A, 102, 102A, Coffey Hall were remodeled for a new bookstore.

Farm Shop teacher training area was provided by remodeling a portion of the Agricultural Engineering Shop.

Duluth Branch—Athletic playing fields have been brought to grade and sodded. Utilities, sidewalks, and landscaping around completed new buildings have been installed. Street lighting installed on main service drive from St. Marie to Kirby Student Center.

Two laboratories in the Science Building were completed. An elevator was installed in the Science Building. Revised entrance to Girls' New Residence with a brick and glass block wind screen. Surfaced service road from Allen Road from St. Marie including gravel sub-base and drainage.

Cloquet—A new Dining Hall and kitchen were constructed.

Crookston—A Seed Storage Building was constructed.

Grand Rapids—An addition was constructed on the Dairy Barn.

Morris—Senior Hall is receiving extensive repairs. A rigid frame machine storage and maintenance structure was built.

Rosemount Agricultural Experiment Station—A farm shop and garage were constructed. Two Beef Cattle Pole barns were erected, one on the South Farm and one on the North Farm.

An office building and auditorium were constructed providing five offices and auditorium.

Two pole type hog houses were erected. Remodeled the milk shed area of Dairy Barn into a dairy laboratory.

Rosemount Research Center—Asbestos siding was applied on 15 buildings. Bldg. T.C. 84 was remodeled for College of Veterinary Medicine use.

Major Physical Plant Needs

Minneapolis Campus—The land acquisition program in the West River Area should be continued to facilitate expansion plans up to 1970. At the present time, land in the area is relatively inexpensive, but as the University continues to grow it will become higher priced; therefore, it is to the advantage of the University to acquire the needed land as rapidly as possible.

Rehabilitation of some buildings has been proceeding as planned and the value of the program is becoming very evident. There is a pressing need to complete rehabilitation of these buildings and extend the work to other buildings. When the objective of returning the buildings' condition to the level where normal maintenance will be sufficient is realized, rehabilitation fund requests will be limited.

St. Paul Campus—A number of buildings on the St. Paul Campus are too old and obsolete for rehabilitation and should be replaced, and others need varying amounts of rehabilitation. A new Shops-Storehouse Building in a new location and demolition of the present old building would make it possible to have a large parking lot in the middle of the campus.

Duluth—Landscaping of the campus is needed to improve the appearance. Some landscaping has been done in conjunction with the new buildings but it is insufficient. Utility tunnels are needed and included in the Legislative Requests for heat distribution and other utilities. Maintenance and expansion of utility lines is cheaper and more convenient in tunnels than if buried.

Request for a Physical Plant Shop is included in the Legislative Requests because the present shops and garages are scattered in several buildings on the old campus and elsewhere making it an inefficient operation.

Outlying Stations—Rehabilitation of buildings should be continued and is included in the 10 year Building Program. This work will have to continue for many years before condition of the buildings is elevated to a proper level.

There is still an urgent need for adequate sewers, drainage, and street and road surfacing at all the sub-stations.—R. V. LUND, *supervising engineer*

OFFICE OF CIVIL SERVICE PERSONNEL

Employment Division—Raising of University salaries and adjustment of salary inequities within class groups in July, 1957 plus economic slow-down in the fall of 1957 had the effect of placing the University on a more competitive level with other employers. The coverage of University employees under Social Security was instrumental in retaining many efficient employees and prompted others to apply for re-employment. As a result, while the numbers of qualified applicants in the Engineering, Scientific and Secretarial areas did not rise startlingly, the hires were of better quality than those of the last several years.

Employee Turnover—Terminations dropped seven per cent, from 3086 to 2883, during the last two years. There were 21.7 per cent of all terminations who gave "other employment" as the reason for leaving, while 17.4 per cent left because of "change of residence." Hiring spouses of students contributed significantly to this situation. "Pregnancy" accounted for 11.6 per cent of the total terminations while 10.7 per cent left to "attend school." "Home duties," "marriage," and "personal reasons" each accounted for about 5.5 per cent of those who left. The number of discharges dropped 35 per cent over the preceding biennium.

The University's turnover average for all classifications for this period was 2.7 per cent as compared to the national average of 4.3 per cent per month. The results of a special review of some classifications indicated that 1st level positions had the highest turnover percentage. Some, for example, were: General Staff Nurse, 7.8 per cent; Hospital Aide, 6.8 per cent; Clerk-Typist, 5.9 per cent; Hospital Orderly, 5.6 per cent; and Clerk, 5 per cent. While these percentages are above the University's and the national average, they cannot be deemed excessive when considered in relation to the "Built in" turnover factor and reasons cited above for employee separations.

Unemployment Compensation—The 1957 Minnesota State Legislature added Section 268.04, Subdivision 12, Clause 6 to Minnesota Statutes to provide "coverage under the Minnesota Employment Security Law for service performed after July 1, 1957, by an individual for the State of Minnesota or any instrumentality which is wholly owned by the State of Minnesota."

On February 6, 1958, the Board of Regents of the University adopted a resolution directing the administrative officers of the University to comply with the law with respect to the classified civil service employees of the University. This resolution specifically excluded academic employees and student employees of the University from coverage.

Position Vacancies—A total of 4872 vacancies occurred during the biennium which was a 3 per cent increase over the past. Of this number, 4619 were successfully filled, 132 were cancelled, and 121 remained unfilled at the end of the period. Vacancy increases were evident in the following areas: Clerical, Administrative and Fiscal; Medical, Dental, Hospital, Education and Recreational. Decreases occurred in Engineering and Mechanical, Custodial and Food Service, and Student Personnel.

Employment Recruitment and Placement—Up to September and October of 1957, recruitment of Engineers was difficult due to our lower salaries. Pay range increases put into effect on July 1, 1957 began to put us in a better position. New graduates were not getting as many high offers, and by selling the advantages of University employment we were able to attract enough qualified candidates to afford departments a selection with 719 applicants for 520 Engineering and Mechanical vacancies.

Economic conditions caused fewer changes in the mechanical, custodial and food service areas and qualified applicants were not difficult to recruit.

The scientific services, however, remained difficult. Where departments were able to use people with chemistry and/or biological science majors, fairly well qualified applicants were available even though few in number. There were 688 qualified applicants who were referred to the 592 vacancies during the period. Recruitment of Student Technologist Supervisors for the hospital remained critical. An average of five to seven vacancies existed at all times and only a very small number of Medical Technology majors were available even nationwide.

The Secretarial-Clerical situation gradually improved. Larger numbers of applicants with adequate skills and aptitudes became available as 3013 applicants were referred to 2219 vacancies. Fewer vacancies went unfilled for any period of time as the flow of applicants became more constant. The higher level positions however, improved very little and permitted no freedom of selectivity. Exceptional High School graduates were also selected and placed on training programs to help fill Senior Clerk-Typist and Secretary positions. This program proved very successful.

Eleven high school seniors were employed on a 50 per cent time basis through the High Schools' Cooperative Work Program. Five continued on as full time employees.

The most productive recruitment sources were similar to those of the past. Of the new hires, 26 per cent were referred by University staff and another 15.5 per cent by former employees. Better than 10 per cent of employed applicants came on their own initiative while 6.3 per cent were referred by skilled trade unions or professional agencies. Only 1.22 per cent were referred by commercial agencies.

Newspaper advertising was utilized to good advantage, particularly for positions difficult to fill. Advertising costs increased from \$6938.92 for the preceding biennium to \$9174.44 for 1956-1958, an increase of 33 per cent. Most advertising was done for the Clerical-Secretarial, Scientific, and Special Services areas with 79 per cent done through the Minneapolis newspaper's coverage.

Periodic job vacancy listings were reactivated. One list, with short job descriptions of vacancies was sent to schools and colleges, while a less comprehensive listing was sent to commercial employment agencies.

In the Twin City area, 652 promotions were effected during the biennium, approximately 14 per cent of the 4619 placements. The total number of promotions equaled about 14.5 per cent of the average number of positions existing in the civil service during the biennium.

Employment of Aliens and Relatives—The Employment Bureau considers aliens for employment only after all normal avenues of recruitment have failed to attract qualified citizens and/or non-relatives. Of 134 aliens hired during the biennium, 54 have left and several have attained citizenship. Of the remainder, a strong proportion include Exchange-visitors and students gaining work experience in their specific fields.

Applicant Testing—The total number of 16,681 tests administered represented an increase of roughly 4 per cent over the preceding biennium.

Position Classification Plan—The Position Classification Plan now includes 490 classes of work, covering approximately 6,700 full and part time Civil Service positions.

The administration and maintenance of this plan consists mainly in: (1) classification of new positions, (2) reclassification reviews, (3) review of vacant positions, (4) establishment of new classes and abolition of obsolete

classes, (5) classification surveys, (6) salary surveys, and (7) revision of class specifications.

The following sections describe the work activity in these seven areas during the 1956-1958 biennium.

Classification of New Positions—University departments established 980 new positions during this biennium, submitting written descriptions for each job.

Approximately 650 of the new positions were discussed with supervisors to clarify duties and relationship with other jobs. There were 601 classified in accordance with the department's request, 35 to a lower level, five to a higher level, and nine into a different class at the same pay level as requested.

A follow-up review is made of each new position after it is established and has been filled and operating for a period of four to six months. A contact is made with the employee on his work site, and if circumstances appear to warrant it, a formal review is conducted. Although all new positions are followed up, 95 were formally reviewed. The remainder did not appear to warrant a formal review. As a result of this follow-up, 34 positions were reclassified to a higher class and four to a lower class.

Reclassification reviews—Employees and their supervisors submitted 451 requests for reclassification of positions during the 1956-58 biennium; 96 were not approved, 41 were reclassified to a different class than requested, and the remaining 314 were reclassified as requested. Departments appealed four classification decisions to the Civil Service Committee. One was sustained and three denied.

Review of Vacant Positions—All requisitions to fill vacant Civil Service positions are reviewed by the Classification Division to determine if there has been any significant change in duties before applicants are referred to the department by the Employment Bureau.

The Personnel Office received requisitions to fill 2475 vacant positions during the last biennium. There were 18 reclassified to a class at a lower pay range, one to a different class the same level, and nine to a higher class than requested.

Establishment of New Classes and Abolition of Obsolete Classes—There were 23 new classes set up and approved during this last biennium. However, 29 classes were eliminated during the same period, resulting in a reduction of six classes.

Classification Surveys—A classification survey is a review of all of the positions in a class or group of related classes to see if the class concepts, relationships between classes, or relationships between positions within a class have changed.

During the past biennium, five departments were surveyed by reviewing all Civil Service positions: University Press, School of Nursing, Pharmacy, General Storehouse, and Rosemount Research Center (Physical Plant).

Selected classifications were reviewed in eight other departments: KUOM, Journalism, Student Unions, the Medical School, X-Ray, Rosemount Research Center (Aeronautical Engineering), Mines Experiment Station, Chemistry, and Admissions and Records.

In all, 177 positions were studied in connection with classification surveys, resulting in reclassifying 13 to a higher classification, three to a lower classification, and in establishment of six new classifications.

Program Problems—One basic problem foremost in our thinking for the next biennium is the necessity for continued increase in the amount of survey work accomplished. During the past year, a new approach to classification surveys has been tried out. By the use of the "departmental survey" apparently we are able to provide more accurate information about how positions relate to others within the department and at the same time provide the department head with information that may be used when considering changes in organization or assignments.

Pay Plan—In the administration of the University's Civil Service Pay Plan, there are two primary areas of concern: (1) general changes for the total plan on the basis of cost of living adjustments and (2) individual changes for certain classes on the basis of internal relationships, State Civil Service changes, and comparison with community rates.

General Changes—The Consumer Price Index, published by the U. S. Department of Labor, exceeded 120 on January 1, 1958. This called for a one-step (4 per cent) increase for all State Civil Service pay ranges to be effective July 1, 1958. The University also increased each pay range one step (4 per cent) to be effective July 1, 1958. No general changes to the pay plan were made effective during the 1956-1958 biennium.

Individual Changes—Individual changes in pay for University Civil Service classes may result from individual changes by the State for comparable classes of work, or from a study by the Personnel Office of internal job relationships, or from a survey of community rates for comparable classes of work.

In June 1956, State Civil Service revised all pay range allocations based on the salary survey completed in the same month. These reallocations were presented to the State Civil Service Board in August at public hearings to provide all departments an opportunity to appeal specific changes.

In line with state action during the fall of 1956, the University tentatively reallocated Civil Service Classes based on State relationships. These proposed reallocations were presented to the Civil Service Committee and were distributed to all departments for their recommendations. Consequently, many discussions were held with departments, and appeals were made to the Civil Service Committee. Much time and work was spent on refining the reallocations. However, there is no doubt that a better prepared pay plan resulted from all of the effort expended.

In June, 1957, after the University budget had been prepared, State Civil Service reallocated all Classes in Pay Range #18 and below plus some few above pay range #18. The University immediately made corresponding changes. All budgets that had already been submitted and approved were revised in order to meet the July 15 payroll and avoid retroactive pay.

During the past biennium, 11 classes were reallocated to higher pay ranges based on changes in the duties and responsibilities of individual positions.

Salary Surveys—The salary survey begun in April, 1956, was completed in June, 1956. The University cooperated with State Civil Service and other local municipal agencies in conducting this survey. There were 70 key jobs described and data was collected to provide a basis for recommending pay range allocations for specific kinds of work. Returns were received from 671 firms employing 229,287 workers. Pay range allocations, based on the results of this survey, were finally made by State Civil Service effective July 1, 1957. Corresponding changes for University Civil Service Classes were made effective July 1, 1957.

A salary survey completed in June, 1958, covered 65 key classes. The University again cooperated with State Civil Service and other local municipal agencies in collecting and analyzing the data. Returns were received from 861 firms employing 312,766 workers. Results of this survey will be used to recommend possible pay range changes to be effective July 1, 1959.

Employee Training—Previous training programs were improved and continued during this biennium. A new management survey service was added to the other Training Division functions because of requests from administrators for help in making organizational, procedural, and work methods analyses.

The orientation program for new employees was continued on a semi-monthly voluntary attendance basis. These "Get Acquainted" meetings were attended by 401 employees during the biennium.

The centrally conducted skills training programs for clerical workers continued to be a major part of the total program of the Training Division. The University Business Procedures Training Course was again improved and a total of 125 key clerical people from 63 academic departments and 23 ad-

ministrative and service departments completed the course during the biennium. The three volumes of the University Manual of Business Procedures, the basic training aid for this course, were brought up-to-date twice during the biennium. Approximately 475 sets of these manuals are now in use in University departments and outlying stations.

The Basic Office Practices Training Course for beginning typists and stenographers, designed and tested during the previous biennium, proved to be in demand. Two sections of the course were being offered almost continuously throughout the biennium, so that during the two years, a total of 122 girls in 20 groups had completed the course and 12 others had received individual instruction.

During the last few months of the biennium, materials were gathered for an English Refresher Course for typists and secretaries. Repeated complaints from clerical supervisors about the grammar, spelling, and punctuation skills of clerical employees indicated the need for such a course. A tentative course outline was developed and the course was being presented on an experimental basis to a small sample group of clerical workers as the biennium ended.

Supervisor training was conducted throughout the biennium in the form of courses for groups of work leaders, and by coaching and counseling individual administrators and supervisors. University Hospitals was more active in requesting help in conducting supervisor training than any other University department. The most extensive program of this type was carried on in the Nursing Services. It consisted of interrelated sessions for nursing supervisors, head nurses, and nursing team leaders on various supervisory techniques. Supervisors in other hospital departments such as Nutrition Services, Switchboard Services, Central Supply Services and Stenographic Services also asked for and participated in special sessions on supervision adapted to the problems of their units. Managers and supervisors in several other University departments asked for individual counseling on supervisory problems, but no department was as aggressive as the Hospitals in building a continuous program of leadership development.

University Hospitals was also more active than any other department of the University in building skills training programs for its production workers. Assistance was given the Nursing Services in the improvement of skills training programs for general staff nurses and nursing aides, and in the development of new programs for hospital orderlies, nursing station assistants, practical nurses, and office clerical workers. A switchboard operator program was developed with the switchboard supervisor, and developmental work was done for a skills training program for station food service workers in the Nutrition Services.

Continuing assistance was, of course, given to those departments of the University that in previous years had developed and placed in operation skills training programs for their production employees.

A new avenue for both supervisory and skills training was developed during the biennium by the establishment of incentive training programs. These "trainee" programs provided systematic training, coupled with incentive pay increases (beginning several steps below the minimum), for on-the-job development of new employees who lacked specific skills or experience required for their jobs. Thus the shortage of skilled help was alleviated without lowering employment standards. This situation also offered an opportunity to train supervisors in how to plan and administer systematic training for new workers. During the biennium, 11 trainee programs were developed for individual employees and 6 trainee programs were being administered for groups of employees in classes of work where it is nearly impossible to hire experienced people.

It became more obvious during the biennium that one of the basic services of the Training Division should be to help University departments develop standard work methods for recurring work tasks, since standard methods are the key to effective training, establishment of work standards, and efficiency of operation. Therefore, in addition to helping those University departments with large numbers of employees develop standard work methods as a first step toward the building of training programs, the Training Division broadened its work methods program to provide the service of writing work methods manuals for smaller departments. During the biennium, 18 departments

took advantage of this service and 42 individual work methods manuals were drafted for these departments.

Because of the emphasis on work methods analysis as a basis for efficient management, the Training Division expanded its services during the biennium into the management survey field. Once individual task methods are recorded, it becomes relatively easy to study flow of work, assignment of tasks, workplace layout, effectiveness of work operations and work methods, employee and supervisory relationships, and departmental organization. During the biennium, the Training Division made a thorough-going management study of the operations of the Purchasing Department and helped implement many of the recommendations of this study. A study was made of work methods, flow of work, and procedural problems related to preparations for Board of Regents' meetings and of follow-up work by the Office of the Vice-President of Business Administration, the President's Office, the Comptroller's Office, the Personnel Department, and other departments. A report and other materials based on this study were used by the new Assistant Secretary of the Board of Regents to help in the process of transferring functions to his office. As the biennium ended, an organization, procedures, and work methods study of clerical operations was being completed for the X-Ray Department of University Hospitals. In addition, the managers of the General Storehouse and the Chemical Storehouse had requested assistance in studying the organization of work, workflow, and work methods of their organizations.

The Regents' Scholarship Program and the program under which employees may register in University courses paying their own fees, were continued on the same basis as in the previous biennium. A special study of the operations of the Regents' Scholarship Program for the fifteen year period 1939-1955 was completed during the biennium and recommendations for improvement of the program were made to University administrative officers and to the Civil Service Committee. As the biennium ended, final recommendations were being prepared for presentation to the Board of Regents.

Employee and Union Relations—Prominent in the labor relations area during this biennium were the organizing efforts of two new unions on the Minneapolis and St. Paul campuses. The Municipal Drivers and Helpers Local 664 started an organizing drive in January, 1957, seeking their membership from the service groups largely in competition with Public Building Service Local 113. In November of the same year, the State, County, and Municipal Employees Union started their membership drive. Despite the fact that three unions were competing for membership, there were no serious incidents or problems.

As a result of activity by Local 664, the various construction trade unions requested certification as a matter of protection. In the fall of 1957, the Labor Conciliator's Office held hearings and conducted elections under Chapter 146—Law of Minnesota as amended by the 1957 Legislature. In the course of this action, certain policies were determined which will serve as precedents for future elections.

In March of 1958, a new local of Public Building Service Employees was chartered, No. 450. The then current University membership in Public Building Service Employees Union Local 113 and Municipal Drivers and Helpers Local 664, with the exception of truck drivers, transferred to the new local with the result that further competition between the two unions was eliminated. Immediately, Local 450 requested and won representation for a University Hospital Unit.

Civil Service Committee—The following staff members served on the Civil Service Committee during this biennium: Ray Archer, director of Insurance and Retirement; Theodore H. Fenske, associate dean and professor, Institute of Agriculture; Henry E. Hartig, professor, Electrical Engineering; James W. Stephan, professor and associate director of course in Hospital Administration; and John Turnbull, professor, School of Business Administration.

Mr. Fenske served as chairman during 1956-57 and Mr. Stephan served during 1957-58. The Director of Civil Service Personnel serves as executive secretary.

The Committee, which meets on call, held 24 meetings during this period. The Committee's major functions involve considering appeals from department heads, acting on all recommendations for new classes, reassignment of classes to new pay ranges and selecting recipients for Regents' Scholarships.

The Office of Civil Service Personnel is deeply indebted to these Committee members for the conscientious and helpful way in which they guide personnel policy at the University.

Student Employment Bureau—The 1956-1958 biennial totals representing the activities of the Student Employment Bureau are as follows, with corresponding data given for the preceding two years for comparison:

	Interviews	Applicants	Vacancies	Placements	Earnings
1954-56	41,205	15,053	14,300	11,759	\$ 8,331,542
1956-58	49,055	17,011	15,688	13,346	11,187,799

These figures indicate for 1956-58 a volume of business considerably above that of 1954-56. "Good times" continued through the first half of the biennium, and work opportunities increased faster than the applicant demand. The economic recession becoming evident in the early fall of 1957, and still continuing, caused a definite change in the second year, when layoffs, growing unemployment, and increasing scarcity of jobs contrasted with a sharply increasing number of student job-seekers. Totals for the two-year period, however, far outran those of 1954-56 in all categories.

Nearly 50,000 (49,055) interviews were held with student applicants, an increase of 19.1 per cent over the preceding biennium. This was 2199 more than total enrollment on Twin City campuses for the same period, which went up 16.5 per cent. The average number of interviews, reflecting the work load of the Bureau, rose from 81 to 98 per day.

An increase of 13 per cent in the number of students applying for work brought that total to 17,011, or 36.3 per cent of all the students attending the University at the Minneapolis and St. Paul campuses. This indicates that slightly more than one out of every three students made use of this office during that time. A total of 57.2 per cent of these applicants, or 9737, were placed in jobs. This is 1287 more than were given work in 1954-56.

During the biennium, 15,688 jobs became available, for an increase of 9.7 per cent. There was very favorable applicant-vacancy relationship enjoyed in 1956-57, but this was spoiled by the economic disturbance in the following year. In the latter part of the last year, jobs became extremely difficult to find and summer employment was almost non-existent in relation to demand.

A total of 13,346 jobs were filled. These placements, both campus and off-campus, represented 1587 more jobs than were filled in the preceding biennium, the increase being 13.5 per cent. In spite of the expanding need for jobs, this indicates a slight gain when compared with the 13 per cent increase in the number of applicants.

Student earnings were a little more than one-third higher than in 1954-56 and reached a total of \$11,187,799. This figure is the sum of estimated earnings on off-campus placements during the two years and actual earnings on all student jobs on the University's payroll. The latter includes, in addition to regular student employment, all graduate students in academic classifications, although these jobs are not included in the interview, applicant, vacancy, or placement totals of this report. An additional nearly half million dollars was earned by students working for room and board credit in University residence halls. Any attempt to ascertain total student earnings must also take into account the amount earned on off-campus jobs found by students on their own or by continued off-campus employment secured through this Bureau previous to this biennium.

The Work Scholarship program resulted in the placement of 103 entering Freshmen in part-time jobs. Without this aid, some of these high-quality students may not have been able to attend the University.—H. C. ANDERSON, director

UNIVERSITY SERVICES

A comprehensive report on the activities of the departments directed by the University Services central office is compiled annually. The third and the fourth University Services Annual Reports cover the biennium. Included in the reports are departmental operating statements, subjective material prepared by the individual responsible for the respective unit operation, and significant comparisons of statistical data with prior years. The annual report for the year ending June 30, 1957, contained in addition the University Services organization chart and a brief history of University Services.

The department now known as University Services has functioned since 1913 as a central office for directing the operation of a number of departments providing services to students and other University departments. Service departments have developed of necessity or for the convenience of students and staff at a saving of money for the University at the same time. It has been the policy and practice of University Services to set aside use of facilities charges (space rentals) based on replacement of the facility and interest for use of University-supplied funds, and margins on operations which may be in excess of essential current working capital, in a reserve fund to be used for future expansion. Such expansion is limited to beneficial service units for the University as a whole, students, and staff, where these services can be provided most efficiently at reasonable cost, or at lowest cost for the service. Most University Services departments operate on income rather than on student fees or state appropriations. Rates and charges are set after examining the previous year's operating statements and adjusting for anticipated cost changes.

University-operated Student Housing—Planning directed toward expansion of facilities to meet housing needs with increasing enrollment and decreasing off-campus housing facilities was intensified during the biennium. Based on the "Report of the Regents to the Minnesota Legislative Interim Committee on State Building Needs," the Minnesota state legislature appropriated 25 per cent of the estimated cost of 120 units of married student housing, 25 per cent of the estimated cost of a residence for 550 men on the Minneapolis campus, 50 per cent of the estimate for a residence for 57 students at the Duluth Branch, and the total estimated cost of acquiring a block of land for the Minneapolis men's residence. With equity funds from these state appropriations and from reserve accumulations from service departments, construction was started or contracts were awarded for the following projects approved for federal loan financing over 38 years at 2¾ per cent and 2½ per cent: 220 units of married student housing, two residence halls on the Minneapolis campus for 550 and 564 men, an addition to Comstock Hall for 266 girls, a residence for 157 men and 150 girls on the St. Paul campus, and two additions to the Duluth residence halls for 57 and 60 students. Present high cost of constructing and operating residence halls necessitate substantial equity funds to undertake financing on a sound basis.

An extensive program of plant and equipment improvement has been under way in existing residence halls to make them more effective for serving the anticipated enrollments. At Sanford Hall, residence for 281 girls built in 1910, the dining room was attractively refurnished, the dishwashing room modernized, and the guest lounge refurnished. The roof is undergoing major repair, and outside wood trim is being painted. At Comstock Hall, in the summer of 1957 the kitchen was remodeled to provide efficient permanent cafeteria service for the increase in accommodations from 368 to 541 resulting from the addition of the two wings to be completed by the fall quarter of 1958. Temporary housing units for married students, however, continue to be maintained only to the extent necessary to keep them livable until permanent apartment units are constructed to meet the essential demand, and prefabs are retained in use until they are uneconomical to repair. Temporary housing capacity was reduced by 50 units, to 641 families, by January 1, 1958, to permit construction of a new Food Stores Building in the area. On January 1, 1958, the 44 2-bedroom and 56 1-bedroom new married student permanent apartments were opened. Families with one child are accepted in the 1-bedroom units, and those with two or more children are eligible for the 2-bedroom

units. Rehabilitation resulting from deferred maintenance was begun at Thatcher Hall, permanent apartment building for 38 graduate student families.

It has been the aim in the administration of residence halls for men and women alike to provide in the halls the best study conditions, comfortable and healthful eating and living, and experiences and opportunities for students not afforded in the classrooms. Counseling and guidance programs are directed to promote social maturity through experience in group living, and to provide environment conducive to the student's scholastic welfare and physical and mental well-being. Student government organization has been encouraged, and elected representatives have planned carefully with residence administration on curtailment of services to minimize price increases. Every effort is made to maintain maximum occupancy in residence halls to minimize rates.

By way of illustration of the effectiveness of residence hall contribution to scholastic conditions, of the 368 Comstock residents in 1956-57, 54 girls received scholarships, 4 girls maintained an honor point ratio of 3.0 for the year, and 29 had an honor point ratio of 2.5 or better for the year.

The halls employ as many residents as operational needs permit. In order that the maximum number of students may benefit from the work experience as well as the financial assistance they must have to attend the University, length of job assignments is minimized. As a result, approximately 320 students are employed each quarter in Centennial and Pioneer Halls. In many cases this employment provides the student's first prolonged work opportunity. A definite and discernible maturation often takes place as the student becomes self-sustaining and learns to accept supervision and assume responsibility.

Staff Housing—Services of the Staff Housing Bureau for the biennium are tabulated below.

	1956-57	1957-58	Total
Interviews	548	505	1,053
Listings—rooms	195	216	411
Listings—rentals	869	784	1,653
Listings—sales	57	50	107

Kewanis Court, the 29-apartment building maintained for University staff, experienced a 60 per cent turnover during the past two years, largely for two reasons: lease is restricted to University employment, and tenants frequently are new to the city and live here during a period of adjustment. Operation of the apartment provides for Josephine L. Merriam scholarships, under terms of acceptance of the building, in the amount of \$2,500 annually. Remodeling and repair work has continued; the first remodeled kitchen is completed, and rewiring has begun.

University Grove, a 65-lot plot owned by the University, and leased to staff members who build their own homes with the option of University financing on a 20-year basis, has been completely leased, with 7 leases signed in 1956-57, and the remaining 2 in 1957-58. The arrangement has been very successful, and demand for more lots continues. The long-range plan for University Grove includes the area east of the present Grove, now occupied by temporary units for married students. Use of this land for student housing has been extended beyond the time anticipated.

Eating Facilities—A major concern in this service area as well as in residence halls is the continuing upward trend of our costs of operation. To cover the increased costs of food, payroll, and repairs and maintenance, in July, 1957, food prices had to be adjusted upward an average of approximately 8 per cent. Again in March, 1958, as a result of Old Age Survivors Insurance and State Employees Retirement Insurance costs payable by the department, food prices were raised an average of 5 per cent. Our fear of pricing our services out of the student market emphasizes the need for expanding our facilities for commuters' lunch rooms. At the same time we must exert every effort

to make the cafeterias more attractive by offering better food values, faster service, and a friendlier more inviting atmosphere.

In Shevlin Cafeteria as well as at Coffman Union Food Service we are improving physical facilities and equipment to meet the predictable demands of the years ahead. By the close of the biennium sales at Shevlin had more than doubled compared with six years previous. A soiled dish bussing station, book and parcel checking rack, new tables and chairs for the University High School dining area, new coffee urns and a vegetable steamer, and new cashier's station were acquired at Shevlin, which provides service for University High and Elementary Schools, and University students and staff on the north side of the campus. Plans and specifications are now practically complete for remodeling this food service area, calling for the addition of one floor extending the wings of the original Shevlin Hall building over the present kitchen and a portion of the cafeteria area. It is necessary to request an appropriation for this project, in the hope that it may be started next spring and ready when school reconvenes in fall. Present plans contemplate a complete separation of dining areas for the University High and Elementary School students who now all share a common cafeteria with college students, staff, and others. All groups would be served from one central kitchen. At Coffman Food Service, necessary improvements and replacements which cannot be postponed much longer are estimated at around \$75,000.

In the fall of 1956 a Scholarship Fund was established for outstanding student employees in Food Service, entirely from gratuities received from parties and banquets. The fund is administered under the direction of the Bureau of Student Loans and Scholarships, and awards are based on the student employee's attitude and performance in his Food Service job, scholarship attainments, and financial need. To date ten tuition scholarships have been awarded, for the first year and six this past year.

Other Services—The Cold Storage Plant has continued to operate in the building provided in 1913, but present food preservation methods and customer volume on the campuses have necessitated the planning of a new building to be completed within the coming year. The legislature appropriated \$756,000 for the new Central Food Stores Building, being located midway between the Minneapolis and St. Paul campuses, south of Como Avenue between 26th and 28th Streets Southeast, near the new Chemical Storehouse. Plans and procedures were obtained from Big Ten schools with newly constructed buildings of this type. Staff members from Minnesota visited some of these schools, and an excellently qualified food stores manager from one of these institutions was employed to survey our food stores needs. The new building has been calculated to handle the increased volume from maximum enrollments and future residence halls expansion, and will provide sufficient freezer space for frozen foods, walk-in cold boxes for refrigerated foods, meat processing space for preparing wholesale cuts ready for kitchen use so that less meat preparation will be necessary in the various kitchens, and general food storage space for grocery items.

Planning has been directed in the Milk and Cream Plant operation toward an addition to the Food Stores Building, as a solution to meeting the increasing volume in a manner more satisfactory than trying to remodel in the present location.

Dedication ceremonies officially designating the new laundry building as Poucher Building in honor of Mr. Joseph Colton Poucher, Director of Service Enterprises, 1903-1952, were held at the University of Minnesota regents' luncheon on Saturday, October 20, 1956.

Space limitations for the Printing and Mimeograph services become more serious each year, and consideration has been given to new areas for relocation. Acquisition of new equipment has increased production so that hourly charges for printing service were reduced through the first half of the biennium, but recent prevailing wage rate increases and addition of retirement program costs have resulted in subsequent upward adjustments.

Refectory Service was established as an independent department July 1, 1956, with vending operations separated from Stadium Stands service at athletic events, because of the increasing demand for and use of milk vending machines. We believe operations to date prove that machine vending can be

handled internally by an institution without recourse to professional concessionaires. We do not promote locations or adopt an aggressive approach toward expansion, but do attempt to maintain a reputation for dependable service. The service has been well received by staff and students, and has not resulted in janitorial problems as feared. Coin-operated laundry washers and dryers were installed by this department in the new married student apartments, and if the operations are successful the service will be expanded. Careful attention to preventive maintenance and other cost items is an absolute necessity if we are to make laundry operations an unqualified success; but whereas vending machines once offered a service problem that seemed insurmountable, that problem is controlled today, and there is every reason to believe that laundry operations will achieve the same success.

The operation of Stadium Stands has not remained a static matter. Better service through better policies, methods, procedures, controls, and staff training has been a constant objective, and the objective has been sought through careful supervision, experimental research and development study of public preference, and attention to detail. In anticipation of the possibility of a new stadium or enlargement of the present one, we have been mindful of the fact that refreshment stands included in the original plans will have small effect on the over-all cost of a stadium as compared with later building alterations where service areas must be superimposed or squeezed into premises not originally planned for their accommodation.

A major objective of Audio-Visual Education Service in the biennium has been the laying of groundwork for growth and tangible improvement of service through internal, departmental self-improvement projects. In recognition of the need for more information and knowledge about audio-visual equipment, materials, and activities on the campus, a comprehensive survey was completed this year of all equipment resources held by Audio-Visual Education Service for which Audio-Visual Education Service is designated administratively responsible. This survey, conducted by a half-time administrative fellow, has laid the foundation for a campus-wide survey to be carried forward this coming year. In acknowledgment of the need to develop methods and procedures for more directly and systematically working with teaching departments to promote more effective use of equipment and facilities to stimulate and guide development of non-film teaching materials by these departments, we have completed plans for a Faculty Teaching Materials Laboratory where faculty may come to experiment with and develop audio-visual materials. It is expected that this laboratory can begin operations some time next winter quarter. The department has guided the development in several teaching departments of audio-visual materials committees which function to plan and coordinate the application of audio-visual materials to the curricula of these departments. The Materials Laboratory will release space for construction of a temperature and humidity controlled film vault to more than triple present film storage capacity. Other important space needs for film previewing are yet to be solved.

The Audio-Visual Pre-paid Plan continued to be a useful and successful instrument for putting the availability of audio-visual equipment and films to participating departments on a basis of instructional need rather than departmental budgetary resources. Colleges of Science, Literature, and Arts, and Education have participated over 3 years, and General College has for one year. Total over-all usage of films and equipment by these departments increased substantially. Members of the Senate Committee on Audio-Visual Aids who reviewed results of the plan this past year were unanimous in recommending that the plan be continued for next year.

In the first half of the biennium, 51 college level teaching films and 26 filmstrips were added to the Campus Film Library by special budgetary allotment, and in the second year 55 films and 5 filmstrips were added. Selection is based on preview and evaluation by faculty committees in subject areas involved.

Improvements in engineering services included the introduction of high fidelity stereophonic tape recording equipment and further development of the electronic laboratory apparatus repair service.

The Production Division completed several important teaching films, and received important recognition for "Swamp," produced by Associate Professor

Allen Downs of the Art Department. The film won the Screen Producer's Guild-Look Award for the best college produced film of 1956. A significant development in the activities of the Production Division has been the increased assistance the staff has provided to research functions of the University, as motion pictures have become an increasingly important and useful data recording medium. In cooperation with the University Library, microfilm service has been moved to Room 10, Library, where an Instant Copy Service is being added to serve departments and students throughout the University on a low-cost basis for instant copies of material from books, magazines, other printed matter, and facsimile printing of microfilm as well.

The opening of a Minneapolis campus Photographic Laboratory office in Audio-Visual Education Service for the convenience of departments on the Minneapolis campus made possible an application photo service for the Bureau of Recommendations, Graduate School, and the School of Business Placement Office. Plans have been developed for a proposed move of the entire department to newer and more efficiently designed quarters in the interest of saving departments time and money and improving quality. A comprehensive library of color slides of campus scenes, buildings, and events is being developed as time and funds permit, to be available as a resource for departments and staff members who need visual materials on the University for publication or for illustration of lectures and speeches given as representatives of the University.

Truck Service, which provides vehicles for the storehouse, shops, campus maintenance, general administration, and Protection and Safety, and provides service for vehicles owned by other departments, conducted by the close of the biennium the fifth annual driver training course, consisting of 9 one-hour sessions directed to developing more courteous and safe drivers and reducing the number of accidents. Periodic refresher meetings are held every three months. A 2-day driver briefing course has been initiated for new employees who drive. Twenty-nine safe driving awards were issued during the first year of the biennium, and at the Fourth Annual Safe Driver Award Meeting held this past year, 5 University drivers received 1-year safe driving award pins, 6 drivers received 2-year award pins, 3 received 3-year award pins, and 13 received 4-year pins.

Transportation department vehicle rental services were extended to the St. Paul Campus in 1957-58, so that it is now convenient for all University departments on the Minneapolis and St. Paul Campuses to use pool vehicles.

Evening service of one round trip in the latter part of the evening was added Mondays through Thursdays on the Inter-Campus Bus line.

Plans were completed for relocating Scientific Apparatus Services which has been crowded into inadequate and non-fireproof quarters in the basement of one of the few remaining post-war temporary buildings by the School of Mines. Approximately 7,700 square feet on the second level of the building under construction for Animal Research Facilities and Biological Medical Library has been made available. Space near the medical buildings was desired because approximately 60 per cent of the work of the central machine shop is done for those departments. Present plans leave the Glassblowing Shop in its current location in the sub-basement of the Physics Building. The continuance of adequate shops is of vital interest to the University because the services of these departments in the design, fabrication, modification, and maintenance of specialized equipment and apparatus used in medical, educational, and especially research projects would be very expensive to obtain commercially, and in many cases would be unobtainable.

Comparative Earnings, University Services Department

	1956-57	1957-58
Pioneer and Centennial Halls	\$ 909,980.73	\$ 977,013.75
Comstock Hall	280,753.55	289,939.98
Sanford Hall	197,742.18	210,877.38
Winchell Cottages	23,352.88	24,845.16
Como Avenue and Grove East Housing Project	370,824.63	345,093.94
Married Student Permanent Apartments		43,496.74

	1956-57	1957-58
Thatcher Hall	29,395.16	30,448.05
Kewanis Court	20,905.62	19,445.02
University Grove Rentals	5,372.50	5,316.25
Duluth Branch Cottages and Apartments	9,537.20	8,704.75
Center for Continuation Study Hall	44,969.28	42,891.47
Coffman Union Food Service	553,371.52	608,053.53
Shevlin Cafeteria	64,963.97	74,387.67
Milk and Cream	201,458.27	201,967.36
Cold Storage	555,991.97	590,535.79
Stadium Stands	106,393.15	110,803.40
Refectory Service	45,050.70	57,867.37
Audio-Visual Education Service	122,118.71	131,380.44
Photographic Laboratory	38,366.86	45,660.61
Printing	429,697.31	480,271.97
Bindery	59,777.77	59,879.82
Mimeograph	54,479.58	61,522.89
Mimeograph and Bulletins (St. Paul Campus)	57,576.27	63,436.86
Laundry	227,722.29	265,248.16
Post Office and Campus Mail	1,016.13	999.96
Transportation	19,066.09	25,838.65
Lockers	5,531.70	5,337.59
Como Clinic Building	650.00	775.00
Barber and Beauty Shops	1,979.50	6,024.10
Pioneer and Centennial Recreation Dens	16,223.56	19,654.85
Pioneer and Centennial Laundry Dens	1,681.63	1,748.66
Comstock Hall Candy Counter	11,751.12	10,387.14
Sanford Hall Candy Counter	6,863.46	7,834.29
Inter-Campus Bus	18,430.77	19,528.77
Scientific Apparatus Shop	43,890.67	26,275.07
Glassblowing Shop		23,493.76
Truck Service	19,437.81	25,183.04
	\$4,556,324.54	\$4,922,169.24

The table above lists the departments of the University operated under the central administrative office for University Services, with comparative gross earnings for the two years in the biennium.—C. T. JOHNSON, *director*

OFFICE OF THE COMPTROLLER

The Office of the Comptroller has the responsibility for many functions in the Business Administration structure of the University. Probably the most familiar of these are Payroll, Purchasing and Accounting, with some others being the General and Chemical Storehouses, Bursar, Treasurer's Office, Inventory, Investments, Trusts and Research Contract Coordination.

We have chosen three topics to describe some of the special responsibilities carried out by the Office of the Comptroller during the 1956-58 biennium.

Endowments and Investments—The endowments of the University of Minnesota contribute substantial amounts annually both to the general maintenance of the University and to numerous scholarships, professorships and research projects which have been specified by many donors. On June 30, 1958, the endowments totaled \$60,585,413.57. Of this sum \$44,886,343.41 is known as the Permanent University Fund and is administered by the State Board of Investments. This fund was accumulated primarily through the occupational tax and royalties on iron ore mined in the state.

Another \$165,669.30 is managed by banks acting as Trustees. The University has been named as the recipient of the income from these endowments under the terms of various gifts and bequests.

The remainder, amounting to \$15,533,400.86, is administered by the Board of Regents and represents the aggregate of bequests made directly to the University during the many years it has existed. These gifts, which were

unpredictable in nature and varied widely in amount, have all contributed to many worthwhile projects and phases of University endeavor.

The largest individual endowment is the Mayo Foundation for Medical Education and Research Fund, established by Doctors William J. and Charles H. Mayo and the Mayo Properties Association in 1915. The income from this fund, which approximates \$3.3 million in value, is used for graduate medical and surgical instruction and research.

Another major endowment, the Minnesota Hospital and Home for Crippled Children Fund, was donated by William Henry Eustis during the 1920's. Income from this \$2.9 million fund is used to maintain the Eustis Wing of University Hospitals and to provide crippled children with necessary treatment.

During the recent two-year period the larger gifts included the following:

The Augustus L. Searle Fund, \$112,500. This gift provides loans and scholarships for girls studying in the various agricultural schools.

The Adrian E. Buttz Fund, \$132,023.80. This gift may apply to any general University purpose upon the recommendation of the President's Projects Advisory Committee.

The Harlow C. Richardson Scholarship Fund, \$46,882.97. This gift provides scholarships for students in the Institute of Technology.

In addition, several other gifts of \$25,000 to \$40,000, and many smaller donations were received for various University purposes.

The income from the endowment funds administered by the Board of Regents approximated \$700,000 each year during fiscal 1957 and 1958.

The endowments under the control of the Regents of the University of Minnesota are managed by the office of the Investment Counsel. Most of the individual funds, while maintaining their respective identity, are invested in a pooled account known as the Group Investment Fund. In this way each of the funds, regardless of size, may achieve the diversification and degree of investment management and control usually possible only in a large account.

The following summary details the changes in the University's investment portfolio during the past two years.

*Endowment Funds Managed by Board of Regents
Book Value of Assets Held*

	July 1, 1956		June 30, 1958	
	Amount	Per Cent	Amount	Per Cent
Cash	\$ 239,775.33	1.7	\$ 349,003.30	2.2
Bonds:				
U. S. Government Savings and Investment	2,367,372.00	16.3	1,126,711.13	7.3
Marketable Treasury	1,048,169.18	7.2	440,272.00	2.8
Public Utility	3,771,988.32	26.0	3,963,027.57	25.5
Industrial	1,450,220.20	10.0	2,010,938.88	13.0
Railroad	196,227.95	1.4	98,600.00	0.6
Equipment Trust Certificates	546,662.27	3.8	695,465.63	4.5
Municipal	6,930.00	0.0		
Unamortized Premium	56,373.59	0.4	71,771.07	0.5
Mortgages	426,358.84	2.9	450,190.39	2.9
Preferred Stocks	1,019,367.77	7.0	841,750.90	5.4
Common Stocks	3,036,710.03	20.9	5,106,973.99	32.9
Real Estate	349,196.00	2.4	378,696.00	2.4
Total Endowment Assets	\$14,515,351.48	100.0	\$15,533,400.86	100.0
Book Value-Group Investment Fund	\$11,756,176.50		\$14,579,143.33	

Research—Research has become an increasingly important part of the activities of the University. It is an essential part of a complete educational program. Its main value from an educational standpoint is to provide training for graduate students. It is the duty of a great educational institution to train graduate students because they are the future instructional staff of a university. With the great increase in enrollment forecast for the period between now and 1970 many new instructors will be needed. Already there is a short-

age of teaching personnel and unless this situation can be alleviated the instructional program will suffer.

Since the end of World War II, research has grown tremendously. In 1946-47 the University spent \$1,581,594.00 for organized and sponsored research while in 1956-57 the University spent \$8,369,378.00. The accompanying schedule shows the growth by years of Research Expenditures. This schedule also shows the source of the funds for this research. For the year 1956-57 the source of these funds and the percentage of the total were as follows:

Source of Funds	Amount	Per Cent to Total
The Federal Government	\$5,327,633.00	63.7
The State	921,622.00	11.0
Gifts	1,847,472.00	22.1
Income from Endowment	272,651.00	3.2
Total	\$8,369,378.00	100.0

A further explanation of what is included in each of these four categories is as follows:

From The Federal Government—This includes direct Federal appropriations (Bankhead-Jones, Consolidated Hatch Funds, and others); income from Federal agencies for Defense Contracts Research (Departments of the Air Force, Army, Navy, Atomic Energy Commission, and others); grants from other Federal agencies (National Science Foundation, United States Public Health Service, Department of Agriculture, and others); and sub-contracts for Federal prime contracts. A further breakdown of Federal funds for research is as follows:

Federal Appropriations—Agricultural Research	\$ 713,062.00
Federal Agencies—Defense Contract Research	2,453,264.00
Other Federal Agencies	2,161,307.00
Total	\$5,327,633.00

From State Funds—This includes special State appropriations for research such as Medical Research, Soil Survey, Beneficiation of Manganiferous Ores, and Agricultural Research. This also includes grants from State agencies such as from the Iron Range Resources and Rehabilitation Commission, and the Department of Conservation. A breakdown of these two main sources of state funds for Research is as follows:

Special State Appropriations	\$795,038.00
State Agencies	126,584.00
Total	\$921,622.00

From Gifts—This includes gifts and grants from Business and Industries, Foundations, Associations, Individuals, and others. These funds are expendable for the specific research. Examples are as follows:

Business and Industries:

General Mills Incorporated and National Dairy Council.

Foundations:

Louis W. and Maud Hill Family Foundation and Rockefeller Foundation, Nutrition Foundation.

Associations:

Minnesota Heart Association and American Cancer Association.

A further breakdown of the source of these funds is as follows:

Business and Industry	\$ 584,379.00
Foundations, Associations, Individuals and Others	1,263,093.00
Total	\$1,847,472.00

University of Minnesota

SUMMARY OF RESEARCH EXPENDITURES FROM ENDOWMENT INCOME
GIFTS, GRANTS, AND FROM SPECIAL APPROPRIATIONS FROM THE STATE AND FEDERAL GOVERNMENTS

1946-47 to 1956-57

Year	No.	Total		Governmental Sources						Non-Governmental Sources								
		Amount	% Inc. Over Prev. Year	Total		State (1)		Federal (2)		Gifts		Endowment						
				No.	Amount	% Inc. Over Prev. Year	No.	Amount	% Inc. Over Prev. Year	No.	Amount	% Inc. Over Prev. Year	No.	Amount	% Inc. Over Prev. Year	No.	Amount	% Inc. Over Prev. Year
1956-57	837	\$ 8,369,377.76	12.9	411	\$ 6,249,255.14	12.6	21	\$ 921,622.33	2.2	390	\$ 5,327,632.81	14.6	401	\$ 1,847,471.60	14.8	25	\$ 272,651.02	7.6
1955-56	748	7,411,114.04	3.5	357	5,549,000.49	0.1	21	902,076.59	5.3	336	4,646,923.90	1.1	363	1,608,640.78	18.4	28	253,472.77	1.6
1954-55	721	7,161,320.64	6.2	339	5,553,604.68	6.9	21	856,276.63	9.4	318	4,697,328.05	6.5	356	1,358,218.30	3.6	26	249,497.66	4.6
1953-54	640	6,742,752.94	8.4	310	5,192,970.05	4.3	26	782,668.69	3.1	284	4,410,301.36	4.5	308	1,311,335.51	23.6	22	238,447.38	33.9
1952-53	556	6,217,782.70	14.9	280	4,978,656.62	16.9	26	759,426.26	4.4	254	4,219,230.36	19.5	256	1,061,103.63	7.8	20	178,022.45	5.8
1951-52	549	5,411,886.92	33.3	257	4,259,556.27	38.5	27	727,744.96	32.6	230	3,531,811.31	39.8	274	984,127.92	21.5	18	168,202.73	3.3
1950-51	463	4,058,614.66	20.5	202	3,074,612.59	27.8	18	549,006.33	0.4	184	2,525,606.26	35.9	246	810,077.45	0.7	15	173,924.62	19.1
1949-50	426	3,367,130.06	8.1	165	2,405,242.21	6.8	21	546,825.40	18.8	144	1,858,416.81	3.8	246	815,810.40	7.6	15	146,077.45	38.1
1948-49	386	3,114,927.24	18.8	133	2,251,224.44	27.6	18	460,436.53	4.1	115	1,790,787.91	35.5	243	757,937.73	0.2	10	105,765.07	6.5
1947-48	336	2,622,534.71	65.8	108	1,763,837.46	92.2	19	442,101.12	86.3	89	1,321,736.34	94.3	219	759,399.26	33.8	9	99,297.99	2.8
1946-47	294	1,581,594.22	40.7	74	917,510.17	29.2	12	237,323.20	8.2	62	680,186.97	50.6	213	567,522.42	80.2	7	96,561.63	2.3
Total Expenditures 1946-47 to 1956-57		\$6,059,035.89			\$42,195,470.12			\$ 7,185,508.04			\$35,009,962.08			\$11,881,645.00			\$ 1,981,920.77	

(1) State sources include State Appropriations and Contracts.

(2) Federal sources include Federal Appropriations, Contracts and Grants.

Notes: A. Figures do not include expenditures for non-research fellowships.

B. No research expenditures on the Support Fund have been included in these totals.

Source: Financial Reports

Income From Endowment—This category includes for the most part income from various endowment funds such as the Mayo Foundation, Malignant Disease Research Fund and American Legion Memorial Heart Research Professorship. Some gifts are given to the credit of an endowment fund and part or all of these funds may be expendable and are not to be invested. If this is the case, these funds would show in the report under the heading of Endowments. In either case the funds under this category are expendable and are not to be invested. The total amount of funds expended from income from endowment was \$272,651.00 in 1956-57. Of this amount, the largest was the income from the Mayo Foundation Endowment which amounted to \$125,060.00.

A second schedule shows Research Expenditures by Colleges for 1956-57. This schedule shows the number of research grants or contracts in the first column, the amount in the second column, and the per cent to the total in the last column.

The actual amount of Research Expenditures for the year 1957-58 is not yet available in full detail. However, it is estimated that the total will be approximately \$10,016.00 an increase of 19.7 per cent over the prior year.

University of Minnesota

RESEARCH EXPENDITURES BY COLLEGES

	1956-57	No.	Amount	Per Cent to Total
Science, Literature, and the Arts	48		\$ 223,407	2.7
Institute of Technology	177		3,077,595	36.8
Institute of Agriculture	121		1,553,864	18.6
Medical School	394		2,454,100	29.2
Hospital Laboratories	1		13,794	.2
Institute of Child Welfare	6		84,769	1.0
School of Dentistry	9		29,539	.3
College of Pharmacy	2		4,350	.1
College of Education	4		4,563	.1
Graduate School	47		736,419	8.8
School of Business Administration	6		53,668	.6
Duluth Branch	2		4,353	.1
College of Veterinary Medicine	20		128,957	1.5
Total	837		\$8,369,378	100.0

—L. R. LUNDEN, *comptroller*

PROTECTION AND SAFETY

The scope of the overall program of the Department of Protection and Safety is not well known because the success of the program is based primarily on the anonymity of specific incidents. The following points summarize some of the special projects which have been accomplished during the past two years in addition to the regular protection and safety program.

Security—The Department of Protection and Safety is the University of Minnesota's security office for the government research contracts conducted by the University. In this connection we process all personnel security questionnaires. The processing of these personnel security questionnaires includes fingerprinting the staff members concerned, checking comprehensive questionnaires for accuracy, and the maintenance of files containing classified information with respect to clearances of individual staff members.

In the past two years the number of staff members granted security clearances has greatly increased and at the present time 470 members of the staff have been cleared to work on government projects.

Whenever it is necessary for a staff member to travel to some other facility in connection with his research program, we must process a visit authorization.

The Department of Protection and Safety is also responsible for the maintenance and control of all safes on the University campus containing classified

documents. This responsibility involves the changing of the safe combinations at least once annually. At the present time we have 62 such safes.

Because of a government change in security cognizance, and because of the growth of the security program and the problems attendant to this program, the Assistant Director of the Department of Protection and Safety was sent to the Industrial Security School operated by the Federal Government at Fort Holabird, Maryland.

Polygraph Examinations—From July 1956, through June 15, 1958, a total of 275 polygraph (lie detector) examinations were given by this department to outside agencies. These examinations represent 67 different agencies of which 31 were county agencies and 36 were municipal agencies. It is interesting to note that agencies requesting our assistance in this service came from as far north as International Falls, as far south as Austin and from the east to the west borders of the state.

Traffic Service—The increase of vehicle and pedestrian traffic on the Minneapolis and St. Paul campuses has been a major headache. A smooth, efficiently operated traffic pattern is essential. To assist in keeping the traffic moving smoothly, the Department of Protection and Safety makes an annual traffic survey. The last survey, completed in January of 1958, indicates the movement of over 29,000 automobiles through the campus streets in a 24-hour period with a peak of over 3,000 cars an hour.

Parking—The Department of Protection and Safety has responsibility for the operation of all campus parking facilities. The complexity of the problem is well known and its full solution not yet in the foreseeable future.

A summary of the available spaces on June 30, 1958 is as follows:

	Transient	Contract	Total
Outside Lots	4,450	523	4,973
Garages and Ramp	565	719	1,284
Total	5,015	1,242	6,257

A summary of the cars parked during the 1956-58 biennium shows the following annual breakdown:

	1956-57	1957-58	Total
Transient Cars	1,474,582	1,658,276	3,132,858
Contract Cars	365,976	390,214	756,190
Total	1,840,558	2,048,490	3,889,048

In acquiring labor to meet the increasing parking work-load the Department of Protection and Safety enthusiastically supports the policy of using students to the maximum extent possible. A recapitulation shows that during the biennium we employed 404 students as parking attendants, 106 in connection with an extensive traffic survey and 8 for snow removal. The payroll for these 518 students for the same two year period totaled \$260,635.64.

Public Relations—During the past 23 months the director of the Department has given 28 lectures about law enforcement to church, civic and educational organizations. Two of these lectures given in May were at Purdue University, Lafayette, Indiana, and the University of Denver Law School, Denver, Colorado.

Services—Several additional types of service are handled by the Department:

- a. Money pick-ups and deliveries which represent the protection and transportation of thousands of dollars of University funds annually.
- b. Transportation of minor sick and injured University staff members and students.
- c. Operation of the Lost and Found Department.
- d. Supervision and control of all University building keys.

- e. Assisting strangers in finding various buildings and University personnel.
- f. Fingerprinting and notarial services for the public.
- g. Supervision of alcohol storage units to comply with government regulations on the storage of alcohol.
- h. Service on State, County and Municipal boards for selection and promotion of police officers.
- i. Maintenance of a uniformed patrol at the University Rosemount facility.

Training Program—The training program for our personnel consists of a 56-hour in-service training program over a 28 week period with classes one night a week.—C. B. HANSCOM, *director*

OFFICE OF THE FIELD AUDITOR

During the 1956-58 biennium the State Public Examiner completed and reported on his audit of University records for the fiscal years 1953, 1954 and 1955.

A complete report of his findings was made to the Board of Regents together with a summary of actions taken to correct points of criticism.

The internal audit staff has been strengthened by the addition of an accountant. This fact has made possible the expansion of certain phases of our program, notably payroll audits, the shopping service and accounts receivable verification.—S. B. GARRISON, *field auditor*

DEPARTMENT OF INSURANCE AND RETIREMENT

Introduction—The additional office space allotted to this department in 1955 has proved adequate for the operations during 1956-58 biennium. The volume of staff member and retiree personal visits makes it rather imperative that the location of this department be readily accessible to the public in any building in which this department might be located.

Faculty Retirement Plan—On May 20, 1955 the Board of Regents adopted a resolution to bring staff in positions eligible for the Faculty Retirement Plan under Social Security (OASI) coverage subject to a referendum voted favorably by members of the plan. The referendum was completed on October 25, 1955 with results as follows: of 957 eligible to vote, 927 "Yes" votes, 17 "No" votes, and 13 failed to vote. The coverage was retroactive to January 1, 1955, which coverage date made it possible for staff retiring as early as June 15, 1956 to receive maximum OASI retirement benefits; such coverage date also made it possible for all eligible staff to be covered under the valuable OASI survivors' benefits as early as April 1956.

Academic Retirees—By action of the Board of Regents, effective July 1, 1957, 112 individuals retired before 1956 received an increase in their retirement supplements provided from University funds ranging from \$120 to \$300 per year. This did not include individuals who retired as president, dean, or who retired earlier than the compulsory date.

Civil Service Staff Members in the State Employees Retirement Association (SERA)—As a result of legislation enacted in the 1957 Legislative session and a referendum voted favorably by the SERA members, University Civil Service staff were covered by OASI retroactive to January 1, 1956. A revised SERA plan was co-ordinated with OASI effective December 31, 1957 which substantially increased retirement and disability benefits and added the valuable survivors' benefit from OASI.

Inclusion of Full-time Lecturers and Full-time Academic "T" and "X" Appointees Under OASI—On May 9, 1958, the Regents of the University of Minnesota adopted a resolution for the establishment of a Social Security coverage group which included full-time Lecturers and full-time appointees

of Instructor or Research Fellow or above on "T" and "X" appointments. The Social Security coverage for this group was made effective July 1, 1958.

Group Hospitalization—On December 15, 1956, the University of Minnesota Group Hospitalization Service Plan which had been operative since September 16, 1938 was dissolved; all University staff coverage was transferred on that date into a University group in Minnesota Blue Cross.

Other Insurance Including Fire, Liability, Workmen's Compensation, Property Floater, Marine, Boiler, Aircraft, Surety and Motor Vehicle—While the volume in the above insurance categories showed an expected increase in the 1956-58 biennium, University policy on insurance was relatively unchanged and problems related to insurance were very similar to those of the preceding biennium.—R. F. ARCHER, *director*

PATENTS

Assignments of Patent Applications, 1956-57

Assignment of Application for Patent Serial No. 597,764, William G. Kubicek, Alternating Pressure Seat

Assignment of Application for Patent Serial No. 598,684, Richard A. DeWall and Clarence W. Lillehei, Oxygenator

Assignment of Application for Patent Serial No. 603,816, William E. Parham, Acetylenic Ethers

Assignment of Application for Patent Serial No. 606,416, Wallace W. Lindermann et al, Ion Sink Vacuum Tube

Assignment of Application for Patent Serial No. 610,793, Edgar L. Piret et al, Pelletizing Binder and Method

Assignment of Application for Patent Serial No. 616,372, Hermann Schlenk et al, Formation of Inclusion Compounds

Assignment of Application for Patent Serial No. 619,443, Norman F. Schulz, Magnetic Roasting Process and Apparatus

Assignment of Application for Patent Serial No. 638,968, John Riede et al, Magnetic Shield for Coils

Assignment of Application for Patent Serial No. 534,295, John Riede et al, Coil Construction

Assignments of Patent Applications, 1957-58

Assignment of Application for Patent Serial No. 656,175, Richard A. DeWall, et al, Oxygenator

Assignment of Application for Patent Serial No. 679,525, Lloyd H. Reyerson, et al, Nylon Treating Method

Assignment of Application for Patent Serial No. 670,424, Leroy E. Schulze, Fiber Cleaning Process

Assignment of Application for Patent Serial No. 699,276, Henry H. Wade, Ignition Method and Apparatus

Patents Received, 1957-58

Original Patent No. 2,813,810 (Application Serial No. 433,832), Fred Smith, et al, Separation of D-Glucose and D-Fructose

Original Patent No. 2,805,141 (Application Serial No. 432,063), Wayne E. Apuli, Pelletizing Process

Original Patent No. 2,821,469 (Application Serial No. 335,539), Edward W. Davis, Grate Type Pelletizing Process and Apparatus

Original Patent No. 2,827,452 (Application Serial No. 512,324), Hermann Schlenk, et al, Stabilization of Materials

Original Patent No. 2,834,707 (Application Serial No. 312,854), Fred Smith, et al, Insecticide

CASH GIFTS

Summary of Gifts, 1956-57

(Exclusive of Federal and State)

Expendable

For Education and Research	\$2,364,941.30	
For Student Aid	576,958.56	
For Other Purposes	348,760.33	
Total Expendable		\$3,290,660.19

Capital

Endowment		
For Education and Research	\$ 13,465.42	
For Student Aid	69,333.31	
For Other Purposes	3,449.00	
Operating Temporarily as an Endowment	242.50	
Loan Funds	1,076.81	
Plant Funds	486,096.84	
Total Capital		566,765.88
Grand Total		\$3,857,426.07

Summary of Gifts, 1957-58

(Exclusive of Federal and State)

Expendable

For Education and Research	\$2,897,321.05	
For Student Aid	682,951.29	
For Other Purposes	503,664.37	
Total Expendable		\$4,083,936.71

Capital

Endowment		
For Education and Research	\$ 56,189.39	
For Student Aid	245,548.80	
For Other Purposes	186,079.74	
Operating Temporarily as an Endowment	1,454.50	
Loan Funds	13,607.07	
Plant Funds	954,552.79	
Total Capital		1,457,432.29
Grand Total		\$5,541,369.00

—W. T. MIDDLEBROOK, vice president

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A list of the publications of the faculties of the University of Minnesota for 1956-57 and for 1957-58 are contained in separate publications.

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