

University of Minnesota

BIENNIAL REPORT

of the President and of the Board of Regents

1954 - 1956

to the

Legislature of the State of Minnesota

Approved and Adopted by the Board of Regents

June 30, 1956

THE BOARD OF REGENTS

	Term Expires
JAMES F. BELL, Minneapolis - - - - -	1957
EDWARD B. COSGROVE, Le Sueur - - - - -	1961
DANIEL C. GAINNEY, Owatonna - - - - -	1961
RICHARD L. GRIGGS, Duluth - - - - -	1957
MARJORIE J. HOWARD, Excelsior - - - - -	1959
GEORGE W. LAWSON, St. Paul - - - - -	1957
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 - - - - -	1957
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, 1956.

This report is a summary of the completed operations of the University, the abbreviated story of an important state enterprise and its manifold activities during a two-year period. Such an accounting is possible only through the help and cooperation of the administrators, faculty members, and civil service staff of the University, and I want to express my deep gratitude to all of them for their invaluable assistance.

It is unavoidable that the information about the various departments and divisions be only summaries. A modern university is so complex an institution that no report could possibly encompass all of its activities, and many important details have had to be omitted or condensed. The report as a whole, however, does give an impressive over-all picture of the size and scope of the University, and of its achievements. Those who read it in its entirety will come to realize the full significance of the University, and its vital role in the continuing progress of the State of Minnesota—and indeed, of the nation.

Academic Achievements—The University of Minnesota took many academic strides during the biennium. The section of this report dealing with University personnel details the many honors and awards received by our distinguished faculty, whose local, national, and international recognition has brought great honor to the University and to the State.

The section dealing with Colleges and Schools demonstrates the continuous academic progress of the divisions of the University. The continual increase in the number of young people seeking higher education, coupled with the constantly expanding body of knowledge—especially in technical and scientific fields—poses a series of vital problems that the University must face. Far-reaching and long-range plans are being made, and this report includes a discussion of them and some of the important steps already taken.

Greater Student Participation—During these two years, the University students themselves participated more than ever before in the administration of student affairs. In May, 1954, for example, the University Senate clarified the Conduct Control Policy, the basic pattern for directing student organizations. The purpose of this instrument is to “bring the governing of student affairs as close to the governed as possible.” This redefined broad policy enabled each student organization to establish its own policies for governing its activities, and for securing the compliance of its members with the purposes of the basic pattern established by the University.

In April, 1955, the Senate Committee on Student Affairs was reorganized. Composed of 26 members, this committee consisted of faculty, students, alumni, and administrators, with student membership exceeding all others by at least one person. The committee supervises those student affairs and organizations which are within the jurisdiction of the University Senate and not within the control of any other Senate committee.

The students were also granted further rights within the Senate, such as the right of appeal by student organizations from decisions affecting their operations, and the rights of All-University Congress student members to hear more of the policy discussions within the Senate.

Further Honors in Medicine—With the development of a new technique of “dry-heart” surgery, the University of Minnesota reaffirmed its position in the forefront of medical research and technique. This method involves by-passing the heart of the patient and shunting his blood through the body of another person during the operation, so the heart may be “dry.” First announced in April, 1954, this new kind of surgery was developed by a team directed by Dr. C. Walton Lillehei. He and the collaborating surgeons, Dr. Richard L. Varco, Dr. Herbert Warden, and Dr. Morley Cohen, are all of the Department of Surgery directed by Dr. Owen H. Wangensteen.

Dr. Ancel Keyes, director of the physiological hygiene laboratory, was named a delegate to the World Health Organization committee meetings held in Switzerland in November, 1955.

In 1956 Dr. Wesley W. Spink was renamed brucellosis consultant for the World Health Organization, for which the University is the center of brucellosis information and research for the Western Hemisphere. In the fall of 1956 the University Press published the story of Dr. Spink's twenty years of research, in his book *The Nature of Brucellosis*, which was described as “the biography of a disease and the autobiography of a laboratory and clinic devoted to a study of that disease.”

UNESCO Council Member—Dean Athelstan F. Spilhaus, of the Institute of Technology, was nominated in 1954 as United States member of the 22-man United Nations Educational, Scientific and Cultural Organization's Executive Council.

MURA Member—The University of Minnesota was one of the members of the Midwestern Universities Research Association (MURA) which on September 27, 1954, became a corporation for cooperative research in high-energy physics. In this corporation the universities of Illinois, Indiana, Iowa, Michigan, Wisconsin, and Minnesota, as well as Purdue University and Iowa State College, combined forces for the creation of cooperative laboratories. The initial objectives of this group included (1) determining the form of organization most advantageous for operating such a laboratory; (2) establishing such an organization; (3) determining the best environmental and geographical conditions; (4) recruiting a group of young physicists most directly concerned with using a high-energy laboratory; and (5) taking immediate steps to raise funds for the study program and eventual construction of a high-energy machine.

University of Minnesota representatives on the initial MURA board were Mr. L. R. Lunden, comptroller and treasurer, and Professor John H.

Williams, of the Department of Physics. Dr. Williams was elected president of the association on March 20, 1956, and Mr. Lunden was re-elected secretary.

Seoul University Project—In the fall of 1954, the University initiated a project to help in the rehabilitation of Seoul National University in Korea, under a contract with the Foreign Operations Administration. During the biennium important progress was made at the Korean institution, in the medical sciences, engineering, and agriculture, with members of the University of Minnesota faculty serving in consultative capacities.

Mayo Memorial Building Dedicated—One of the most noteworthy achievements of the biennium was the completion of the Mayo Memorial Building. This 14-story structure, which cost approximately \$12,000,000, was formally dedicated on October 21-22, 1954. Tallest of the University's present buildings, it dominates the Minneapolis campus horizon. This magnificent structure unifies the University's Medical Center, and furnishes long-needed additional space. Its facilities include laboratories for medical and surgical research, classrooms and laboratories for teaching medical sciences, and additional beds for patients of the University Hospitals.

Cedar Creek Forest—Of major importance to the University and the State of Minnesota is the development of Cedar Creek Forest, in northern Anoka and southern Isanti counties. This project was first conceived in the early thirties, and in 1952 the Minnesota Academy of Science became an actively interested partner.

During the biennium the Greater University Fund obtained a grant of \$250,000 from the Max C. Fleischmann Foundation, of Nevada, to be used in further development of the project. This grant made possible the purchase of more land, the planning of adequate buildings, and the setting aside of funds for operating and maintenance expenses. The Cedar Creek Forest will provide scientists with an opportunity to study wild animal and plant life in its natural habitat, in a relatively undisturbed and uncontrolled "wilderness area."

Growth of the Duluth Branch—The Duluth division of the University of Minnesota continued to expand during the biennium, with its new construction located on the spacious hillside area adjacent to the present campus. Dedicated in 1956 were new dormitories, a new student center, and a new library. Another academic milestone was passed at UMD in 1954, when at the August commencement held on the Minneapolis campus the Duluth Branch conferred its first Master of Arts degrees.

Religious Opportunities—The University's recognition of the importance of spiritual matters was given concrete expression when the Board of Regents encouraged several of the religious foundations to construct proposed new student centers on property earlier earmarked for University condemnation and use. The Regents set aside an "island" of property to be devoted to these centers, an area to be intentionally omitted from plans for proposed University building expansion. Three Protestant denominations will build new student centers on this "island." These will be the Westminster Foundation (Presbyterian), St. Timothy's House (Epi-

copalian), and the Pilgrim Foundation (Congregational). In an adjoining block on University Avenue, the Hillel Foundation opened its new student building on January 6, 1955.

The Regents clearly expressed the University's attitude toward the significance of spiritual guidance, in the following statement issued at the time of reserving the land for these foundations:

We are fully mindful of the high purpose and commendable programs of the religious foundations to meet the spiritual and related social needs of the many students of their particular faiths. We appreciate the role student religious centers can play in assisting the University, on the one hand, to carry the enormous student load that is already developing; and on the other, to provide for the students the opportunity to develop into well-balanced young men and women by providing religious programs and activities in an environment that in a state university would otherwise not be available.

Looking to the Future—The foregoing brief examples of the University's progress—academic achievements, new buildings, honors and awards, etc.—are merely a representative few of the significant activities that occurred during two years of the life of this institution. They are highly important, of course, but a university's success depends upon its constant ongoing. It must utilize the past, serve effectively in the present, and make sound plans for the future. The continuing achievements of the University depend upon careful and detailed planning, planning which recognizes the complex and manifold aspects of the problems yet to come.

It is estimated that 47,000 students will be enrolled in the University of Minnesota in 1970; such an increase challenges the responsibilities of this institution to the people of the State. With the prospect of a future student body more than double the size of the present one, it becomes imperative to make plans for more space, an increased faculty, and a larger supporting staff of civil service employees. During the biennium the University conducted an exhaustive survey of its present status and future requirements, in building and space needs, and in operations.

Building Survey—In 1955 the Minnesota State Legislature established a commission to study the building needs of the entire state. In consequence, the State Commissioner of Administration, Dr. Arthur Naftalin (on leave from his University position as professor of political science), requested that members of the University staff undertake the study of the University's contemplated building and land needs up to 1970.

Mr. William T. Middlebrook, Administrative Vice-President, directed this study; it was made by the University's Physical Plant Department, the Office of Admissions and Records, advisory architects, University Services, and the Comptroller's Office. Space needs were computed on the basis of five-year intervals, convenient units for long-range planning. The resulting information was then reorganized into two-year periods in accordance with the University's biennial financing by the legislature.

The survey resulted in a 15-year building program estimated to cost \$128,054,608. The résumé of this survey, which attracted great interest among institutions comparable to the University of Minnesota, is scheduled for publication by the University Press.

University Self-Survey—The second biennial project looking to the future was the University's self-survey, originally suggested as a "comprehensive over-view of the University as a whole in relation to its responsibilities to the state and to the nation."

The survey was begun in November, 1954, by a committee headed by Dr. Theodore C. Blegen, Dean of the Graduate School. The study continued the tradition of institutional self-analysis and self-criticism that has contributed so much to Minnesota's pioneering in educational methods and philosophies. It was designed to help bring before the legislature a clear picture of the University and its functions of instruction, research, and public service, together with its proposals for meeting the developing needs of the state. For the University's own guidance the study was also planned to develop a set of unified and explicit goals for the next decade.

The results of these two self-investigations, the conclusions reached and the recommendations made, are among the most important achievements of the biennium.

Former President Dies—Dr. Walter C. Coffey, the seventh president of the University of Minnesota, died in Florida on January 31, 1956, a few hours before his eightieth birthday. Much of Dr. Coffey's life was devoted to service to the University and to the State of Minnesota, and the entire University community mourned his passing.

New Regent Chosen—The 1955 Legislature elected Mr. Edward E. Cosgrove of LeSueur to replace Dr. E. E. Novak of New Prague, who had served as a member of the Board of Regents for eighteen years. In November, 1954, Dr. Novak was honored by being named Minnesota's "physician of the year" by the Minnesota State Medical Association.

In Conclusion—With the close of the 1954-56 biennium, there is completed a decade of University of Minnesota history in which I have been fortunate enough to be a participant. As I look back over this period, I want to renew my personal tribute to the staff of the University, whose loyal and effective service keeps it nationally prominent and renders it a faithful servant of the people of the State of Minnesota. Their devoted efforts, and their continued cooperation in day-to-day duties, maintain one of the nation's leading institutions of higher learning; their farsightedness in planning for the future guarantees that it will continue to hold a high place among the universities of the world. For their devotion, and their loyalty, I want to express the gratitude and appreciation of the whole University. The results of their efforts, the fruits of their labors, are detailed in the pages which follow.

THE PRESIDENT'S REPORT

SIGNIFICANT EVENTS, ACTIVITIES, AND ACTIONS, 1954-56

College of Education Celebrates 50th Anniversary—The College of Education celebrated its fiftieth anniversary at a banquet in Coffman Memorial Union on March 28, 1956. The College of Education, which was created by an act of the Board of Regents on December 12, 1905, officially opened in 1906 with George R. James as the first dean. Those events were commemorated. Noted also was the charter of the University of Minnesota (1851) which mentioned teacher training for the "common schools" as one of the five basic functions of the University. Beardsley Ruml, economist and tax-expert, delivered the principal address. President J. L. Morrill spoke for the University and presented Outstanding Achievement Awards to seven outstanding alumni of the College: G. Lester Anderson, Theodore J. Berning, Leif S. Harbo, George Selke, Homer J. Smith, Esther J. Swenson, and Edwin Ziegfeld. Representing the College as speaker was Dean Walter W. Cook.

Institute of Child Welfare Marks 30th Anniversary—A three-day conference December 7-9, 1955, commemorated 30 years of the Institute of Child Welfare's research in child development.

In 1925 the University called Professor John E. Anderson, who was also honored at the conference, to organize the program in child development research with a grant from the Rockefeller memorial fund. In 30 years the program increased to 50 courses covering human growth and development. In honor of the occasion, the Board of Regents passed the following resolution on November 19, 1955:

WHEREAS, Thirty years have passed since the official appointment of John E. Anderson to the faculty of the University of Minnesota; and

WHEREAS, Professor Anderson, through his vision and guidance, established and for twenty-nine years directed the University's Institute of Child Welfare, which has gained international recognition as a center for research in development of child behavior; and

WHEREAS, His dedicated interest in the scientific study of children has challenged others and brought him the acclaim of his professional colleagues; and

WHEREAS, His continuing concern for the welfare of children has been manifest in his concrete contributions to organization and programs on the state and national levels; therefore

Be It Resolved, That the Regents of the University of Minnesota express to John E. Anderson their admiring recognition of his scholarly and practical devotion to the welfare of children and extend to him appreciative greetings as he completes three decades of achievement at the University of Minnesota and enters upon further years of productive research and service.

Coffman Memorial Union Observes 15th Anniversary—The fifteenth anniversary of the opening of Coffman Memorial Union on October 4, 1940, was celebrated at an afternoon party November 22, 1955, in the Union Main Ballroom. Since that opening, more than a million and a half persons have taken part in student programs sponsored by the Union Board of Governors.

President J. L. Morrill was installed at the party as an honorary member of the Union Board of Governors.

Celebrate 10th Anniversary of Industrial Relations Center—The Industrial Relations Center observed its tenth anniversary with a dinner, luncheon and special convocation on October 14, 1954.

At the dinner meeting, in the Coffman Memorial Union Main Ballroom, George W. Lawson, University Regent and retired secretary-treasurer of the Minnesota State Federation of Labor, was presented a special University of

THE PRESIDENT'S REPORT

Minnesota Board of Regent's citation by Walter C. Coffey, who was University President when the Industrial Relations Center was established in 1945.

Principal speaker at the banquet was Paul G. Hoffman, chairman of the board of Studebaker-Packard corporation, former ECA director and president of the Ford Foundation. Convocation speakers were James Carey, president of the International Union of Electrical, Radio and Machine workers, and Howard L. Richardson, vice president of Industrial Relations, Sylvania corporation. Former staff members were honored at a luncheon.

University Citation Given Lawson—A special University of Minnesota Board of Regent's citation was presented to Regent George W. Lawson, retired secretary-treasurer of the Minnesota State Federation of Labor, during the tenth anniversary celebration of the Industrial Relations Center. The award was presented on October 14, 1954, by Walter C. Coffey who was president of the University in 1945 when the IRC was founded. Its text follows:

REGENT OF THE UNIVERSITY OF MINNESOTA SINCE 1933
DISTINGUISHED STATESMAN OF THE LABOR MOVEMENT
EXPONENT OF INDUSTRIAL COOPERATION IN A FREE ECONOMY
WISE AND RESPECTED COUNSELOR
WHOSE VISION AND UNDERSTANDING WERE INSTRUMENTAL
IN THE ESTABLISHMENT OF THE INDUSTRIAL RELATIONS CENTER
OF THE UNIVERSITY OF MINNESOTA
AND A STIMULATING INFLUENCE IN ITS SUCCESSFUL DEVELOPMENT;
BECAUSE HIS LIFE'S WORK IS REFLECTED IN
IMPROVED INDUSTRIAL RELATIONS IN MINNESOTA
AND BECAUSE HIS YEARS OF SERVICE TO THE CAUSE OF HIGHER EDUCATION
HAVE BEEN OF INVALUABLE AID IN MAINTAINING
THE TRUST AND CONFIDENCE OF THE PEOPLE OF MINNESOTA
IN THEIR UNIVERSITY,
THE REGENTS OF THE UNIVERSITY OF MINNESOTA EXPRESS TO
George W. Lawson
THEIR UNBOUNDED APPRECIATION FOR ALL THAT HE IS AND HAS MEANT
TO THE UNIVERSITY AND TO THE STATE OF MINNESOTA

Voted This Twenty-fifth Day of September, Nineteen Hundred and Fifty-four

Dedicate Mayo Memorial—In memory of Dr. William J. Mayo and Dr. Charles H. Mayo, the new Mayo Memorial of the University of Minnesota Medical Center was dedicated in ceremonies October 21 and 22, 1954. Dr. Alan Gregg, vice-president of the Rockefeller Foundation, was the main speaker at the dedication banquet on October 21 in Coffman Memorial Union. Dr. Harold S. Diehl, dean of the College of Medical Sciences, presided with the following others representing the designated groups: Dr. Donald J. Cowling, Committee of Founders; Governor C. Elmer Anderson, State of Minnesota; Dr. Leonard A. Scheele, United States Public Health Service; and President J. L. Morrill, the University.

Dr. Cowling Receives "Builder of the Name" Award—"Builder of the Name," the University's highest award, was presented to Dr. Donald J. Cowling at the dedication ceremony October 21, 1954, of Mayo Memorial.

The citation, read by President J. L. Morrill in conferring the award, is as follows:

The Regents of the University of Minnesota
as a token of high esteem,
and in recognition of services to the University by
DONALD J. COWLING
for thirty-six years distinguished President of Carleton College,
lifelong exponent of progress and freedom in higher education,
unstinting worker for the advancement of the arts and sciences, of
religion and international understanding,
chairman of the Mayo Memorial Committee of Founders which
converted the dream of a medical research center into an actuality—
Deem him to be, and designate him, as
A BUILDER OF THE NAME
conferred on October twenty-first, Nineteen Hundred and Fifty-four.

Develop Cedar Creek Forest—A \$250,000 grant to the University in 1954 by the Max C. Fleischmann Foundation of Nevada made it possible to further develop the forest in northern Anoka and southern Isanti counties which since 1952 has been a joint undertaking of the University and the Minnesota Academy of Science. The project, which has interested the University since the late 30's has become known as the Cedar Creek Forest, and the Fleischmann grant makes possible its completion as a botanical and zoological laboratory. Purposes of the grant and the amount apportioned for each by the foundation are: \$165,000 for the acquisition of additional land; \$10,000 for operating and maintenance expenses; and \$75,000 for the construction of a headquarters-laboratory building. The area is to be left, as far as possible, in the natural wild condition with a minimum of management or disturbance. Director of the project is Arthur N. Wilcox, University horticulture professor.

Change Building Name—The name of the old Child Welfare Building was changed in May, 1955, to the Music Education Building. The structure now houses music education programs of the College of Education.

Dedicate Rehabilitation Center—A new rehabilitation center was dedicated at the Mayo Memorial on Sunday, October 31, 1954. Representing the University as speakers were President J. L. Morrill; Dr. Harold S. Diehl, dean of the College of Medical Sciences; and Ray Amberg, director of the University Hospitals.

Other speakers were Mrs. O. H. Olsen, founder of Crippled Child Relief, an organization which the same year celebrated the twenty-fifth year of its founding, and which donated \$68,000 to the rehabilitation center for physical and occupational therapy equipment; Mrs. Richard Seelye, president of the organization; James E. Perkins, managing director of the National Tubercular association, Washington, D C.; and Mary Switzer, director of the national department of health, education and welfare, Washington, D. C.

Dedicate Student Center and Dormitories at Duluth Branch—The Student Center and dormitories at the University Duluth Branch were formally dedicated Friday, June 22, 1956, in the ball room of the Center. At a Pre-Dedicatory dinner the preceding evening in the Kitchi Gammi Club, Regent R. L. Griggs presided. Guests, which included members of the University's Board of Regents, were welcomed by Provost R. W. Darland. Main speaker was President J. L. Morrill.

Greetings by the Regents were presented on the occasion to one of its members, Mr. Griggs. The Greetings, which were adopted by the Board of Regents May 11, 1956, were as follows:

WHEREAS, The Honorable Richard L. Griggs was named a Regent of the University of Minnesota by the Legislature of 1939; and

WHEREAS, down through the years his conscientious, effective, and constructive participation in deliberations by the Board on all University problems and policies has contributed so greatly to the advancement of the institution; and

WHEREAS, his wisdom and experience, coupled with insightful understanding of the interests and the needs of the region in which he lives, have given special weight to his advice and counsel ever since the affiliation of the Duluth Branch with the University, and likewise have made of him a trusted and respected spokesman for his fellow citizens; and

WHEREAS his vision of the future of the Duluth Branch and its meaning in the lives of young people for generations to come, has been reflected in his own generosity, in the benefactions that he has stimulated on the part of others, and in Legislative support; now

Therefore Be It Resolved, that the Regents of the University by this formal action express to their colleague, Richard L. Griggs, their unbounded appreciation and gratitude for his devotion to the University and to the Duluth Branch in particular; and, taking advantage of the dedication of the new Student Center—which he played an instrumental role in obtaining—they commend him for his years of faithful and loyal service to the Duluth community, to the University, and to the State; and, most important of all, by this action they publicly testify to the admiration and the affection in which they hold him as a colleague and a friend.

Architects for the structures were: A. Reinhold Melander, Duluth, principal architect, and Winston A. Close, University advisory architect. General contractors were: Student Center, J. D. Harrold Company, and dormitories, Fowler-Veranth Construction company. Other contractors for both buildings were: mechanical, Carlson-Miller company, and electrical, Commercial Electric company.

The Student Center continues the contemporary style of architecture established with the construction of the UMD Science Building opened in 1950. Predominant feature is a series of bays separated by Gray Mankato stone pillars. Exterior finish of the building is red brick with Gray Mankato stone as trim. On the first floor are student lounges, organization rooms and the office of the Student Personnel Services. On the second floor are the cafeteria and dining rooms, and on the third floor are the ballroom and auxiliary food services. The dormitories are eight-resident units with a continuous corridor as well as lounges, laundry facilities and other services.

Dedicate Duluth Branch Library—The new library at the Duluth Branch was dedicated during University Week, February 20-26, 1956, and featured a Library Conference Friday, February 24, and an Open House Sunday, February 26. During the Conference, Malcolm M. Willey, vice president, academic administration, delivered the dedicatory address, "The Wonderful World of Books."

Ground for the library was broken April 20, 1954, and the building was occupied in September, 1955. The 1953 Legislature appropriated \$70,000 for the building and equipment. Architects were A. Reinhold Melander; Norman Fugelso, Associate; and Winston A. Close, University advisory architect. General contractor was Fowler Veranth Construction company, and the other major contractors were Carlson-Miller Company, Zimm Sheet Metal and Universal Electric. The building features an impressive main stairway with greenstone walls and an aluminum balustrade. Rift-grained oak paneling in the lobby areas and on a 15-foot service desk complement the airy spaciousness of the library, which has a seating capacity of about 250 and 75,000-volume book space.

Freeman Awarded "Builder of Name" Honors—"Builder of the Name," the University's highest award, was conferred posthumously upon Edward Monroe Freeman. The medal and citation, conferred on June 12, 1954, were presented to Mrs. Freeman August 31, 1954, by Professor E. C. Stakman. Dean Freeman died February 5, 1954. He had served for 25 years as dean of the University's College of Agriculture, Forestry, and Home Economics.

Text of the citation is as follows:

The Regents of the University of Minnesota
As a token of high esteem and
in recognition of services to the University by

EDWARD MONROE FREEMAN (1875-1954)

For twenty-five years Dean of the University's
College of Agriculture, Forestry, and Home Economics
Founder of its world-renowned plant pathology department
Dynamic teacher in lecture hall, field, and laboratory
Revered for his devotion to the highest educational standards
Beloved by students for his wise and generous counsel
Deem him to be and designate him as a

BUILDER OF THE NAME

Conferred on June twelfth, nineteen hundred and fifty-four.

Honorary Degrees—Three honorary degrees were conferred at the commencement exercises, June 9, 1956, and one was conferred at commencement exercises, December 15, 1955. The honorary degree, doctor of science, was conferred on Edward W. Davis; the honorary degree, doctor of law, on Dr. Frederick L. Hovde; and the honorary degree, Master of Arts, on Russell A. Plimpton, all at the June exercises; and the honorary degree, master of arts, on Carl Fredrik Hellstrom at the December exercises.

The official citations for the honorary degrees were as follows:

EDWARD W. DAVIS

A HOOSIER by birth, and a distinguished graduate of Purdue University; for 43 productive years a member of the faculty of the University of Minnesota, where for 20 years he served as Superintendent of the Mines Experiment Station, and for 13 subsequent years, as its Director; unyielding advocate, year in and year out, of the need for developing methods to concentrate Minnesota's abundant supply of intermediate grade ores as a means of strengthening the economy of the state and the security of the nation; patient researcher whose indomitable enthusiasm and persuasiveness did ultimately eventuate in commercially feasible processes to utilize the vast taconite resources of this state—

BECAUSE you have persevered where others would have become discouraged; because you have applied a rich background of scientific knowledge to the solution of a major problem of your adopted state; because your persistence and your leadership have assured this nation of adequate supplies of iron and steel for generations to come; because you personally, as "Mr. Taconite," are a symbol of what can be achieved by a scholar in action, the Regents of the University of Minnesota, upon recommendation of the faculties, confer upon you, Edward W. Davis, the degree of Doctor of Science, *honoris causa*, with all the rights and privileges pertaining to that degree.

FREDERICK L. HOVDE

NATIVE son of Pennsylvania; Rhodes Scholar and distinguished graduate of Oxford University as well as of the University of Minnesota on whose faculty his educational career began; chemical engineer by training, whose understanding of the relationship between science and the national security made him a central figure in the war-time councils of this country and Great Britain; because of his unique services during the war years, the recipient of the Medal for Merit, bestowed by the President of the United States, and the King's Medal for Service in the Cause of Freedom, bestowed by the British Government; trusted participant in the innermost activities of such agencies as the National Research and Development Board and the National Research Council; brilliant administrator, whose rare abilities now find expression in the contributions that he makes as President of Purdue University and to the activities of innumerable national educational committees and agencies—

BECAUSE you have so capably guided the development and expansion of the educational, research, and service facilities of Purdue University, to the great benefit of the citizens of Indiana and the nation as well; because of your major contributions in the field of scientific research and your leadership in marshalling the resources of science in the never-ending struggle to perpetuate a free world; and best of all, because your distinguished attainments have exemplified the highest hopes of your Alma Mater, the Regents of the University of Minnesota, upon recommendation of the faculties, confer upon you, Frederick L. Hovde, the degree of Doctor of Laws, *honoris causa*, with all the rights and privileges pertaining to that degree.

RUSSELL A. PLIMPTON

NATIVE of the State of New York; graduate of Princeton University; for five years Assistant Curator of Decorative Arts of the Metropolitan Museum of Art; for 35 years the discriminating and far-visioned Director of the Minneapolis Institute of Arts, which under his sound leadership developed from modest but hopeful beginnings to a position of world eminence; discriminating connoisseur whose judgment has brought enviable distinction to the Institute's wide-ranging collections; a leader always sensitive to the cultural needs of the community in which he has so long and so faithfully served, and who has ever sought to enhance public appreciation of what art can and does mean in a community—

BECAUSE of the significant and enduring contributions you have made to the advancement of art in the Upper Midwest, and because of all that you have achieved in broadening and enriching the facilities of the Minneapolis Institute of Arts, thereby broadening and enriching the lives of numberless men and women, the Regents of the University of Minnesota, upon recommendation of the faculties, confer upon you, Russell A. Plimpton, the degree of Master of Arts, *honoris causa*, with all the rights and privileges pertaining to that degree.

CARL FREDRIK HELLSTROM

BORN in Stockholm, Sweden; graduate in law from Uppsala University; for eight years a reserve officer in the Swedish First Guard Regiment; dedicated from young manhood to the diplomatic service; holder of important consular assignments in Germany, Finland, Norway, Austria, Hungary, and Lithuania; since 1927 respected representative of Sweden in the United States, serving for more than twenty years as Swedish consul general in Minneapolis; connoisseur of fine arts, and beloved member of the community—

BECAUSE, as a distinguished representative of your country for nearly thirty-five years, you have done so much to foster international amity; because you have displayed a profound interest in the arts and in community affairs; because you have come to symbolize the happy and enduring relationships between the residents of your country and of Minnesota, the Regents of the University of Minnesota, upon recommendation of the faculties, confer upon you, Carl Fredrik Hellström, the degree of Master of Arts, *honoris causa*, with all the rights and privileges pertaining to that degree.

Outstanding Achievement Medals Conferred—Outstanding Achievement medals and citations, authorized by the Board of Regents on December 11, 1947, had been conferred on 225 individuals through June 30, 1956. This total included two for 1946-48, three for 1948-50, 129 for 1950-52, 41 for 1952-54 and 50 for 1954-56.

The 50 honors conferred during 1952-54 were presented at various events—dinner, luncheon, breakfast, dedications, pre-commencement exercises, 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:

Bernard Aabel, Phar.
G. Lester Anderson, Ed.
Joseph A. Anderson, I.T.
E. Earle Aynow, I.T.
S. Clark Beise, Bus.
Theodore J. Berning, Ed.
Bernard W. Bierman, S.L.A.
Guy Richard Bisby, Ag.
Ben D. Black, Bus.
George O. Burr, I.T.
Angus E. Cameron, I.T.
Helen G. Canoyer, Bus.
Norman S. Cassel, I.T.
Victor Christgau, Ag.
Lawrence Adrian Clousing, I.T.
Olive H. Crosthwait, Pharm.
Miles A. Dahlen, I.T.
Hedley W. Donovan, S.L.A.
Robert M. Gaylord, S.L.A.
Robert R. Gilruth, I.T.
Leif S. Harbo, Ed.
Robert H. Jewett, I.T.
Sherman E. Johnson, Ag.
Algot F. Johnson, I.T.
Fred R. Kappel, I.T.

Kenneth Albert Kobe, I.T.
Alois F. Kovarik, S.L.A.
Leonard W. Larson, Med.
Margaret Newton, Ag.
Elmore Hathaway Northey, I.T.
Evelyn Bergstrand Owens, Ag.
Thomas W. Phelps, S.L.A.
William Lloyd Prosser, Law
John H. Ray, S.L.A.
George Russell, Bus.
Lewis A. Rodert, I.T.
Harrison E. Salisbury, S.L.A.
John B. Sanborn, S.L.A.
George Selke, Ed.
Morse J. Shapiro, Med.
Merwin H. Silverthorn, Dent.
Edwin J. Simons, Med.
Homer J. Smith, Ed.
Walter A. Spivak, I.T.
Homer Joseph Stewart, I.T.
George F. Strong, Med.
Lloyd Edward Swearingen, I.T.
Esther J. Swenson, Ed.
Henry Clay Yutz, I.T.
Edwin Ziegfeld, Ed.

Minnesota AAUP Honors Morrill's 10th Anniversary as President—President J. L. Morrill was presented with greetings from the Minnesota Chapter of the American Association of University Professors on the tenth anniversary of his inauguration. The greetings were extended to him at a dinner meeting in the Campus Club on May 12, 1955.

Text is as follows:

GREETINGS

On this tenth anniversary of your inauguration Mr. President, mindful as we are of the broad understanding, the vision, and the selfless devotion and good nature with which you have presided over our University, so formidable in its size and complex organization, during years when, as we are well aware, your high office has known little respite from the challenge of a welter of uncommonly urgent pressures from both within and outside the boundaries of the institution, and mindful likewise of the statesmanship with which you have upheld before a wide public the dignity of scholarship and represented the University in its legal relations with other agencies of the government of our State, and of the measure of success that has attended your labors to claim for the services performed by the University due recognition and material support, we desire hereby to express our deep appreciation and to extend you our sincere good wishes.

WITNESS MINNESOTA CHAPTER, AAUP

Francis M. Boddy, President
Ruby B. Pernel, Secretary

Given at Minneapolis this twelfth day of May
in the year one thousand nine hundred fifty and five

Honor J. A. A. Burnquist Upon Retirement—Greetings from the Board of Regents were presented to the Honorable Joseph A. A. Burnquist, attorney general of the State of Minnesota from 1939 until his retirement in 1955, at a retirement dinner January 6, 1955, in Coffman Memorial Union. The following greetings were presented:

WHEREAS, After a career of notable and distinguished public service that has included membership in the House of Representatives of the Minnesota Legislature, the lieutenant-governorship, the governorship, and the high office of attorney general, the Honorable Joseph A. A. Burnquist has reached the decision to relinquish his public office; and

WHEREAS, In his official position as attorney general he has over the years often been called upon by the Regents of the University to render opinions affecting the policies and practices of the University; and

WHEREAS, Because of his position he has also served in many significant cases as counsel for the Regents and the University; and

WHEREAS, In all these matters his sympathetic and penetrating consideration of the problems laid before him has revealed judgment and legal acumen which have inspired confidence and sincere respect;

Therefore Be It Resolved, That the Regents of the University of Minnesota do hereby express to Joseph A. A. Burnquist their grateful admiration for his years of public service, their profound respect for the qualities of mind that have contributed to his career as a servant of the State, and their appreciation of the constructive and conscientious fidelity that has characterized his attention to University affairs; and the Regents further direct

that this formal action be spread upon their minutes as a permanent record to mark the close of a distinguished and enviable career of a man whom the University is proud to honor, not only as one of its own alumni, but also as a devoted and revered public servant.

Middlebrook Completes 3 Decades of Service—Upon the thirtieth anniversary of service at the University by William T. Middlebrook, vice president, business administration, the Board of Regents, on October 1, 1955, presented him with the following greetings;

WHEREAS, the official appointment of William T. Middlebrook to the staff of the University of Minnesota is dated October 1, 1925; and

WHEREAS, Mr. Middlebrook has now for thirty years given devoted and distinguished service to the University which has, in truth, become his life and of which he is so loyally and fundamentally a part; and

WHEREAS, to his vision and imagination, as well as his practical acumen can be attributed many of the programs and projects that have redounded so outstandingly to the benefit of the institution and its staff; and

WHEREAS, it is Mr. Middlebrook's unquestioned ability as a fiscal officer in the field of higher education that has brought to the University of Minnesota its nation-wide eminence and leadership in this area; therefore

Be It Resolved, that the Regents of the University of Minnesota do, by this formal action, express to William T. Middlebrook their grateful appreciation for all that his fruitful years of service have meant to the University and to the State of Minnesota; and likewise they extend to him their kindest and friendliest personal regards as he completes three decades of a most useful and productive University life, and enters upon still further years of active service.

Honor Regent Charles W. Mayo—The 1955 award of the American Pharmaceutical Manufacturers Association was presented on December 13, 1955, to Dr. Charles W. Mayo, member of the Board of Regents. On Wednesday, December 14, 1955, the *New York Times* printed the following editorial tribute to Dr. Mayo:

Any one of his numerous contributions to medicine would justify the American Pharmaceutical Manufacturers Association in naming Dr. Charles W. Mayo the recipient of its 1955 Scientific and Research Award. A distinguished surgeon himself, Dr. Mayo has carried on and advanced the traditions of his illustrious father and uncle, whose names were synonymous with the finest in scientific medicine.

The American Pharmaceutical Manufacturers Association, however, has honored Dr. Mayo primarily for the contribution which he has made both to medicine and to world understanding as a member of the United States delegation to last year's General Assembly of the United Nations and for his leadership in the American Association for the United Nations. The political significance of international activities in public health, medical education and research has long been recognized. There has not, however, been an equal recognition of the personal contribution which individual physicians, such as Dr. Mayo, can make to diplomacy. The keen analytical perception which comes from the science of medicine blended with the quiet, easy dignity that is acquired through years of practice is a quality which can contribute to solving the problems of a politically sick world.

Death of Former President—Walter C. Coffey, former president and for 20 years director and dean of the Department of Agriculture, died January 31, 1956. The Board of Regents, in recognition of his service to the University, adopted the following resolution at a meeting on March 9, 1956:

WHEREAS, Death ended the rewarding and fruitful life of Walter Castella Coffey, seventh president of the University of Minnesota, on January 31, 1956, just a few hours before his eightieth birthday, and

WHEREAS, It brought to conclusion an active association with the University of Minnesota that began in 1921 with appointment as dean of the Department of Agriculture and was climaxed with retirement from the presidency in 1945, and

WHEREAS, As president, Dr. Coffey contributed significantly and with infinite wisdom to the on-going of the University and notably carried forward with distinction its war-time programs during the trying and uncertain years of world conflict, and

WHEREAS, Dr. Coffey exemplified in his life work at the University everything that a conscientious, judicious and steadfast administrator should be, and especially brought to the presidency a leadership characterized by a personal touch and warmth of personality that inspired the staff and endeared him to citizens of the campus and the state alike, and

WHEREAS, His simplicity, his forthrightness, his directness, his undeviating integrity, and above all his sympathetic understanding of his fellow human beings wherever he encountered them won for him universal loyalty and respect, touched with affection:

Therefore, Be It Resolved, That the Regents of the University, saddened as they are by the death of a beloved friend and colleague, do by this formal action express their appreciation for all that Walter Castella Coffey has meant over the years to this University

and this State, and likewise express their profound sense of loss, which they share with all the citizens of Minnesota who had during his long career come to regard Dr. Coffey as an outstanding educator, an agriculturalist of vision, a devout churchman, and a perfect symbol of "the good citizen"; and they do by this action also convey their sympathy to Mrs. Coffey and the members of her family, fully conscious of the fact that formal words cannot possibly measure the feelings of friendship and admiration that years of close association with Dr. Coffey have made so precious and so personal.

Resolutions with respect to Dr. Coffey were also adopted by the National Association of State Universities, the Rotary Club of St. Paul, the Faculty of the College of Agriculture, Forestry and Home Economics and the University of Minnesota Senate.

Establish Memorial Fund to University Faculty and Staff and Their Families—The University of Minnesota Memorial Fund to the University Faculty and Staff and Their Families was outlined by President J. L. Morrill on October 29, 1955, to the Board of Regents. The fund, operated as a special project of the Greater University Fund and administered by a committee of five members to be named by the President, was established to honor and perpetuate the memory of deceased faculty and staff members, or members of their families. Memorial gifts made to the fund without specific designation of purpose may be used for such things as scholarships, fellowships or other student aids, book selections, research or improvement of educational facilities.

Quiz Bowl Team Wins—For 12 successive weeks in 1954, the University Quiz Bowl team out-scored teams representing other colleges and universities and ultimately acquired cash awards which made possible a Quiz Bowl scholarship program. Members of the team, which was coached by John B. Wolf, professor of history, were Arthur John Arrowood, Grace Billings, George C. Mohlke, Colleen Helgeson Nelson, Joseph Shechtman and Eleanor B. Vaill. They were commended by a resolution from the Board of Regents on February 11, 1955.

In 1954 a comparably brilliant team, coached by J. William Buchta, Associate Professor of the College of Science, Literature, and the Arts, also won prize money which they designated for scholarship. Members of the 1954 team were Thomas Clayton, Jack Davies, Roger Feinstein, Colleen Helgeson and Mike Leivestad.

Commend University's Safety Program—The safety program of the University was commended by a letter from Vivian Weedon, curriculum consultant of the National Safety Council. President J. L. Morrill reported the commendation to the Board of Regents December 9, 1955.

A part of the letter is as follows:

I have followed the development of campus safety for the past few years and have found it to be a most interesting one. On some campuses the man in charge of safety is little more than a glorified custodian. In other cases "safety" was used as a word but in truth all that is being referred to is traffic safety and a very limited concept of traffic safety at that. In other campuses the main concern is with employees.

The University of Minnesota, in my opinion, is pioneering in a concern for safety which encompasses the entire campus and its activities and does not neglect the students and their education.

I know full well that Vice President Willey, Dr. Boynton, and her wonderful staff would be the first to admit that the University of Minnesota program is just starting and they still have a great distance to go before they will be anything like satisfied. My point is that they see the whole picture and even though they are only in the sketching stage they are giving attention to its entire scope.

You and the entire University of Minnesota are to be congratulated on this development which I am sure is going to be an important one not only in the colleges and universities of the country but in the safety of the entire nation.

New Hillel Foundation Building Dedicated—The Hillel foundation opened a new \$300,000 building on January 6, 1955, at 1521 University avenue Southeast with a dedication service. Speaking for the University at the ceremony was Edmund G. Williamson, dean of students. The new Hillel House was projected in 1944 when the site was purchased. In 1947 the Hillel Advisory council drew up plans which ultimately were tabled for three and a half years. In 1950 the council voted to raise a special fund for a new building, and in 1954 Hillel House moved to temporary quarters, and ground was broken for a new

building. Plans were drawn up by Long and Thorshov, Inc., Minneapolis, in cooperation with the Abramovitch company of New York.

Religious Foundations to Build—A decision by the Board of Regents to condemn areas of land fronting on Fourth Street between Fifteenth and Nineteenth avenues Southeast was reconsidered by the Regents, upon request of representatives of the Episcopal and the Presbyterian Foundations.

On May 11, 1956, the Regents voted to approve a statement, part of which follows:

" . . . the Regents in the present instance have agreed that the Westminster Foundation (Presbyterian), St. Timothy's House (Episcopalian) and the Pilgrim Foundation (Congregational) should be encouraged to construct their proposed new student centers on the property they now own, fronting on Fourth Street and on Seventeenth Avenue. It has been agreed, however, that the Westminster Foundation will sell to the University a maximum of 25 feet of frontage at the West edge of their property on Fourth Street. With this land available, the University will then be able to build on Fourth Street at some future date a structure of the average size of other University buildings. Likewise to the East of the Pilgrim Foundation property in the block between Seventeenth and Eighteenth Avenues, the fronting on Fourth Street, there will remain space for a major University structure. Thus the building needs of the foundations and the University appear to be harmonized to the satisfaction and in the best interests of all.

Having achieved this solution the Regents feel an obligation to declare unequivocally that their needs for future building areas in the remaining North half of the blocks fronting on Fourth Street between Fifteenth Avenue and Nineteenth Avenue are so self-evident that they regard this land as definitely in the path of University expansion, and indicate that they will acquire it for University purposes as fast as resources permit."

State's Library Gift Policy—The following statement of policy governing gifts to the University Library was approved by the Board of Regents on June 11, 1955:

Over the years, since the University of Minnesota was founded, many thoughtful donors have contributed significantly to the stature of the University Library. The University is deeply grateful for their gifts.

In the future the University will undoubtedly be offered additional collections of books and other library materials, and it feels a high sense of responsibility in accepting such gifts. This responsibility carries with it the obligation to inform potential benefactors of some of the principles that have emerged from its experience in receiving Library gifts. The following comments, therefore, are presented for the guidance of persons who may be considering gifts to the Library.

MONETARY GIFTS

Many persons have materially aided in developing the resources of the University Library by giving money for the purchase of books. Such contributions, usually made as donations through the Friends of the University Library, are tax-deductible. Money received in this manner often makes it possible for the Library to purchase unusual, fine, or especially significant publications beyond the scope of its regular budget. A donor may ask that the funds be used for specific titles which the Library especially wishes to acquire, and titles thus purchased will be identified with the name of the giver.

Monetary bequests may also be arranged by naming the University Library as beneficiary in a properly executed will. The Director of Libraries will help, if desired, to phrase an appropriate statement for the bequest, to make certain that it will fulfill the donor's wishes, and at the same time result in permanent values and benefits.

GIFTS OF BOOKS

Donations of books sometimes raise problems which require mutual understanding to assure maximum usefulness of such gifts. The University welcomes gifts of books that enrich its Library resources, but because the Library already has strong, basic holdings in most subject fields, a gift of books is most effectively administered if the Librarian can be empowered to dispose of volumes such as duplicates for which the Library has no foreseeable need. The cataloging, storing, and servicing of library books require an expenditure of several dollars per volume, and the Library cannot undertake substantial commitments to process and maintain items it does not need. It is hoped that donors will appreciate this fact since any given collection is likely to contain items of which the Library already has sufficient copies at hand. When it has this discretion, the Library can then offer such duplicates to smaller libraries, or sell them and apply the proceeds to the purchase of other needed titles.

The University Library applies the same principles of selection in considering gifts as it does to books it buys. It is particularly glad to receive by donation out-of-print publications it cannot readily acquire by purchase. All gifts accepted by the Library should contribute either directly or indirectly to the program of teaching, research, and service of the University.

GIFTS WITH "CONDITIONS"

Sometimes, out of a natural desire to make sure that his gift will permanently fulfill the purposes he intended for it, a donor offers the University funds or a collection of books subject to certain specific limitations or conditions. Because of changing circum-

stances, necessitating library adjustments in emphasis, types of service, and space use, which can rarely be foreseen far ahead, such restrictions sometimes prevent the maximum utilization of a collection or monetary bequest. For this reason, faith in the University's pledge to administer all library gifts toward the end of providing the best possible library for the people it serves, is generally preferable to the establishment of rigid conditions over any given collection or contribution. The University offers such a pledge with no reservation.

THE ADMINISTRATION OF GIFTS

Whether a Library gift consists of money or books, the donor may have confidence that it will be administered according to the following principles: (1) conscientious effort to assure good physical care to all library materials thus secured; (2) physical arrangements that will make the gift available to faculty, students, or visiting scholars under conditions of responsible use; (3) maintenance of catalogs and other records prepared according to the best practices of librarianship; (4) proper identification of each item included as part of a gift; and (5) future acquisition of materials supplementary to those obtained by gift, as funds permit.

The University cannot ordinarily commit itself to keep a gift collection physically together as a separate entity, though occasionally this may be done for a strong collection that is focused upon a special subject field. Normally, books on any subject are much more readily accessible and useful if they are shelved along with the Library's basic holdings in the same field of subject matter.

The Director of Libraries is vested with full authority for the maintenance, development, administration, and use of Library materials. This authority provides a guarantee of the responsible management of gifts to the benefit of generations to come. The Director, who is always willing and ready to advise with prospective donors, functions under the general administration of the President and the control of the Board of Regents, who also serve as trustees for the future.

First Master of Arts Degrees Granted UMD Students—At the August 19, 1954, Commencement on the Minneapolis campus, the first Master of Arts degrees were conferred upon students enrolled on the Duluth campus.

The Board of Regents, on August 10, 1954, endorsed the following resolution:

WHEREAS, In the year 1947 by action of the Legislature, the then Duluth State Teachers' College was transferred to the Regents of the University of Minnesota and thereby became an integral part of the University; and

WHEREAS, From the outset the Regents were of one mind in their firm intention and purpose to make of the new Branch a unit that would in every respect measure up to its newly acquired status, to the end that it might ably serve the community and the region of which it is so centrally a part; and

WHEREAS, Through cooperative endeavor that at all stages has involved friendly and understanding citizens, cooperative members of the Minnesota Legislature, conscientious administrators, and devoted staff members, the educational integrity of the Duluth Branch has been enormously enhanced, and its curriculum and services vitalized and enriched; and

WHEREAS, The conferring at the Commencement on August 9, 1954 of the first Master of Arts degrees to students enrolled at the Duluth Branch appropriately symbolizes the growth and achievements of the Branch since it became a part of the University of Minnesota; therefore

Be It Resolved, That the Regents, by this formal action, do express again, as they have so often done in the past, their faith in the Duluth Branch, in the staff and the students who have made its accomplishments a reality, and in the community and the region without whose loyal support there would have been no progress; and they affirm once more their desire to exercise the responsibility vested in them by the people of the state in all possible ways that will contribute to the further development and strengthening of the Branch, so that it will increasingly continue to be the kind of educational institution in which the community, the region, and the state may justly take pride.

New Degree in Nursing Administration—Curriculum for and the Degree of Bachelor of Science in Nursing Administration was approved by the Board of Regents on December 10, 1954. The successful completion of a four-year course is a condition of the award of the degree.

Change Degree—The name of Bachelor of Science in Professional Nursing degree was changed by the Board of Regents on April 15, 1955, to the degree of Bachelor of Science in Nursing.

Copyright Responsibilities Go to University Press—Responsibilities for processing copyright material bearing the name of University of Minnesota was transferred from the University Library to the University of Minnesota Press by action of the Board of Regents February 10, 1956.

Boost Student Loan Maximums—At its October 22, 1955, meeting, the Board of Regents voted to authorize an increase of the maximum sums that a student may borrow from student loan funds and also to grant students in

the Graduate School the same privileges concerning loans as accorded students registered in Medicine, Dentistry and Veterinary Medicine.

Students may borrow from \$250 to \$300 during an academic year from the loan funds and a student registered in the College of Medical Sciences, the School of Dentistry or the School of Veterinary Medicine, or the Graduate School, may borrow up to \$500 in any academic year or up to \$750 throughout his course of study.

Change Union Board Constitution—Several changes in the Constitution of the Union Board of Governors were approved by the Board of Regents at the May 20, 1955, meeting. Constitution changes involve: the ratio of men to women members, the numbers of student members who are elected and the number who are appointed; and other provisions such as a change in deadlines for appointments.

Previously the constitution stated:

"Fifteen student members, the ratio of men to women shall be the same as the ratio of men to women regularly enrolled in the University during which the appointments or elections are scheduled."

It now states:

"Fifteen student members, the ratio of men to women or women to men shall never exceed twelve to three."

Previously also nine of the students were elected to the board and six were appointed. Now six students are elected and nine appointed.

Approve Interpretation on Physical Examinations—The Board of Regents approved on June 22, 1956, the interpretation of the University Tenure Code with respect to physical examinations required of staff members. The Code was interpreted as follows:

The Board of Regents, by an action taken December 13, 1940, and reaffirmed November 22, 1947, required a physical examination as a condition of initial appointment to the faculty of the University and also required another examination for probationary faculty members as a condition to the acquisition of indefinite tenure. In view of these requirements, deans and department heads should have before them the results of the prescribed physical examination, taken within the preceding six months, in reaching a decision on recommending a faculty member for an appointment which would grant him indefinite tenure. Where the results of the physical examination establish an adverse health condition, this condition is only one of several factors to be considered in the total appraisal necessary in reaching a final decision.

Change University Faculty Retirement Plan—On January 14, 1955, the Regents approved the following recommendation of the Group Insurance Advisory Committee:

A. To approve in principle the following changes in the University Faculty Retirement Plan, involving the inclusion in that plan of OASI coverage, but with the following limitations:

Retirement income from the revised plan would be provided from three possible sources:

1. Retirement income from OASI coverage. Since all concerned staff earn in excess of \$4200 per year, each individual would receive the maximum of \$108.50 per month for life after retirement.
2. Retirement income from the annuities purchased jointly by the staff member and the University. The present amounts of annuity income from this course would be undisturbed.
3. Retirement income from current funds of the University termed the "University Supplement." This source is a variable amount and is lowered in some individual cases as a result of revision.

The revised plan would provide retirement income

- a. Not less than the present plan.
- b. Not less than the income from annuities plus OASI.
- c. Not more than 50% of average salary for the last five years preceding retirement, or not more than 1/60 of the average salary times years of University service, whichever is the lesser.
- d. Not more than the present plan plus OASI.
- e. From, of course, the University Supplement in an amount subject to the limits of "c" and "d" above.
- f. If a staff member receives less than \$2500 per year from the above, from the University Supplement an amount equal to 20% of the income from the

annuities, but in no case shall the result exceed 50% of the average salary for the five years preceding retirement.

The revised plan would include under OASI coverage only staff members eligible for membership in the Faculty Retirement Plan.

- B. To authorize the preparation and submission to the Legislature of necessary enabling legislation together with request for funds to cover.
- C. Upon approval of enabling legislation and availability of funds, to conduct the required referendum of Faculty Retirement Plan members.
- D. Upon approval by the referendum, to enter into the needed State-Federal covering agreement, directly or through State offices.

Amend Sabbatical Furlough Regulations—An amendment to University regulations on sabbatical furlough was approved by the Board of Regents on February 11, 1955. The amendment makes it possible for instructors who have achieved permanent tenure to apply for furloughs, whereas, previously the faculty member was required to be an assistant professor or above.

The regulations and amendment are as follows:

1. reading as follows:

"Application for sabbatical furlough may be made by any member of the faculty who has served the University for six consecutive years, of which at least two years must have been with a rank not lower than that of Assistant Professor. The application may be for furlough for a year or for a shorter period at the option of the applicant."

- to read:

"Application for sabbatical furlough may be made by any member of the faculty who has served the University for six consecutive years, of which at least two years must have been with a rank not lower than that of Assistant Professor, *except in those cases where Instructors have achieved permanent tenure as Instructors*. The application may be for furlough for a year or for a shorter period at the option of the applicant."

4. reading as follows:

"Service in another institution in which sabbatical furloughs are granted may be taken into account in granting the sabbatical furlough."

- to read:

"Service prior to a staff member's joining the faculty of the University of Minnesota in another institution in which sabbatical furloughs are granted may be taken into account in granting a first sabbatical furlough."

13 Faculty Members Study Abroad—The first faculty members to receive salaried short-term leaves granted by the Board of Regents studied and did research in nine foreign countries as well as in the United States during the first few months of 1955. Faculty members receiving the leaves were: William Anderson, professor of political science; Allan H. Brown, professor of botany; Laurence K. Cutkomp, associate professor of entomology and economic zoology; Louis T. Dosdall, assistant professor of plant pathology; Willis E. Dugan, professor of education; Dr. Ernst Gellhorn, professor of neurophysiology; Gerald Hill, assistant professor of general arts; Olga Lakela, curator of herbarium, Duluth Branch; William A. McDonald, associate professor of classical languages; Cecil H. Meyer, associate professor of business and economics, Duluth Branch; William E. Petersen, professor of dairy husbandry; Dr. Wesley W. Spink, professor of medicine; and Gina Wangness, assistant professor of German.

Department of Physics Transferred to Institute of Technology—The Board of Regents voted at the June 9, 1956, meeting to designate Physics in the Institute of Technology as the School of Physics effective July 1, 1956. After both study and debate, the transfer from the College of Science, Literature, and the Arts to the Institute of Technology had been approved on April 17, 1956, by the University Senate.

Department Name Change—The name of the General Studies Department was changed effective July 1, 1956, to the Department of Interdisciplinary Studies in General Education of the College of Science, Literature, and the Arts. The Board of Regents voted for the change on June 9, 1956.

University Assists Seoul National University of Korea—The University entered a contract with the Foreign Operations Administration on September 28, 1954, to assist in strengthening and developing the educational and research programs of the Seoul National University of Korea in the fields of medical sciences, engineering and agriculture. Tracy F. Tyler, professor of general

education, was named as campus coordinator of the contract, and Arthur E. Schneider, professor of forestry, was appointed chief adviser in Korea. Program for the project includes: that the University of Minnesota provide a team in residence at the University of Korea and special consultants be sent to Korea for brief periods of time to assist and advise in the planning of courses and teaching methods; that Seoul University send a number of its younger faculty members to study at the University of Minnesota for periods of a year or more; and that the University will advise the Seoul National University on what equipment and supplies are needed and will act as procuring agent.

National Student Association Meets—The United States National Student Association met on the University of Minnesota campus August 21-31, 1955. President J. L. Morrill welcomed them on the opening day.

Chemical Society Meets on Campus—The 128th National Meeting of the American Chemical Society was held September 11-16, 1955 on the University of Minnesota campus. A total of 20 divisions of the Society held technical sessions, and 1257 scientific and technical papers were read during the week. On September 14, approximately 300 University alumni taking part in the meeting, attended a dinner at which President J. L. Morrill presented eight Outstanding Achievement Awards. The Society had previously met at the University in December, 1910, and in September, 1929.

Phi Beta Kappa Convention Held—Approximately 275 delegates from all sections of the United States as well as Hawaii attended the 24th triennial council of the United Chapter of Phi Beta Kappa August 31-September 3, 1955, at the University of Minnesota. Presiding was the president of the United Chapters, Goodrich C. White, president of Emory University, Georgia. Banquet speaker was Senator Hubert H. Humphrey who was elected to Phi Beta Kappa at the University in 1939.

Present Three Sidney Hillman Lectures—Three lectures were presented during the biennium as result of a gift to the University from the Sidney Hillman Foundation in memory of the founder and first president of the Amalgamated Clothing Workers of America. Lecturers and their subjects were: Carl W. Rowan, Minneapolis reporter and author, "Asia As I Saw It" on April 13, 1955; Thurgood Marshall, chief counsel of the National Association for the Advancement of Colored People, "The United States Constitution and American Citizenship" on April 20, 1956; and William O. Douglas, associate justice of the Supreme Court of the United States, "The Bill of Rights, Due Process, and Federalism in India" on May 25, 1955.

Gideon D. Seymour Memorial Lecture Series—In proposing to the University of Minnesota the establishment of the Gideon D. Seymour Memorial Lecture Series, John Cowles, president and publisher of the Minneapolis *Star* and *Tribune*, said: "As executive editor of our newspaper, Mr. Seymour worked tirelessly to inform the public about the leading issues of our day, to encourage people to devote serious thought to those issues. An annual series of lectures at the University by distinguished figures in many fields of human activity will be a most appropriate memorial to him."

Gideon Deming Seymour, (1901-1954) vice president and executive editor of the Minneapolis *Star* and *Tribune* for ten years, died May 20, 1954, at the age of 52. Among the flood of tributes which followed the news of his passing were such frequently recurring themes as these: "One of America's great editors in the finest traditions of journalism" . . . "a fearless guardian of a free press and a true exponent of the highest ethics of our profession" . . . "one of the country's real newspaper leaders" . . . "a great newspaperman and a wonderful man."

Mr. Seymour was a product of the Upper Midwest (he was born in South Dakota). During a distinguished career with the Associated Press he covered news beats in many parts of the world. In 1939 he became editorial editor of the Minneapolis *Star*, and in 1944 executive editor of the Minneapolis *Star* and *Tribune*. During the decade he directed the news and editorial operations of the newspapers, more than 200 awards and honors for distinction and

achievement were conferred on them and their staffs. Brilliance characterized his editorial career; a deep-seated interest in and concern for the welfare of the people, and a profound religious faith and humanitarian instinct characterized his civic activities. Few men ever were more active in community affairs, or worked more indefatigably in public betterment causes. The newspapers with which he was associated, the city in which he lived, the region whose destiny he helped to influence, and the thousands of individuals who came to know him, all are the better for the editorial zeal and inspiring leadership of Gideon Seymour.

The Regents of the University voted on September 25, 1954, to establish a distinguished-lecturer series under University sponsorship, with financing by the *Star* and *Tribune*. The purpose is to bring national and international personalities of genuine distinction to the Twin Cities to address public audiences, with emphasis on significant messages.

The first lecture was given on February 22, 1955, by James B. Reston, Chief Washington Correspondent of the *New York Times*. Arnold Toynbee, distinguished British historian, delivered the second lecture on November 6, 1955. The third lecturer was T. S. Eliot, famed poet, playwright and critic, on April 30, 1956.

Two lecturers are to be presented each academic year. President J. L. Morrill appointed an advisory committee to aid in the planning and presentation of the lectures. Texts of the lectures are published in pamphlet form by the University of Minnesota Press.

States Policy on Televising Football Games—The Board of Regents, on November 13, 1954, approved the following statement concerning televising football games:

With the close of the 1954 football season, the Regents of the University are mindful that friendly interest in the University's football fortunes is at a new high, and that Gopher followers are more than ever eager to watch the team in action. This in large measure understandably explains the widespread desire to see as many games as possible on television, a desire that the Regents and the Athletic Department share.

A clear statement of the University of Minnesota's problem and position on the televising of football games, accordingly, is in order. Continuous and conscientious study of the matter by the University's athletic administration and the Senate Committee on Intercollegiate Athletics has been taken into consideration in leading the Regents to state that:

The University of Minnesota, in association with its allied institutions of the Western Conference or Big Ten, strongly favors and has vigorously supported a proposal for controlled regional television whereby a good selection of football games between major institutions of the Midwest can be telecast.

Such a program is not now possible under regulations of the National Collegiate Athletic Association in which all Big Ten universities hold membership along with most other institutions in the United States. Efforts of the Western Conference to obtain NCAA approval of controlled regional football television were overwhelmingly defeated by the member-colleges of the nation last year. More than this, special efforts of the University of Minnesota to provide for the televising of sell-out games failed to receive support from a majority of even the Big Ten institutions with whom Minnesota mainly competes in football and other sports.

The University of Minnesota cannot "go it alone" and at the same time maintain playing relationships with other institutions. It can only—and will continue to contend—within the NCAA and the Western Conference for a more generous television program of athletic events.

The NCAA, strongly organized for the improvement and right conduct of intercollegiate athletics, has power to discipline non-compliant members—including the right to forbid scheduling of games with violators of its regulations. It can also declare ineligible athletes from violator institutions to participate in national championships in all sports. This makes "lone wolf" action by Minnesota on football television impossible. The schedule relationships by our University are of major interest to the people of Minnesota as well as to the University itself.

The financial support of all Minnesota athletics is critically involved. Gate receipts, principally from football, have financed for years not only the operating costs of the University's intercollegiate athletic program, but also capital requirements. These receipts defray the cost of an intramural program, open to all students, and help support Physical Education courses which have received national recognition.

The University of Minnesota deeply values public interest in Minnesota athletics, is grateful for generous public patronage of its games, and hopes for public understanding of its football television problem—desiring, even at the risk of some financial sacrifice, to bring as many of its football games by television as possible to the people of Minnesota.

It is because of this that the Regents have instructed their administrative officials to continue actively their efforts and negotiations through appropriate intercollegiate channels to achieve this end.

UNIVERSITY PERSONNEL

CHANGES IN PERSONNEL

Board of Regents

The 1955 Legislature elected to a six-year term, expiring in 1961, Edward B. Cosgrove of Le Sueur, Minnesota, to succeed Dr. E. E. Novak of New Prague. They also reelected to six-year terms, expiring in 1961, Daniel C. Gainey, Owatonna; A. J. Olson, Renville; and Herman F. Skyberg, Fisher, Minnesota.

Faculties

RETIREMENTS, 1954-55

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:

- Alice Biester, professor emeritus, School of Home Economics (1915-55).
Leo J. Brueckner, professor emeritus, College of Education (1922-55).
Spencer B. Cleland, professor emeritus, Agricultural Extension (1912-55).
Edward W. Davis, professor emeritus, Mines Experiment Station (1912-55).
Ernest A. Heilman, professor emeritus, School of Business Administration (1920-55).
August C. Krey, professor emeritus, history (1913-55).
Paul R. McMiller, professor emeritus, soils (1911-55).
William E. Morris, professor emeritus, Agricultural Extension (1913-55).
Mervin G. Neale, professor emeritus, College of Education (1921-23; 1937-55).
Ethel L. Phelps, professor emeritus, School of Home Economics (1915-55).
Harold S. Quigley, professor emeritus, political science (1920-54).
Gertrude I. Thomas, professor emeritus nutrition, University of Minnesota Hospitals (1914-55).
Roland S. Vaile, professor emeritus, School of Business Administration (1923-55).
Henry P. Wagener, professor emeritus, ophthalmology, Mayo Foundation (1917-55).
Arthur A. Zierold, clinical professor emeritus, surgery (1910-55).
Fred Z. Havens, associate professor emeritus, laryngology and rhinology, Mayo Foundation (1929-55).
Kano Ikeda, associate professor emeritus, pathology (1916-55).
Charlotte Kirchner, associate professor emeritus, Agricultural Extension (1922-54).
Blanche C. Kendall, associate professor emeritus, music (1923-55).
Luther Thompson, associate professor emeritus, bacteriology, Mayo Foundation (1925-55).
Arthur F. Bratrud, clinical assistant professor emeritus, surgery (1922-55).
Carlyle Campbell, assistant professor emeritus, Agricultural Extension (1943-55).
Frank S. McKinney, clinical assistant professor emeritus, surgery (1916-55).
Henry A. Pflughoeft, assistant professor emeritus, Agricultural Extension (1913-15; 1924-55).
Ina B. Rowe, assistant professor emeritus, Agricultural Extension (1936-55).
Edwin J. Volden, assistant professor emeritus, West Central School and Station (1915-55).

Richard R. Cranmer, clinical instructor emeritus, surgery (1930-55).
 Victor L. Fixen, lecturer emeritus, civil engineering (1933-55).
 Alexander B. Rolfe, instructor emeritus, West Central School and Station (1923-55).

RETIREMENTS, 1955-56

Louie T. Austin, professor emeritus dental surgery, Mayo Foundation (1925-56).
 Louis A. Buie, professor emeritus surgery, Mayo Foundation (1927-56).
 Wallace H. Cole, professor emeritus, orthopedic surgery (1914-56).
 Oscar Cooperman, clinical professor emeritus, School of Dentistry (1911-56).
 Rudolph W. Delton, clinical professor emeritus, School of Dentistry (1916-56).
 Ralph L. Dowdell, professor emeritus, School of Mines and Metallurgy (1918-55).
 Richard M. Elliott, professor emeritus, psychology (1919-56).
 Evan F. Ferrin, professor emeritus, animal husbandry (1935-56).
 George Filipetti, professor emeritus, School of Business Administration (1930-56).
 James B. Fitch, professor emeritus, dairy husbandry (1935-56).
 Alexander A. Granovsky, professor emeritus, entomology and economic zoology (1930-56).
 Thor W. Gullickson, professor emeritus, dairy husbandry (1920-56).
 George M. Higgins, professor emeritus, experimental biology, Mayo Foundation (1924-55).
 Arthur B. Jennings, professor emeritus, music (1938-56).
 Thomas M. McCall, professor-superintendent emeritus, Northwest School and Station (1911-56).
 Irvine McQuarrie, professor emeritus, pediatrics (1930-56).
 Frederick P. Moersch, professor emeritus, neurology, Mayo Foundation (1916-56).
 Herbert C. Nelson, clinical professor emeritus, School of Dentistry (1915-56).
 Max Seham, clinical professor emeritus, pediatrics (1917-56).
 J. Warren Stehman, professor emeritus, School of Business Administration (1916-56).
 Karl W. Stenstrom, professor emeritus, radiology (1926-56).
 Ralph H. Upson, professor emeritus, aeronautical engineering (1946-56).
 Henry W. Woltman, professor emeritus, neurology, Mayo Foundation (1914-56).
 Carl W. Waldron, professorial lecturer emeritus, surgery and dentistry (1920-56).
 William A. Billings, associate professor emeritus, veterinary medicine, Agricultural Extension (1918-56).
 Roy O. Bridgford, associate professor emeritus, West Central School and Station (1918-56).
 Edwin H. Ford, associate professor emeritus, School of Journalism (1929-56).
 Thomas P. Hughes, associate professor emeritus, mechanical engineering (1923-56).
 Thomas A. Peppard, clinical associate professor emeritus, medicine (1918-56).
 Gina O. Wangsness, associate professor emeritus, German (1923-56).
 Philip S. Brain, assistant professor emeritus, Physical Education and Athletics (1928-56).
 Mabel L. Culkin, assistant professor emeritus, language and literature in Humanities Division, Duluth Branch (1925-56).
 Samuel B. Solhaug, clinical assistant professor emeritus, obstetrics and gynecology (1920-56).
 Ella A. M. Thorp, assistant professor emeritus, mathematics, College of Science, Literature, and the Arts (1916-56).
 F. Helen Urquhart, assistant professor emeritus, Laboratory School, Duluth Branch (1918-56).
 Herbert M. N. Wynne, clinical assistant professor emeritus, obstetrics and gynecology (1919-56).
 J. Grant Dent, instructor emeritus, agricultural engineering (1918-56).
 Aaron Friedell, clinical instructor emeritus, pediatrics (1924-56).
 Peter M. Mattill, lecturer emeritus, School of Nursing (1926-56).

TERMINATIONS, 1954-55

- Richard T. Arnold, professor and head School of Chemistry, Institute of Technology, effective June 15, 1955, to be director of the basic research program in the physical sciences for the Alfred P. Sloan Foundation, Inc., New York City.
- Eric K. Clarke, clinical professor of psychiatry and neurology, effective June 30, 1955, to be medical director of Guidance Center, Sandusky, Ohio.
- Charles L. Critchfield, professor of physics, effective June 15, 1955, to be research director for Convair Aircraft Division of General Dynamics Corporation.
- Leon Festinger, professor in Laboratory for Research in Social Relations, effective June 30, 1955, to accept professorship in psychology at Stanford University.
- Richard G. Guilford, professor in School of Social Work, effective June 15, 1955, to be director of School of Social Work at the University of Nebraska.
- Newman A. Hall, professor of mechanical engineering, effective June 15, 1955, to accept a professorship in mechanical engineering and assistant deanship in charge of the graduate division of the College of Engineering at New York University.
- Paul E. Miller, professor and director of agricultural extension, Institute of Agriculture, effective September 15, 1954, to accept position as a member of Board of Governors of the Federal Reserve System, Washington, D. C. (Deceased October 21, 1954.)
- Carl L. Nordly, professor of physical education and athletics, effective at close of 1954-55, to be head of physical education department at University of California, Berkeley.
- Andreas G. Papandreou, professor in School of Business Administration, effective June 15, 1955, for position at University of California, Berkeley.
- Lewis Thomas, professor of pediatrics American Legion Heart Fund, effective September 30, 1954, to be professor of pathology at New York University.
- John C. Weaver, professor of geography, effective at close of 1954-55, to accept deanship of School of Arts and Sciences at Kansas State College, Manhattan.
- Cornelia D. Williams, professor and counselor, General College, effective June 30, 1955, marriage.
- Francis S. Appel, associate professor, General College, effective at close of 1954-55.
- Ned D. Bayley, associate professor of dairy husbandry, effective July 31, 1955, to accept position in Breeding, Feeding and Management Section, Dairy Husbandry Research Branch of U.S.D.A. Agricultural Research Service, Beltsville, Maryland.
- Rena E. Boyle, associate professor in School of Nursing, effective September 18, 1954, to be nursing education consultant in U. S. Public Health Service.
- Lyle A. Brecht, clinical associate professor, School of Dentistry, effective August 1, 1955, to devote full time to his private practice.
- Louis O. Coxe, associate professor of English, effective June 15, 1955, to accept a position at Bowdoin College.
- Louis S. Cuendet, associate professor of agricultural biochemistry, effective July 31, 1955, to return to Switzerland.
- Allan E. Martin, associate professor in School of Mines and Metallurgy, effective June 15, 1955, to enter industrial research and development work.
- Joseph P. McKenna, associate professor in School of Business Administration, effective at close of 1954-55, to accept position at St. Louis University, Missouri.
- David F. Mitchell, associate professor in School of Dentistry, effective at close of 1954-55, to accept position at School of Dentistry, Indiana University, Indianapolis.
- Earl A. Nelson, clinical associate professor in School of Dentistry, effective June 15, 1955.
- Miriam G. Scholl, associate professor and manager agricultural cafeteria, School of Home Economics, effective September 25, 1954, to become dean of School of Home Economics, Oregon State College.

- Newton D. Smith, associate professor of proctology, Mayo Foundation, effective October 1, 1954.
- Fae Y. Tichy, associate professor of psychiatry and neurology, effective at close of 1954-55, to establish private practice in Pasadena, California.
- John T. Wheeler, associate professor in School of Business Administration, effective June 15, 1955, to accept a position at University of California, Berkeley.
- Charles A. Wright, associate professor in Law School, effective June 15, 1955.
- Clarence R. Allen, assistant professor of geology, effective June 15, 1955, to accept an appointment at California Institute of Technology.
- Stephen G. Allen, Jr., assistant professor in School of Business Administration, effective December 15, 1954, to accept a position with the Stanford Research Corporation.
- Henry D. Block, assistant professor of mathematics, Institute of Technology, effective June 15, 1955, to accept position at Cornell University.
- A. Elizabeth Burr, assistant professor extension specialist home improvement, Agricultural Extension, effective May 28, 1955.
- Robert Collins, assistant professor of art, effective at close of 1954-55, to accept a position at Ohio State University.
- Thelma Johnson Damgaard, assistant professor, professional education, Duluth Branch, effective June 15, 1955.
- Jesse J. Dukeminier, Jr., assistant professor in Law School, effective June 15, 1955, to accept a position at the University of Kentucky.
- Donald V. Eckels, clinical assistant professor in School of Dentistry, effective at close of 1954-55, to devote full time to his private practice.
- Henry O. Einan, clinical assistant professor in School of Dentistry, effective January 15, 1955, for service in the armed forces.
- Mohamed El-Wakil, assistant professor mechanical engineering, effective at close of 1954-55, to accept a position at the University of Wisconsin.
- David C. England, assistant professor, Hormel Institute, effective at close of 1954-55.
- Kathleen Flom, assistant professor-assistant state leader 4-H Club rural youth, Agricultural Extension, effective September 30, 1954, to accept a position with the National 4-H Club Foundation.
- Charles F. Foreman, assistant professor of dairy husbandry, effective January 15, 1955, to accept a position at Iowa State College.
- Marthella J. Frantz, assistant professor, cancer biology and anatomy, effective June 30, 1955, to attend medical school as a student on a full time basis.
- Francis C. Gamelin, assistant professor and senior student personnel worker, Student Counseling Bureau, effective at close of 1954-55, to accept a position with Austin, Minnesota, Public Schools.
- Beulah T. Gautefald, assistant professor in School of Nursing, effective February 28, 1955, to accept a position at the University of North Carolina.
- Albert G. Hess, assistant professor humanities, Duluth Branch, effective June 15, 1955, on account of tenure regulations.
- Mason A. Hicks, assistant professor of speech, Duluth Branch, effective at close of 1954-55, to accept a position at Purdue University.
- Henning W. Johnson, assistant professor in School of Agriculture, effective June 30, 1955, to seek another position more to his liking.
- Loyal A. Johnson, assistant professor of civil engineering, effective June 15, 1955, in accordance with tenure rules.
- Esther E. Knight, assistant professor in School of Home Economics, effective June 15, 1955, to be married.
- Agnes D. Love, assistant professor in School of Nursing, effective September 18, 1954, to accept position as assistant director of School of Nursing at University of Michigan.
- Gordon M. Low, assistant professor of speech and senior student personnel worker in the Speech and Hearing Clinic, effective at close of 1954-55, to accept a position at the San Francisco State College, California.
- Alexander R. MacLean, assistant professor of neurology and psychiatry, Mayo Foundation, effective at close of 1954-55.
- John B. Morris, assistant professor and director of the Bureau of Institutional Research, effective August 27, 1955, to accept a position at the University of Mississippi, Oxford.

- Frederick W. Noble, clinical assistant professor in School of Dentistry, effective at close of 1954-55, to devote full time to his private practice.
- Harry W. Orme, assistant professor of pediatrics, Ancker Hospital, effective at close of 1954-55, to go into practice at Fargo, North Dakota.
- Alexander G. Park, assistant professor in School of Journalism, effective June 15, 1955, in accordance with tenure regulations.
- John W. Pender, assistant professor of anesthesiology, Mayo Foundation, effective at close of 1954-55.
- Hugh E. Robertson, assistant professor of bacteriology and immunology, National Foundation for Infantile Paralysis, effective December 15, 1954, to return to Canada.
- Delmer J. Rodabaugh, assistant professor of rhetoric, Institute of Agriculture, effective June 15, 1955, to accept a position at Long Beach State College, California.
- Isaac Rosenfeld, assistant professor in general studies, effective June 15, 1955.
- Lawrence M. Slifkin, assistant professor of physics, effective June 15, 1955, to accept a position at University of North Carolina.
- Arthur W. Swanstrom, clinical assistant professor in School of Dentistry, effective at close of 1954-55, to devote full time to his private practice.
- Harold Tovish, assistant professor of art, effective June 15, 1955, to have free time to develop his own sculpture.
- Robert I. Wise, assistant professor and bacteriologist, University of Minnesota Hospitals, effective August 31, 1955, to accept a position at Jefferson College, Philadelphia.

TERMINATIONS, 1955-56

- Kenneth M. Anderson, professor, Law School, effective June 15, 1956, to enter private law practice.
- Charles E. Connor, clinical professor of otolaryngology, effective April 30, 1956.
- Thomas J. Dry, professor of medicine, Mayo Foundation, effective June 30, 1956.
- James Gray, professor of English, effective at close of 1955-56, to do free lance writing.
- David W. Louisell, professor of law, effective June 15, 1956, to accept a professorship at University of California.
- Harlan E. McClure, professor, School of Architecture, effective June 15, 1956, to accept position as head of school of architecture at Clemson College, South Carolina.
- Monrad G. Paulsen, professor, Law School, effective June 15, 1956, to accept a professorship at Columbia University.
- Alfred E. Cronk, associate professor of aeronautical engineering, effective June 15, 1956, to accept a position at Texas A. & M. College.
- Lawrence A. Harris, associate professor of electrical engineering, effective December 15, 1955, to do research work with General Electric, Schenectady, New York.
- Harold F. Jones, associate professor-extension specialist, soils, in Agricultural Extension, effective June 30, 1956, to become director of Kansas Agricultural Extension Service.
- Frank D. Mann, associate professor of clinical pathology, Mayo Foundation, effective September 1, 1956, to become medical director, Hospital Foundation, Palo Alto, California.
- Benjamin N. Nelson, associate professor of General Studies, effective June 15, 1956, for editorial work and teaching at Hofstra College, Hempstead, Long Island, New York.
- Thomas D. O'Brien, associate professor in School of Chemistry, effective December 31, 1955, to accept a position at Kansas State College.
- Donald Woods, associate professor of rhetoric, Institute of Agriculture, effective June 15, 1956, to accept a position with Cargill, Inc.
- Walter A. Wykhuis, associate professor in School of Dentistry, effective at close of 1955-56, to accept a position at the University of Washington, Seattle.
- Robert F. Bruzewski, assistant professor in School of Mines and Metallurgy, effective June 15, 1956, to return to Missouri School of Mines and Metallurgy to complete requirements for his Ph.D.

- Jane E. Carstens, assistant professor in Library School, effective June 15, 1956, to accept a position at Southwestern Louisiana Institute, LaFayette.
- Edward O. D. Downes, assistant professor of music, effective June 15, 1956, to accept position as music critic, *New York Times*.
- John L. Greenwood, assistant professor in School of Architecture, effective June 15, 1956, to do architectural work in Los Angeles, California.
- Gerald Hill, assistant professor in General College, effective March 15, 1956, on account of his health.
- Lucile Holaday, assistant professor-extension economist, home management, Agricultural Extension, effective December 31, 1955, to be married.
- Stanley C. Hollander, assistant professor in School of Business Administration, effective June 15, 1956, to accept a position at Wharton School of Finance and Commerce, University of Pennsylvania.
- Wallace Ito, assistant professor of mechanical engineering, effective June 15, 1956, for employment in industry.
- Maoling Liu, assistant professor of electrical engineering, effective June 15, 1956, to accept a position at South Dakota State College, Brookings.
- Elwin E. Luhning, clinical assistant professor in School of Dentistry, effective at close of 1955-56, on account of his health.
- William B. F. Mackay, assistant professor in School of Mines and Metallurgy, effective February 15, 1956, to accept position with Atlas Steels, Ltd., in Canada.
- Waldo P. Marxen, clinical assistant professor in School of Dentistry, effective January 17, 1956, to devote full time to his private practice.
- Mary Ann Morris, assistant professor in School of Home Economics, effective June 15, 1956, to accept a position at University of California, Berkeley.
- Evar D. Nering, assistant professor of mathematics, College of Science, Literature, and the Arts, effective June 15, 1956, to accept a position at University of Arizona.
- Sibyl G. Norris, assistant professor in School of Nursing, effective September 15, 1956, to enroll at Teachers College, Columbia University, for work toward D.Ed. degree.
- Esther J. Olson, assistant professor of oral communication in General College, effective at close of 1955-56, to accept position at Luther College, Decorah, Iowa.
- Dan C. Overlade, assistant professor in Institute of Child Welfare, effective June 15, 1956, to accept position with Escambia Child Guidance Clinic in Pensacola, Florida.
- Robert P. Pinches, assistant professor-assistant state YMW leader, Agricultural Extension, effective January 12, 1956, to accept a position as state extension youth leader at Iowa State College.
- Albert A. Piringer, Jr., assistant professor of horticulture, effective August 11, 1956, to accept position as plant physiologist, Horticultural Crops Research Branch, Agricultural Research Service of USDA, Beltsville, Maryland.
- Alfred R. Pray, assistant professor of inorganic chemistry, effective June 15, 1956.
- Raymond C. Rose, assistant professor-extension plant pathologist, Agricultural Extension, effective September 30, 1955, to accept assignment in El Salvador with State Department.
- Lucile Streater, assistant professor in School of Home Economics and manager of agricultural cafeteria, effective July 15, 1956, to be married.
- Edwin B. Wenzel, assistant professor of psychology, division of education and psychology, Duluth Branch of the University of Minnesota, effective June 15, 1956, to accept position with Northwest Paper Company of Cloquet, Minnesota.

APPOINTMENTS, 1954-55

Assistant Dean

- William T. S. Thorp as assistant dean, director of the School of Veterinary Medicine and Professor and Head of Department of Veterinary Science
D.V.M. 1935, M.S. 1937, Michigan State College

Professors

- John A. Anderson* as professor and head of pediatrics
B.S. and M.B. 1933, M.D. 1934, Ph.D. 1940, University of Minnesota
- Dale C. Cameron as clinical professor of psychiatry and neurology
B.A. 1933, M.D. 1936, University of Nebraska; M.P.H. 1951, Johns Hopkins University
- Chieh-Chien Chang as professor of fluid mechanics in aeronautical engineering
B.S. 1932, Northeastern National University (Peiping, China); M.S. 1941, Ph.D. 1950, California Institute of Technology
- Ivan D. Frantz, Jr., as George Clark Research Professor in medicine
B.A. 1937, Duke University; M.D. 1941, Harvard Medical School
- Edward A. Hoebel as professor and chairman of anthropology
B.A. 1928, University of Wisconsin; M.A. 1931, New York University; Ph.D. 1934, Columbia University
- Arnold Lazarow as professor and head of anatomy
B.S. 1937, M.D. 1941, Ph.D. 1941, University of Chicago
- Frank T. Maher as professor of pharmacology, Mayo Foundation
B.S. 1937, M.S. 1938, M.D. 1947, University of Illinois
- William P. Martin as professor and head of soils
B.A. 1934, Brigham Young University; M.S. 1936, Ph.D. 1937, Iowa State College
- Ralph E. Rapson as professor and head of School of Architecture
B.A. 1938, University of Michigan; Cranbook Academy of Art, 1940

Associate Professors

- Gladys I. Bellinger as associate professor in the School of Home Economics
B.S. 1933, Emporia Kansas State College; M.S. 1948, Ph.D. 1950, Cornell University
- John E. Eichenlaub as associate professor in the School of Public Health and physician in the Students' Health Service
B.A. 1942, M.D. 1945, Johns Hopkins University
- Scott S. Pauley as associate professor in the School of Forestry
B.S. 1939, University of Minnesota; M.S. 1942, Michigan State College; Ph.D. 1947, Harvard University
- Leonard M. Schuman as associate professor in the School of Public Health
B.A. 1934, Oberlin College; M.D. 1949, Western Reserve University
- Louis Tobian, Jr., as associate professor in medicine
B.A. 1940, University of Texas; M.D. 1943, Harvard Medical School

Assistant Professors

- Clarence R. Allen as assistant professor of geology and mineralogy
B.A. 1949, Reed College; M.S. 1951, Ph.D. 1954, California Institute of Technology
- Henry D. Block** as assistant professor mathematics, Institute of Technology
B.S. 1940, B.C.E. 1943, College of the City of New York; M.S. 1947, Ph.D. 1949, Iowa State College
- Myra J. Button as assistant professor-extension specialist, home improvement, in Agricultural Extension
B.S. 1932, Michigan State College; M.A. 1950, University of Minnesota
- Maurice M. Callahan as assistant professor of music, Duluth Branch
B.Mus. 1937, Bethany College; M.A. Music Ed. 1947, Teachers College, Columbia University
- William S. Chalgren as clinical assistant professor of psychiatry and neurology
B.A. 1939, M.D. 1943, Ph.D. 1949, University of Minnesota

* Instructor 1937-41 and assistant professor 1941-43 at University of Minnesota.

** Visiting professor, University of Minnesota, 1953-54.

- Edward J. Cowles as assistant professor in department of science and mathematics, Duluth Branch
B.S. 1940, Ph.D. 1953, University of Washington
- Jesse J. Dukeminier, Jr., as assistant professor in the Law School
B.A. 1948, Harvard College; LL.B. 1951, Yale Law School
- Anna M. Duval as assistant professor in department of science and mathematics, Duluth Branch
B.A. 1934, M.A. 1936, University of Denver; Ph.D. 1942, University of Colorado
- Samuel B. Feinberg as clinical assistant professor of radiology
B.A. 1942, M.D. 1945, University of Minnesota
- Eugene S. Gollin as assistant professor in Institute of Child Welfare
B.S. 1947, M.A. 1948, City College of New York; Ph.D. 1951, Clark University
- Joan Gordon as assistant professor in the School of Home Economics
B.S. 1945, M.S. 1947, Ph.D. 1953, University of Minnesota
- C. Gustav Hard as assistant professor-extension horticulturist in Agricultural Extension
B.S. 1951, M.S. 1952, Ph.D. 1954, Michigan State College
- Stanley C. Hollander as assistant professor in the School of Business Administration
B.S. 1941, New York University; M.A. 1946, American University (Washington, D. C.); Ph.D. 1954, University of Pennsylvania
- Edwin H. Jensen as assistant professor-extension agronomist in Agricultural Extension
B.S. 1948, M.S. 1950, Ph.D. 1952, University of Wisconsin
- Robert M. Jordan as assistant professor of animal husbandry
B.S. 1942, University of Minnesota; M.S. 1949, South Dakota State College; Ph.D. 1953, Kansas State College
- Helmi L. Koivisto as assistant professor, home economics education, College of Education
B.S. 1930, M.S. 1944, University of Minnesota; Ph.D. 1954, Ohio State University
- Blanchard O. Krogstad as assistant professor in department of science and mathematics, Duluth Branch
B.A. 1946, Bemidji State Teachers College; M.A. 1948, Ph.D. 1951, University of Minnesota
- Henry Lepp as assistant professor in department of science and mathematics, Duluth Branch
B.S. 1944, University of Saskatchewan; Ph.D. 1954, University of Minnesota
- Jacob C. Levenson as assistant professor of English
B.A. 1943, Ph.D. 1951, Harvard University
- John B. Morris as director and assistant professor, Bureau of Institutional Research and College of Education
B.A. 1946, Southwestern College (Memphis, Tennessee); M.A. 1949, University of Mississippi
- Dan C. Overlade as assistant professor in the Institute of Child Welfare
B.S. 1951, M.S. 1951, Utah State Agricultural College; Ph.D. 1954, Purdue University
- Albert A. Piringer, Jr. as assistant professor of horticulture
B.S. 1947, M.S. 1948, University of Minnesota; Ph.D. 1953, University of Maryland
- James B. Serrin, Jr. as assistant professor of mathematics, Institute of Technology
B.A. 1947, Western Michigan College; M.A. 1949, Ph.D. 1951, Indiana University
- Lawrence M. Slifkin as assistant professor of physics
B.A. 1947, New York University; Ph.D. 1950, Princeton University
- Lucile Streater as assistant professor and manager of agricultural cafeteria, School of Home Economics
B.S. 1926, Milwaukee-Downer College; M.A. 1954, Teachers College, Columbia University

Hidehiko Yamabe as assistant professor of mathematics, Institute of Technology

M.S. 1947, Tokyo University; D.Sc. 1954, Osaka University

APPOINTMENTS, 1955-56

Professors

Morris Nicholson as professor and chief of Division of Metallurgy, School of Mines and Metallurgy

B.S. 1939, Sc.D. 1947, Massachusetts Institute of Technology

Associate Professors

Richard S. Caldecott as associate professor of agronomy and plant genetics

B.S.A. 1946, University of British Columbia; M.S. 1948, Ph.D. 1951, State College of Washington

John S. Chipman as associate professor in School of Business Administration

B.A. 1947, M.A. 1948, McGill University; Ph.D. 1951, Johns Hopkins University

Richard J. Donnelly as associate professor in physical education and athletics

B.S. 1942, Michigan State Normal College; M.A. 1946, Ph.D. 1953, University of Michigan

James H. Gholson as associate professor-extension specialist, dairy products, Agricultural Extension

B.S. 1938, M.A. 1941, Ph.D. 1953, University of Missouri

Bernard C. Glueck, Jr., as associate professor of psychiatry and neurology

B.A. 1934, Columbia University; M.D. 1938, Harvard University

Robert J. Gorlin as associate professor in School of Dentistry

B.A. 1943, Columbia College; D.D.S. 1947, Washington University; M.S. 1956, State University of Iowa

Robert S. Hoyt as associate professor of history

B.A. 1940, M.A. 1942, Ph.D. 1948, Harvard University

Chih-Chun Hsiao as associate professor of mechanics and materials, Institute of Technology

B.S. 1941 in Mechanical Engineering, Tsinghua University; M.S. 1944 in Mechanical Engineering, Massachusetts Institute of Technology; Ph.D. 1948, University of Colorado

Harold H. Kelley as associate professor of psychology in Laboratory for Research in Social Relations

B.A. 1942, M.A. 1943, University of California; Ph.D. 1948, Massachusetts Institute of Technology

Samuel Kirkwood as associate professor of agricultural biochemistry

B.S. 1942, University of Alberta; M.S. 1944, Ph.D. 1947, University of Wisconsin

John Neter as associate professor in School of Business Administration

B.S. 1943, University of Buffalo; M.B.A. 1947, University of Pennsylvania; Ph.D. 1952, Columbia University

Frederick Wezeman as associate professor in the Library School

B.S. 1937, Lewis Institute (Chicago, Illinois); B.L.S. 1946, University of Chicago; M.Ed. 1940, Chicago Teachers College

Assistant Professors

Frederic T. Becker as clinical assistant professor of dermatology, College of Medical Sciences

B.S. 1930, M.D. 1934, M.S. 1938, University of Minnesota

Jacob Berg as assistant professor and senior student personnel worker, Student Counseling Bureau

B.A. 1941, Brooklyn College; Ph.D. 1952, University of Texas

- Fred H. Blum as assistant professor in general studies
Studied in Geneva, Switzerland; Ph.D. 1952, University of California
- J. Doyle Britton as assistant professor of inorganic chemistry
B.S. 1951, University of California (Los Angeles); Ph.D. 1955, California Institute of Technology
- Robert F. Bruzewski as assistant professor in mines and metallurgy
B.S. 1947, M.S. 1949, Missouri School of Mines and Metallurgy
- Eugenio Calabi as assistant professor of mathematics, Institute of Technology
B.S. 1946, Massachusetts Institute of Technology; M.A. 1947, University of Illinois; M.A. 1948, Ph.D. 1950, Princeton University
- Mary E. Carlson as assistant professor in School of Home Economics
B.S. 1944, University of Minnesota; M.A. 1953, Michigan State College
- Jane E. Carstens as assistant professor in the Library School
B.A. 1942, Southwestern Louisiana Institute; B.S. Lib.Sc. 1945, Louisiana State University; M.S. 1955, Columbia University
- Carl M. Clifton as assistant professor of dairy husbandry
B.S. 1936, Eastern Kentucky State College; M.S. 1939, University of Kentucky; Ph.D. 1954, Ohio State University
- James R. Curtin as assistant professor in College of Education
B.S. 1946, Milwaukee State Teachers College; M.A. 1950, Ph.D. 1954, State University of Iowa
- Alan H. Donagan as assistant professor of philosophy
B.A. 1947, M.A. 1950, University of Melbourne (Australia)
- Gordon M. Duckworth as assistant professor of music
B.A. 1949, University of California (Los Angeles); M.A. 1953, Teachers College, Columbia University
- Herbert G. Johnson as assistant professor-extension plant pathologist in Agricultural Extension
B.S. 1939, Ph.D. 1953, University of Minnesota
- William J. L. Felts as assistant professor of anatomy
B.A. 1948, M.A. 1951, Ph.D. 1952, University of Michigan
- John L. Greenwood as assistant professor in School of Architecture
Architectural Association Schools, London 1937-40 and 1947-49
- Robert C. Hart as assistant professor of English in Humanities Department, Duluth Branch
B.A. 1942, M.A. 1946, Western Reserve University; Ph.D. 1954, Northwestern University
- Robert W. House as assistant professor of music in Humanities Department, Duluth Branch
B.A. 1941, Oklahoma A & M College; M.Mus. 1942, Eastman School of Music; Ed.D. 1954, University of Illinois
- P. Lee Irwin as assistant professor in School of Journalism
B.A. 1941, University of Washington; M.A. 1951, University of Minnesota
- Vera E. Johnson as assistant professor of educational psychology and principal student personnel worker in Student Activities Bureau
B.A. 1932, Birmingham-Southern College; M.A. 1948, Ph.D. 1953, University of Denver
- J. Dorrance Kiser as assistant professor of Art in Humanities Department, Duluth Branch
B.A.A. 1946, M.A.A. 1947, Alabama Polytechnic Institute
- Willard R. Lane as assistant professor of general education and school surveys
B.S. 1941, Wisconsin State College; M.S. 1948, Ph.D. 1951, University of Wisconsin
- Edith M. Lentz as assistant professor in School of Public Health
B.A. 1947, M.A. 1950, University of Chicago; Ph.D. 1956, Cornell University
- Waldo P. Marxen as clinical assistant professor in the School of Dentistry
Ph.B. 1938, Marquette University; D.D.S. 1946, University of Minnesota

- Stanley R. Meinen as assistant professor-district 4-H Club leader, Agricultural Extension
B.S. 1951, Kansas State Agricultural College; M.Ed. 1955, University of Maryland
- Theodore J. Mentel as assistant professor of mechanics and materials, Institute of Technology
B.A. Sc. Aero Eng. 1950, University of Toronto; M.S. 1954, Brown University
- Robert R. Owens as assistant professor of English in Humanities Department, Duluth Branch
B.A. 1941, Dickinson College; M.A. 1948, Ph.D. 1955, University of Minnesota
- Richard H. Paige as assistant professor of music
B.S. 1934, Kansas State College; M.Mus. 1941, Northwestern University
- Luther J. Pickrel as assistant professor-extension economics in Agricultural Extension
B.S. 1943, M.S. 1952, Virginia Polytechnic Institute; Ph.D. 1955, Michigan State College
- Otto N. Raths, Jr., as clinical assistant professor of psychiatry and neurology
B.S. 1938, College of St. Thomas; M.D. 1942, St. Louis University
- Arden K. Ruddell as assistant professor in College of Education
B.S. 1948, M.A. 1949, University of Colorado; Ed.D. 1954, Stanford University
- Richard H. Rust as assistant professor of soils
B.S. 1947, M.S. 1950, Ph.D. 1955, University of Illinois
- Evelyn J. Sanburn as assistant professor in School of Public Health
B.S. 1947, Western Reserve University; M.P.H. 1951, University of Michigan
- Theodore M. Sanders, Jr., as assistant professor of physics
B.A. 1948, Harvard College; M.A. 1951, Ph.D. 1954, Columbia University
- Ira O. Scott, Jr., as assistant professor in the School of Business Administration
B.A. 1940, M.A. 1941, University of Kansas; M.A. 1951, Ph.D. 1953, Harvard University
- William F. Sheeley as clinical assistant professor of psychiatry and neurology
B.A. 1937, Doane College; M.D. 1941, University of Chicago
- Vernon D. E. Smith as clinical assistant professor of surgery
B.A. 1927, M.A. 1928, B.S. 1929, M.D. 1931, University of Minnesota
- Michael I. Sovern as assistant professor in the Law School
B.A. 1953, LL.B. 1955, Columbia University
- Marvin L. Stein as assistant professor of mathematics, Institute of Technology
B.A. 1947, M.A. 1949, Ph.D. 1951, University of California (Los Angeles)
- Richard A. Swalin as assistant professor of mines and metallurgy
B.S. 1951, Ph.D. 1954, University of Minnesota
- Howard E. Wakefield as assistant professor in College of Education
B.S. 1942, M.Ed. 1949, University of Cincinnati; D.Ed. 1953, Teachers College, Columbia University
- John W. Wakely as assistant professor in the School of Dentistry
D.D.S. 1950, University of Minnesota; M.S. 1955, State University of Iowa
- William H. Warner as assistant professor of mechanics and materials, Institute of Technology
B.S. 1950, M.S. 1951, Ph.D. 1953, Carnegie Institute of Technology
- Jesse B. Williams as assistant professor of dairy husbandry
B.S. 1947, Oklahoma A & M College; M.S. 1948, Ph.D. 1950, Pennsylvania State University
- Dewey K. Ziegler as assistant professor University of Minnesota Hospitals (multiple sclerosis)
B.A. 1941, M.D. 1945, Harvard University

PROMOTIONS AND TRANSFERS, 1954-55

Professor and Chairman Speech and Theater Arts to Dean of Summer Session
Elmer W. Ziebarth

Professor to Professor and Associate Dean
William G. Shepherd (Institute of Technology—electrical engineering)

Director and Associate Professor to Director and Professor
Annie L. Baker (University of Minnesota Hospitals—social service)

Professor to Director and Professor
Dale B. Harris (Institute of Child Welfare)

Associate Professor and Assistant Director to Professor and Director
Skuli H. Rutford (Institute of Agriculture—agricultural extension)

Associate Professor to Professor and Associate Director
Raymond D. Pruitt (Mayo Foundation—medicine)

Associate Professor and Acting Chief to Professor and Chief
William N. Lipscomb (Institute of Technology—physical chemistry)

Associate Professor and Law Librarian to Professor and Law Librarian
Leon M. Liddell (Law School)

Clinical Associate Professor to Clinical Professor
Frederic E. B. Foley (College of Medical Sciences—urology)
Adelaide M. Johnson (College of Medical Sciences and Mayo Foundation—
psychiatry)

Lecturer to Professor
Frederick G. Holdaway (Institute of Agriculture—entomology and economic zoology)

Clinical Assistant Professor to Associate Professor
Donald J. Ferguson (College of Medical Sciences—surgery)
John J. Hochfilzer (College of Medical Sciences—otolaryngology)
Frederick H. Van Bergen (College of Medical Sciences—anesthesia)

Clinical Assistant Professor to Clinical Associate Professor
William C. Bernstein (College of Medical Sciences—proctology)
Oscar Bjorndahl (School of Dentistry)
Jacob Blumenthal (College of Medical Sciences—medicine)
Harry B. Hall (College of Medical Sciences—orthopedic surgery)
Henry V. Hanson (College of Medical Sciences—otolaryngology)
Robert E. Priest (College of Medical Sciences—otolaryngology)
Erwin M. Schaffer (School of Dentistry)

Associate Professor to Professor
James Aliferis (College of Science, Literature, and the Arts—music)
Kenneth M. Anderson (Law School)
James I. Brown (Institute of Agriculture—rhetoric)
Theodore Caplow (College of Science, Literature, and the Arts—sociology)
Herbert E. Clefton (College of Science, Literature, and the Arts—Romance
Languages)
Otto E. Domian (College of Education)
Jesse E. Edwards (Mayo Foundation—pathologic anatomy)
W. Edwin Emery, Jr., (School of Journalism)
Robert A. Good (College of Medical Sciences—pediatrics)
Herbert G. Heneman (School of Business Administration—Industrial Relations Center)

William S. Howell (College of Science, Literature, and the Arts—speech and theater arts)
 Harvey H. Hoyt (School of Veterinary Medicine)
 Arthur B. Hunt (Mayo Foundation—obstetrics and gynecology)
 Ralph L. Kitchell (School of Veterinary Medicine)
 Edwin H. Lewis (School of Business Administration)
 Maude L. Lindquist (Duluth Branch—social studies)
 Don Martindale (College of Science, Literature, and the Arts—sociology)
 George W. Mather (School of Veterinary Medicine)
 Monrad G. Paulsen (Law School)
 Norville C. Pervier (Institute of Technology—inorganic chemistry)
 Valworth R. Plumb (Duluth Branch—professional education)
 Jay H. Sautter (School of Veterinary Medicine)
 Arthur E. Schneider (School of Forestry)
 Alvin F. Sellers (School of Veterinary Medicine)
 Richard O. Sielaff (Duluth Branch—social studies)
 Charles H. Slocumb (Mayo Foundation—medicine)
 John G. Turnbull (School of Business Administration)
 Tracy F. Tyler (College of Education)
 Harry M. Weber (Mayo Foundation—radiology)
 Harold T. Widdowson (College of Education)
 Arthur N. Wilcox (Institute of Agriculture—horticulture)

Associate Professor District Supervisor County Agent Work to Associate Professor and Assistant Director
 Roland Abraham (Institute of Agriculture—agricultural extension)

Assistant Professor to Associate Professor

Rodney A. Briggs (Institute of Agriculture—agricultural extension)
 Warren A. Bennett (Mayo Foundation—pathologic anatomy)
 Jacques R. Chipault (Hormel Institute)
 Louis S. Cuendet (Institute of Agriculture—agricultural biochemistry)
 Donald P. Duncan (School of Forestry)
 Dorothy Dyer (College of Science, Literature, and the Arts—general studies)
 Lorenz E. A. Eitner (College of Science, Literature, and the Arts—art)
 Earl C. Elkins (Mayo Foundation—physical medicine and rehabilitation)
 Homer D. Fausch (Institute of Agriculture—Northwest School and Station)
 H. Robert Giles (Physical Education and Athletics)
 John H. Grindlay (Mayo Foundation—physiology)
 Paul S. Hagen (College of Medical Sciences—medicine)
 Robert L. Heller (Duluth Branch—geology)
 John W. Henderson (Mayo Foundation—ophthalmology)
 Helen A. Ludwig (School of Home Economics)
 Rufus W. Lumry (Institute of Technology—physical chemistry)
 Homer T. Mantis (Institute of Technology—mechanical engineering)
 Cecil H. Meyers (Duluth Branch—social studies)
 Franz Montgomery (College of Science, Literature, and the Arts—English)
 Moses Passer (Duluth Branch—chemistry)
 Howard F. Polley (Mayo Foundation—medicine)
 Ephraim Rosen (College of Science, Literature, and the Arts—psychology)
 Stanley Schachter (College of Science, Literature, and the Arts—psychology)
 Hermann Schlenk (Hormel Institute)
 Edwin L. Schmidt (College of Medical Sciences and Institute of Agriculture—bacteriology and soils)
 Hubert H. Serr (School of Dentistry)
 Harlan M. Smith (School of Business Administration)
 William Stead (College of Medical Sciences—medicine)
 J. Minott Stickney (Mayo Foundation—medicine)
 Donald Torbert (College of Science, Literature, and the Arts—art)
 Edith West (College of Education—University High School)
 Leslie Zieve (College of Medical Sciences—medicine)

Lecturer to Associate Professor

Eugene H. Falk (College of Science, Literature, and the Arts—Romance languages)

Instructor to Associate Professor

Henriette E. Saloshin (School of Social Work)

Assistant Professor to Assistant Professor and Chairman

Thomas F. Magner (College of Science, Literature, and the Arts—Slavic and Oriental languages)

Visiting Assistant Professor to Assistant Professor

Henry D. Block (Institute of Technology—mathematics)

Research Associate to Assistant Professor

Allan G. Peterson (Institute of Agriculture—entomology and economic zoology)

Research Associate and Assistant Professor to Assistant Director and Assistant Professor

John E. Stecklein (Bureau of Institutional Research)

Lecturer to Assistant Professor

Warren B. Cheston (College of Science, Literature, and the Arts—physics)

Instructor to Assistant Professor

Paul Adams (College of Medical Sciences—pediatrics)

Donald S. Amatuzio (College of Medical Sciences—medicine)

Arthur H. Ballet (College of Education—University High School)

Oliver H. Beahrs (Mayo Foundation—surgery)

Robert E. Beverley (Duluth Branch—music)

Dorothy E. Bonnell (School of Home Economics)

Henry A. Brown (Mayo Foundation—otolaryngology and rhinology)

Charles W. Carr (College of Medical Sciences—physiological chemistry)

Huai C. Chiang (Duluth Branch—biology)

Norman A. Christensen (Mayo Foundation—medicine)

Reynold P. Dahl (Institute of Agriculture—agricultural economics)

Nina E. Draxten (General College)

Allen L. Downs (Duluth Branch—music)

Margaret M. Forbes (College of Science, Literature, and the Arts—classics)

Leon W. Green (Institute of Technology—mathematics)

Ruth E. Green (Duluth Branch—Laboratory School)

Eugene D. Grim (College of Medical Sciences—physiology)

Otis F. Hall (School of Forestry)

Gustav A. Hedberg (Mayo Foundation—medicine)

H. Frederick Helmholtz, Jr. (Mayo Foundation—experimental metabolism)

Claude R. Hitchcock (College of Medical Sciences—Cancer Detection Center)

Pershing B. Hofslund (Duluth Branch—biology)

Robert W. Hollenhorst (Mayo Foundation—ophthalmology)

John C. Ivins (Mayo Foundation—orthopedic surgery)

Arthur L. Johnson (College of Science, Literature, and the Arts—sociology)

Irwin H. Kaiser (College of Medical Sciences—obstetrics and gynecology)

William A. Kleinhenz (Institute of Technology—drawing and descriptive geometry)

Clifford L. Lake (Mayo Foundation—otolaryngology and rhinology)

Agnes D. Love (School of Nursing)

Frank Martin (College of Medical Sciences—medicine)

Donald E. McCoy (General College)

Sibyl G. Norris (School of Nursing)

Eugene E. Petersen (School of Dentistry)

Mabel Powers (College of Science, Literature, and the Arts—senior college)
 Roy C. Prentis (College of Education)
 Alvin Prottengeier (College of Science, Literature, and the Arts—German)
 L. Clement Ramsland (College of Science, Literature, and the Arts—general studies)
 Verna L. Rausch (College of Medical Sciences—medical technology)
 Robert M. Salassa (Mayo Foundation—medicine)
 Robert E. Sausen (School of Dentistry)
 Alvin Schultz (College of Medical Sciences—medicine)
 Robert E. Sloan (College of Science, Literature, and the Arts—geology and mineralogy)
 Ralph E. Smith (College of Medical Sciences—medicine)
 Martin Steinmann, Jr. (College of Science, Literature, and the Arts—English)
 Hendrik J. Svien (Mayo Foundation—neurologic surgery)
 Gordon I. Swanson (College of Education)
 Marvin J. Taves (College of Science, Literature, and the Arts—sociology)
 James E. Thompson (Institute of Technology—mathematics)
 Suzanne Tinker (Physical Education for Women)
 Dorothy E. Titt (School of Nursing)
 Louis E. Ward (Mayo Foundation—medicine)

Research Fellow to Assistant Professor

James E. DeVay (Institute of Agriculture—plant pathology and botany)

Clinical Instructor to Clinical Assistant Professor

Jack Friedman (College of Medical Sciences—radiology)
 Benjamin Fuller (College of Medical Sciences—medicine)
 Albert J. Greenberg (College of Medical Sciences—medicine)
 Donald R. Lannin (Students' Health Service—orthopedics)
 Elizabeth Lowry (College of Medical Sciences—pediatrics)
 Malvin J. Nydahl (College of Medical Sciences—orthopedic surgery)
 Hildred M. Schuell (College of Medical Sciences—psychiatry and neurology)
 Virgil R. Zaring (College of Medical Sciences—psychiatry and neurology)

Clinical Instructor to Assistant Professor

Robert D. Wirt (College of Science, Literature, and the Arts—psychology and Institute of Child Welfare)

Instructor Southern School of Agriculture to Assistant Professor Northwest School and Station

Eugene C. Miller (Institute of Agriculture)

Senior Student Personnel Worker and Instructor to Assistant Professor and Senior Student Personnel Worker

Francis C. Gamelin (Office of Dean of Students)

Instructor Rural Youth Agent to Assistant Professor-Assistant State Young Men and Women Leader

Robert R. Pinches (Institute of Agriculture—agricultural extension)

Kandiyohi County Home Agent-Assistant Professor to Assistant Professor-District Supervisor

Rosella H. Qualey (Institute of Agriculture—agricultural extension)

Agricultural Agent-Assistant Professor Isanti County to Assistant Professor-District 4-H Leader

Earl S. Berterud (Institute of Agriculture—agricultural extension)

Agricultural Agent-Assistant Professor Marshall County to Assistant Professor-District Supervisor County Agent Work

Frank W. Forbes (Institute of Agriculture—agricultural extension)

Instructor-State Club Agent to Assistant Professor-Assistant Leader 4-H Club
Gwendolyn M. Bacheller (Institute of Agriculture—agricultural extension)

Hennepin County Home Agent-Assistant Professor to Assistant Professor Extension Specialist Home Improvement
A. Elizabeth Burr (Institute of Agriculture—agricultural extension)

Murray County Agricultural Agent to Assistant Professor-District Supervisor County Agent Work
Arvid B. Hagen (Institute of Agriculture—agricultural extension)

PROMOTIONS AND TRANSFERS, 1955-56

Dean to Professor

Maynard E. Pirsig (Law School)

Assistant Dean-Professor to Associate Dean-Professor

Alfred L. Vaughan (General College)

Professor to Assistant Dean-Professor

Francis M. Boddy (School of Business Administration)

Assistant Dean-Associate Professor to Clinical Associate Professor

Howard L. Horns (College of Medical Sciences—medicine)

Assistant Professor to Assistant Dean-Assistant Professor

N. L. Gault (College of Medical Sciences—medicine and physical medicine and rehabilitation)

Assistant Dean-Instructor to Assistant Dean-Assistant Professor

William F. Maloney (College of Medical Sciences—medicine)

Professor to Professor and Head

Bryce L. Crawford, Jr. (School of Chemistry)

Instructor-Assistant to the Dean to Assistant Professor-Assistant Dean

Martin L. Snoke (Dean of Students)

Associate Professor to Assistant Director Agricultural Experiment Station and Professor

Milton F. Kernkamp (Institute of Agriculture—plant pathology and botany)

Associate Professor to Professor

Alexander Albert (Mayo Foundation—physiology)

Cyrus P. Barnum (College of Medical Sciences—physiological chemistry)

Lyda C. Belthuis (Duluth Branch—social studies)

David K. Berninghausen (Library School)

Henry Borow (General College)

Ernest B. Brown (College of Medical Sciences—physiology)

Alfred C. Caldwell (Institute of Agriculture—soils)

Kenneth E. Clark (College of Science, Literature, and the Arts—psychology)

Emmett Davidson (Duluth Branch—social studies)

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

Henry J. Ehlers (Duluth Branch—humanities)

Albert W. Frenkel (College of Science, Literature, and the Arts—botany)

Paul L. Holmer (College of Science, Literature, and the Arts—philosophy)

Arthur B. Jennings (College of Science, Literature, and the Arts—music University Organist)

Joseph T. King (College of Medical Sciences—physiology)

Herman C. Lichstein (College of Medical Sciences—bacteriology)

Arthur N. Milgram (Institute of Technology—mathematics)
 Edward P. Ney (College of Science, Literature, and the Arts—physics)
 William V. O'Connor (College of Science, Literature, and the Arts—
 English)
 John M. H. Olmsted (College of Science, Literature, and the Arts—
 mathematics)
 William E. Parham (Institute of Technology—organic chemistry)
 Eugene P. Pfeider (School of Mines and Metallurgy)
 Paul C. Rosenbloom (Institute of Technology—mathematics)
 Grace M. Roth (Mayo Foundation—physiology)
 Lyndell N. Scott (School of Social Work)
 Robert N. Shoffner (Institute of Agriculture—poultry husbandry)
 Frederick Swain, Jr. (College of Science, Literature, and the Arts—
 geology and mineralogy)
 Niels Thorpe (Physical Education and Athletics)
 Alvin F. Weber (School of Veterinary Medicine)
 Wallace F. White (College of Pharmacy)

Clinical Associate Professor to Clinical Professor

Charles E. Connor (College of Medical Sciences—otolaryngology)
 Rudolph W. Delton (School of Dentistry)
 Jerome A. Hilger (College of Medical Sciences—otolaryngology)

Research Associate to Associate Professor

George R. Blake (Institute of Agriculture—soils)
 Allan H. Morrish (Institute of Technology—electrical engineering)

Clinical Assistant Professor to Clinical Associate Professor

Herbert A. Carlson (School of Dentistry)
 Joseph A. Resch (College of Medical Sciences—psychiatry and neurology)

Clinical Assistant Professor to Professorial Lecturer

Herman A. Garmers (School of Dentistry)

Instructor to Associate Professor

Paul B. Hammond (School of Veterinary Medicine)
 Francis A. Spurrell (School of Veterinary Medicine)
 Clarence M. Stowe (School of Veterinary Medicine)

Lecturer to Associate Professor

Francis B. Moore (Duluth Branch—chemistry)
 Arvid N. Pearson (Duluth Branch—social studies)

Instructor and Acting Head to Associate Professor and Head

John P. Arnold (School of Veterinary Medicine—veterinary surgery and
 radiology)

*Instructor and Assistant to Director Resident Instruction to Associate Professor
 and Assistant to Director Resident Instruction*

Keith N. McFarland (Institute of Agriculture)

*Freeborn County Agricultural Agent-Assistant Professor to Associate Pro-
 fessor Extension Animal Husbandman*

Robert E. Jacobs (Institute of Agriculture—agricultural extension)

Research Associate to Assistant Professor

Leon A. Snyder (Institute of Agriculture—agronomy and plant genetics)
 Paul E. Waibal (Institute of Agriculture—poultry husbandry)

Assistant Professor to Associate Professor

Bernard P. Arnest (College of Science, Literature, and the Arts—art)
 Wendell L. Bartholdi (School of Dentistry)
 Donald W. Bates (Institute of Agriculture—agricultural extension)

Jacob E. Bearman (School of Public Health)
 Gust Bitsianes (School of Mines and Metallurgy)
 J. Morris Blair (College of Science, Literature, and the Arts—physics)
 Ian A. Brown (College of Medical Sciences—neurology)
 John A. Dettmann (Duluth Branch—social studies)
 Allen Downs (College of Science, Literature, and the Arts—art)
 William W. Fletcher (College of Science, Literature, and the Arts—speech and theater arts)
 Rodolfo O. Floripe (College of Science, Literature, and the Arts—Romance Languages)
 George Freier (College of Science, Literature, and the Arts—physics)
 Albert M. Fulton (General Extension Division—speech)
 Wendell P. Glick (Duluth Branch—humanities)
 Joan Gordon (School of Home Economics)
 Franz Halberg (College of Medical Sciences—cancer biology in physiology dept)
 Otis F. Hall (School of Forestry)
 Howard G. Hanson (Duluth Branch—physics)
 Harold L. Hayes (Duluth Branch—speech and dramatics)
 Donald C. Heath (School of Architecture)
 Richard M. Hewitt (Mayo Foundation—medical literature)
 Thomas P. Hughes (Institute of Technology—mechanical engineering)
 Raymond J. Jackman (Mayo Foundation—proctology)
 Eloise Jaeger (Physical Education for Women)
 Karl R. Johansson (College of Medical Sciences—bacteriology)
 John A. Johnson (College of Medical Sciences—physiology)
 Ruth V. Johnston (School of Nursing)
 Murray Krieger (College of Science, Literature, and the Arts—English)
 Robert F. Lambert (Institute of Technology—electrical engineering)
 Hubert M. Loy (Duluth Branch—professional education)
 Arthur Madden (Institute of Technology—chemical engineering)
 Mary Malcolm (College of Science, Literature, and the Arts—music)
 Carlos Martinez (College of Medical Sciences—physiology)
 James F. Marvin (College of Medical Sciences—radiology)
 Glenn T. McCleary (Institute of Agriculture—agricultural extension)
 Gayle W. McElrath (Institute of Technology—mechanical engineering)
 Gerald R. McKay (Institute of Agriculture—agricultural extension)
 Edwin F. Menze (College of Science, Literature, and the Arts—German)
 Robert H. Miller (College of Pharmacy)
 Clark H. Millikan (Mayo Foundation—neurology)
 Howard A. Morris (Institute of Agriculture—dairy husbandry)
 Maurice Ostrander (Physical Education and Athletics)
 Frederick L. Pfeiffer (College of Science, Literature, and the Arts—German)
 Robert F. Pierce (Duluth Branch—speech and dramatics)
 Helen L. Pilcher (School of Home Economics)
 Orville S. Privett (Hormel Institute)
 William E. Rempel (Institute of Agriculture—animal husbandry)
 Wallace A. Russell (College of Science, Literature, and the Arts—psychology)
 Earl V. Rymer (College of Science, Literature, and the Arts—music)
 Dale K. Sorensen (School of Veterinary Medicine)
 G. Robert Stange (College of Science, Literature, and the Arts—English)
 Gordon I. Swanson (College of Education—agricultural education)
 Elmer L. Thomas (Institute of Agriculture—dairy husbandry)
 Fae Y. Tichy (College of Medical Sciences—neurology)
 Franz Vitovec (Institute of Technology—mechanics and materials)
 Gina Wangsness (College of Science, Literature, and the Arts—German)
 Lewis W. Wannamaker (College of Medical Sciences—pediatrics)
 Ward M. Wells (Duluth Branch—physical education)
 C. Arthur Williams, Jr. (School of Business Administration)
 Julius F. Wolff, Jr. (Duluth Branch—social studies)
 Mildred R. Ziegler (College of Medical Sciences—pediatrics)

Sr. Student Personnel Worker to Assistant Professor of Speech and Sr. Student Personnel Worker

Gordon M. Low (Dean of Students)
Dale J. Lundeen (Dean of Students)

Sr. Student Personnel Worker and Assistant Professor to Assistant Professor
Edwin B. Wenzel (Duluth Branch—professional education)*Instructor to Assistant Professor*

Murray Bates (Students' Health Service)
Charles M. Blackburn (Mayo Foundation—medicine)
Allan A. Blatherwick (Institute of Technology—mechanics and materials)
Lloyd Boyce (Physical Education and Athletics)
Stanley Bruckenstein (Institute of Technology—analytical chemistry)
Gilbert S. Campbell (College of Medical Sciences—general surgery)
George A. Donohue (College of Science, Literature, and the Arts—sociology)
Marion T. Everson (School of Home Economics)
Joseph G. Gall (College of Science, Literature, and the Arts—zoology)
Clifford F. Gastineau (Mayo Foundation—medicine)
Joseph E. Geraci (Mayo Foundation—medicine)
Mary E. Giffin (Mayo Foundation—psychiatry)
Annette T. Gormican (School of Home Economics)
John E. Hafstrom (Duluth Branch—mathematics and engineering)
Clifford Haga (College of Science, Literature, and the Arts—English)
Lloyd E. Harris (Mayo Foundation—pediatrics)
John R. Hodgson (Mayo Foundation—radiology)
Jerome Liebling (College of Science, Literature, and the Arts—art)
Robert K. Lindorfer (School of Veterinary Medicine)
Maoling Liu (Institute of Technology—electrical engineering)
Frank M. MacDonald (College of Medical Sciences—medicine)
William F. Mazzitello (College of Medical Sciences—medicine)
William M. McConahey (Mayo Foundation—medicine)
Gordon J. Murphy (Institute of Technology—electrical engineering)
David W. Noble (College of Science, Literature, and the Arts—history)
Gertrude L. Pease (Mayo Foundation—clinical pathology)
Alvey M. Pilkey (Northwest School and Station)
Robert C. Slater (General Extension Division—mortuary science)
Grover C. Stephens (College of Science, Literature, and the Arts—zoology)
William H. Strand (College of Education)
Eugenia R. Taylor (School of Nursing)
D. Burnham Terrell (College of Science, Literature, and the Arts—philosophy)
John A. Ulrich (Mayo Foundation—bacteriology)
Richard E. Widmer (Institute of Agriculture—horticulture)
Horace Zinneman (College of Medical Sciences—medicine)

Lecturer to Assistant Professor

Arthur G. Hennings (College of Medical Sciences—Hospital Administration)
Philip T. Meyers (School of Business Administration)
Jay Vogelbaum (College of Science, Literature, and the Arts—general studies)
Albert K. Wickesberg (School of Business Administration)

Research Fellow to Assistant Professor

Eldon G. Hill (Hormel Institute)

Clinical Fellow to Assistant Professor and Assistant Director Rehabilitation Center

Glenn Gullickson (College of Medical Sciences—physical medicine and rehabilitation)

Clinical Instructor to Clinical Assistant Professor

Osmond J. Baggenstoss (College of Medical Sciences—radiology)
 Irving C. Bernstein (College of Medical Sciences—psychiatry and neurology)
 Ellis N. Cohen (College of Medical Sciences—anesthesiology)
 Kenneth C. Erickson (School of Dentistry)
 Howard M. Frykman (College of Medical Sciences—proctology)
 Harold Hullsiek (College of Medical Sciences—proctology)
 Elwin E. Luhring (School of Dentistry)
 Robert N. Nelson (School of Dentistry)
 William B. Nienaber (School of Dentistry)
 Elmer C. Paulson (College of Medical Sciences—radiology)
 Donald H. Peterson (College of Medical Sciences—radiology)
 Lloyd F. Sherman (College of Medical Sciences—proctology)

Clinical Instructor to Assistant Professor

Joseph Jorgens (College of Medical Sciences—radiology)
 William D. Kelly (College of Medical Sciences—surgery)
 Donn G. Mosser (College of Medical Sciences—radiology)

Manager to Assistant Professor and Manager

Burton Paulu (General Extension Division—radio station)

Agricultural Specialist Farm Management to Assistant Professor Extension Economist Farm Management

Harlund G. Routhe (Institute of Agriculture—agricultural extension)

Library Staff Given Academic Status

Vera M. Clausen as Assistant Professor and Librarian Biomedical Library
 Norma Hovden as Assistant Professor and Circulation Librarian
 James Kingsley as Assistant Professor and Chief Acquisitions Librarian
 Blanche Moen as Assistant Professor and Chief Reference Librarian
 Harald Ostvold as Assistant Professor and Librarian Institute of Agriculture
 Hubert Sauter as Assistant Professor and Librarian Institute of Technology
 Wesley Simonton as Assistant Professor and Chief Catalog Librarian

LEAVES OF ABSENCE, 1954-55

- J. William Buchta, associate dean and professor of physics, College of Science, Literature, and the Arts, continuation of leave with salary July 1, 1954 to March 15, 1955, to work with the National Science Foundation Advisory Committee on Government-University Relationships, Washington, D. C. and for 33% with salary March 16 to June 30, 1955 to complete the assignment (the University of Minnesota to be reimbursed by the National Science Foundation).
- Harold S. Diehl, dean of the College of Medical Sciences and professor of public health administration, with salary May 7-28, 1955, to serve as a member of the United States delegation to the eighth World Health Assembly in Mexico City.
- Horace T. Morse, dean of the General College, with salary July 12-27, 1954, to serve as consultant in Survey of Higher Education in State of California.
- Athelstan F. Spilhaus, dean of the Institute of Technology, with salary September 13-October 1, 1954, to attend Tenth General Assembly of the International Union of Geodesy and Geophysics in Rome as a delegate of the National Academy of Sciences, National Research Council; with salary November 8-December 3, 1954, to attend the Eighth Session of the General Conference of UNESCO at Montevideo, Uruguay, as a member of the United States delegation; without salary March 17-April 7, 1955, to attend meeting of UNESCO Executive Board in Paris.
- Neal R. Amundson, professor and head of chemical engineering, sabbatical furlough for 1954-55, to accept a Fulbright scholarship at Cambridge

- University to study fluid dynamics and visit chemical engineering laboratories in England and the Continent.
- Wallace D. Armstrong, professor and head physiological chemistry, with salary May 20 to June 1, 1955 to visit laboratories and lecture in Sweden and Denmark and receive an honorary degree of Doctor of Odontology from the Royal Dental School of the University of Stockholm.
- H. Harvard Arnason, professor and chairman of art, without salary for 20% time for 1954-55 to serve as director of the Walker Art Center, Minneapolis.
- Abe B. Baker, professor of psychiatry and neurology and director of the division of neurology, with salary September 16-November 15, 1954 to lecture at the Universities of Oslo and Bergen, Norway.
- Guy L. Bond, professor in College of Education, sabbatical furlough for 1954-55 to study the teaching of reading in other English speaking countries.
- Jan O. M. Broek, professor and chairman of geography, sabbatical furlough for 1954-55 to accept a Fulbright award as visiting professor at the University of Malaya, Singapore and do field work in the Malay Archipelago under the auspices of the U. S. Office of Naval Research.
- Theodore Caplow, professor of sociology, sabbatical furlough October 1, 1954 to June 30, 1955 to accept a Fulbright grant to teach and do research in urban ecology at the University of Utrecht, The Netherlands.
- Asher N. Christensen, professor of political science, sabbatical furlough for 1954-55 to accept a Fulbright lectureship award at University College, Bangor, Wales.
- Samuel T. Coulter, professor of dairy husbandry, with salary September 27-October 10, 1954 visiting dairy plants in France and Italy and research institutions and without salary October 11-November 20, 1954 to participate in seminar on use of milk in warm countries at Amalfi, Italy and to assist with the training center at Bombay, India at the invitation of the Food and Agriculture Organization of the United Nations.
- Edward W. Davis, professor in Mines Experiment Station, continuation of leave for 10% time without salary for 1954-55 for work on the taconite development program at Babbitt, Minnesota.
- Ralph L. Dowdell, professor in School of Mines and Metallurgy, with salary February 1 to March 31, 1955 on account of illness.
- Carl J. Eide, professor of plant pathology and botany, without salary June 16 to September 15, 1955 to serve as scientific aide with the Rockefeller Foundation to assist in the program of potato production in Colombia and Mexico.
- Gerald T. Evans, director of hospital laboratories and professor of medicine, continuation of sabbatical furlough for fall quarter and without salary for winter and spring quarters of 1954-55 to continue his work in clinico-biochemical research at Naval Medical Research Unit No. 3, American Embassy, Cairo, Egypt.
- Evan F. Ferrin, professor and head of animal husbandry, with salary March 1, to April 15, 1955 on account of illness.
- Thor W. Gullickson, professor of dairy husbandry, with salary September 2-16, 1954 as an extension of vacation tour of Europe visiting agricultural experiment stations in England, Norway, Sweden, Denmark, and Holland in order to observe new methods and programs of research in dairy husbandry.
- William L. Hart, professor of mathematics, College of Science, Literature, and the Arts, sabbatical furlough for 1954-55 to extend knowledge of mathematical statistics with modern electronic equipment at the Institute of Numerical Analysis at the University of California, Los Angeles.
- Walter W. Heller, professor in School of Business Administration, with salary February 15 to March 15, 1955 and for 67% time for the spring quarter of 1954-55 on account of illness.
- Edward L. Hill, professor of physics, without salary January 16 to June 15, 1955 on account of illness.
- Elton L. Johnson, professor and head of poultry husbandry, with salary July 4-17, 1954 for annual military training.
- Ancel B. Keys, professor in School of Public Health laboratory of physiological hygiene, with salary February 17 to April 26, 1955 to conduct and

- promote research on relationships between the diet, blood chemistry and the development of degenerative heart disease in man at Cape Town, South Africa.
- John C. Kidneigh, professor and director of the School of Social Work, without salary July 16, to August 31, 1954 to serve for the Unitarian Service Committee on a special project and survey in Korea on the needs for social work education.
- Werner B. Levi, professor of political science, without salary for spring quarter of 1954-55 to accept a Fulbright award for a research entitled "The Growth of Asian Consciousness in the Australian Mind" and to study Australia's present relations with Asia.
- Benjamin E. Lippincott, professor of political science, sabbatical furlough for 1954-55 to complete a volume in political theory on the *State in the Modern World*.
- Samuel H. Monk, professor of English, without salary for 1954-55 to serve as visiting professor at New York University.
- Lowry Nelson, professor of sociology, sabbatical furlough for 1954-55 to gather materials concerning rural life in the countries of Western Europe as preparation for offering course, Comparative Rural Societies of Western Europe, and to assemble material for a book on rural Italy.
- Ralph G. Nichols, professor of rhetoric, Institute of Agriculture, without salary February 14-25, 1955 to conduct the unit on "Effective Communication in Industry" for the executive development course sponsored by the Oklahoma A & M Institute of Technology.
- James J. Ryan, professor of mechanical engineering, continue leave for 40% time without salary for 1954-55 for research on electromechanical equipment and specialized instrumentation at General Mills, Inc., and without salary November 16 to December 15, 1954 to spend time in Europe assisting KLM Airlines which has experienced two serious crashes and to install and operate the Ryan Flight Recorder and visit their terminals and study their plane flight characteristics.
- William G. Shepherd, professor of electrical engineering, with salary July 29 to October 4, 1954 to attend the eleventh general assembly of the International Scientific Radio Union as a National Research Council delegate and to visit a number of European laboratories in connection with university contracts.
- Lloyd M. Short, professor of political science and director of the Public Administration Center, without salary for the winter quarter of 1954-55 to accept an appointment as consultant in the Institute of Public Administration in the University of the Philippines.
- Nelson T. Spratt, Jr., professor of zoology, without salary February 1 to June 15, 1955 to serve as a Hill Family Visiting Professor at Gustavus Adolphus College and give lectures at Hamline, Carleton, Macalester and St. Olaf colleges.
- Lawrence D. Steefel, professor of history, sabbatical furlough for 1954-55 to travel and study in Germany and Europe on the life and times of Bismarck.
- H. Burr Steinbach, professor of zoology, with salary September 25 to October 10, 1954 to attend the Josiah Macy Foundation conference on Group Processes in Ithaca, New York, and the Council for International Organization of Medical Sciences at the Royal Society of Medicine in London, England.
- Lorenz G. Straub, professor, head and director of civil engineering and hydraulics, St. Anthony Falls Laboratory, with salary November 16-30, 1954 to serve as consultant to the Economic Council of Government of Egypt involving water resources development on the Nile river.
- Jerome T. Syverton, professor and head of bacteriology and immunology, with salary February 14-26, 1955 to serve as visiting professor at the University of California Medical Center in their teaching program and cancer research.
- Alan E. Treloar, professor in School of Public Health, with salary January 3 to March 24, 1955 to study public health and vital statistics problems in selected Central and South American nations sponsored by the World Health Organization.

- Cecil J. Watson, professor and head of medicine, with salary March 22 to May 5, 1955 to lecture and conduct conferences in medical schools in Lebanon, Iraq, Syria, Jordan, Egypt, and Jerusalem.
- Dale Yoder, professor in the School of Business Administration, without salary for winter quarter of 1954-55 to serve as visiting professor at Stanford University.
- Harold B. Allen, associate professor of English, sabbatical furlough for 1954-55 to accept a Fulbright award as part of an American team engaged in making an analysis of teaching methods and materials in Egypt.
- Joseph T. Anderson, associate professor in the School of Public Health laboratory of physiological hygiene, continuation of leave for 10% time without salary for 1954-55 to work for the State of Minnesota Mental Health Authority in cooperative research project at Hastings State Hospital.
- Philip A. Anderson, associate professor of animal husbandry, with salary November 22 to December 31, 1954 on account of illness.
- Ivan D. Baronofsky, associate professor of surgery Ancker Hospital Funds, without salary February 15 to June 30, 1955 for military service.
- Bernard Bowron, Jr., associate professor of English, sabbatical furlough for 1954-55 to do research for a book.
- Kenneth E. Clark, associate professor of psychology, continuation of half time leave without salary for 1954-55 to study the status of psychological personnel over the United States under the auspices of the National Science Foundation.
- Cora E. Cooke, associate professor extension specialist in poultry, Agricultural Extension, with salary December 20, 1954 to February 28, 1955 on account of illness.
- Robert M. Douglass, associate professor state leader-program planning, Agricultural Extension, with salary June 13-25, 1955 for annual military training.
- Lynwood G. Downs, associate professor of German, sabbatical furlough for 1954-55 for refresher courses in German in Europe.
- Daniel C. Dvoracek, associate professor extension economist marketing, Agricultural Extension, with salary July 27 to November 5, 1954, on account of illness.
- Dorothy T. Dyer, associate professor in general studies, without salary for 1954-55 to serve as consultant on family life for the Division of Education of the American Social Hygiene Association, New York City.
- John J. Hospers, associate professor of philosophy, sabbatical furlough for 1954-55 to be spent in England for further study in the field of ethics.
- Ross L. Huntsinger, Nobles County agricultural agent-associate professor, Agricultural Extension, sabbatical furlough April 13 to June 3, 1955 for work toward Master's degree.
- Thomas B. Irving, associate professor of Romance Languages, sabbatical furlough for 1954-55 to visit Spain and North Africa to study Hispano-Arabic culture.
- Arthur Jennings, associate professor of music and university organist, sabbatical furlough for spring quarter of 1954-55 to survey field of organ teaching, playing, composing and techniques in choral and organ church music in Italy, France, Belgium, Germany, and England, and to write a series of articles for professional journals of the organ.
- Philip S. Jordan, associate professor at West Central School and Experiment Station, with salary January 1-31, 1955 on account of illness.
- Gisela Konopka, associate professor in the School of Social Work, sabbatical furlough for 1954-55 to make a systematic study of the social work history and theory, time to be spent at Columbia University.
- Werner P. Koella, associate professor physiology, without salary May 15-June 30, 1955 for military service.
- Joseph J. Kwiat, associate professor of general studies, sabbatical furlough for 1954-55 to accept a Fulbright research scholarship in Germany.
- William N. Lipscomb, associate professor of physical chemistry, sabbatical furlough for 1954-55 to study the valence theory at Oxford University, England.

- Kenneth MacCorquodale, associate professor of psychology, sabbatical furlough for 1954-55 to study at the University of California under a grant from the Fund for the Advancement of Education.
- Arthur E. Naftalin, associate professor of political science, without salary November 29, 1954 to June 15, 1955 to accept an interim appointment as State Commissioner of Administration.
- Benjamin Nelson, associate professor of general studies, without salary for 1954-55 on account of illness.
- Earl A. Nelson, clinical associate professor in the School of Dentistry, continuation of leave without salary for 1954-55 to develop research on dental castings.
- Erwin M. Schaffer, clinical associate professor in the School of Dentistry, without salary for 1954-55 for military service.
- Samuel Schwartz, associate professor of medicine, with salary February 1 to March 15, 1955 to participate in a Ciba symposium in London and to lecture at University of Aberdeen in Scotland, Hebrew University in Jerusalem, the Beilinson Hospital in Tel Aviv, and the University of Madrid.
- Ernst Simonson, associate professor in School of Public Health laboratory of physiological hygiene, continuation of leave for 25% time without salary for 1954-55 for work at the Minneapolis Veterans Hospital and at Mt. Sinai Hospital.
- Robert F. Spencer, associate professor of anthropology, without salary for fall quarter of 1954-55 to undertake a temporary assignment as consultant for the Committee for Free Asia, Inc., San Francisco, California, involving the attendance at the Sixth World Buddhist Conference in Rangoon, Burma.
- Malcolm B. Stinson, associate professor in the School of Social Work, continue leave for 75% time without salary for 1954-55 to serve with Greater St. Paul Community Chest and Councils.
- Henry L. Taylor, associate professor in the School of Public Health laboratory of physiological hygiene, with salary March 18 to May 30, 1955 to assist Dr. Keys in carrying out research on diet and cardiovascular disease in Italy and Sardinia.
- Lloyd Ulman, associate professor in School of Business Administration, without salary for 1954-55 to accept a research opportunity for a special labor history in joint authorship with Professor John Dunlop of Harvard University and Professor Walter Galenson of the University of California.
- John T. Wheeler, associate professor in the School of Business Administration, without salary for 1954-55 to accept a visiting associate professorship at the University of California to develop a new area in accounting.
- Ben Willerman, associate professor and senior student personnel worker in Student Counseling Bureau, without salary October 6, 1954 to July 31, 1955 to accept a Fulbright award as lecturer at the University of Amsterdam and the University of Groningen, The Netherlands.
- Charlotte G. Wolff, associate professor in the School of Home Economics, without salary for the winter and spring quarters of 1954-55 to accept the award of an American Home Economics Association fellowship at Ohio State University.
- Chester W. Wood, associate professor and director of student personnel services at the Duluth Branch, without salary January 16 to June 30, 1955 to serve as chief of the Division of Education in United Nations Korean Reconstruction Agency, Seoul, Korea.
- Herbert E. Wright, Jr., associate professor of geology, sabbatical furlough for 1954-55 for geologic studies in Iraq and adjacent areas to determine the physical and climatic setting of prehistoric cultures, particularly for the important stage of the introduction of agriculture, under a Guggenheim fellowship.
- Robert J. Ames, assistant professor in general studies, sabbatical furlough for 1954-55 to accept a Ford grant for study in Florence, Italy.
- Else H. Bockstruck, assistant professor of physical education for women, without salary for 25% time to secure teaching contact needed at the elementary school level in St. Paul.

- Nina Draxten, assistant professor of literature and writing in General College, without salary for 1954-55 to coordinate, supervise and revitalize the English program in the St. Croix Falls, Wisconsin public schools.
- Beulah T. Gautefeld, assistant professor in School of Nursing, without salary September 20, 1954 to June 30, 1955 for additional experience in the school of nursing at the University of North Carolina.
- Ruth E. Green, assistant professor professional education at Duluth Branch, without salary for 1954-55 to work toward Doctor's degree.
- Lucile Holaday, assistant professor extension economist home management in Agricultural Extension, without salary November 8 to December 31, 1954 on account of illness in her family.
- Robert E. Jacobs, agricultural agent-assistant professor Freeborn County in Agricultural Extension, sabbatical furlough from October 10, 1954 to June 30, 1955 to continue graduate work at Iowa State College.
- Minerva O. Jenson, assistant professor district supervisor home agent work in Agricultural Extension, sabbatical furlough from October 18, 1954 to August 6, 1955 for graduate study at the University of Minnesota.
- Irwin H. Kaiser, assistant professor obstetrics and gynecology, without salary for 5% time for 1954-55 to assist at Anoka State Sanatorium.
- E. Douglas Lamb, assistant professor-mental hygienist in Students' Health Service, sabbatical furlough for spring quarter of 1954-55 to study mental hygiene programs for university students in French universities and Cambridge University, England.
- Robert F. Lambert, assistant professor of electrical engineering, without salary for 1954-55 to pursue post-doctoral studies at the Massachusetts Institute of Technology.
- James F. Maclear, assistant professor of history, sabbatical furlough for 1954-55 for study and research on the tradition of Puritanism and non-conformity particularly in England since the seventeenth century and to further the understanding of the religious tradition of Anglo-American intellectual history.
- Osgood T. Magnuson, assistant professor-assistant state leader 4-H Club in Agricultural Extension, sabbatical furlough October 25, 1954 to June 15, 1955 for graduate study toward a Master's degree.
- Kenneth P. Miller, assistant professor at the Southern School of Agriculture, sabbatical furlough for 1954-55 for graduate study toward doctor's degree at Ohio State University.
- Harold C. Pederson, assistant professor-extension economist marketing in Agricultural Extension, sabbatical furlough April 11 to August 15, 1955 for graduate study at the University of Minnesota.
- Henry A. Pflughoeft, assistant professor-district supervisor 4-H Club in Agricultural Extension, with salary August 3 to October 30, 1954 on account of illness.
- Paul H. Ptacek, assistant professor of speech and assistant director of the speech and hearing clinic, with salary June 1-15, 1955 for annual military training.
- Isaac Rosenfeld, assistant professor in general studies, without salary for winter and spring quarters of 1954-55 for creative writing.
- William F. Scherer, assistant professor of bacteriology and immunology, without salary April 1 to June 30, 1955 for military service.
- Charles A. Simkins, assistant professor-extension specialist soils in Agricultural Extension, with salary June 6-17, 1955 for annual military training.
- Leon Singer, assistant professor of physiological chemistry, without salary June 16 to July 15, 1955, to go to Oak Ridge, Tennessee, to learn new techniques and procedures.
- Dorothy D. Smith, assistant professor professional education Duluth Branch, without salary for the winter and spring quarters of 1954-55 to complete work on doctorate at New York University.
- John M. Sullivan, assistant professor of Romance Languages, sabbatical furlough for 1954-55 to obtain further training in French phonetics and investigate the development of the language laboratory in France.
- Joseph C. Tam, assistant professor in the School of Dentistry, without salary for 1954-55 for military service.

- Fay Y. Tichy, assistant professor of psychiatry and neurology, continuation of 9% time leave without salary for 1954-55 to assist Anoka State Hospital in setting up and maintaining a neuropathology laboratory.
- Harold Tovish, assistant professor of art, without salary for 1954-55 to develop own sculpture.
- Fred J. Triplett, assistant professor in humanities division Duluth Branch, sabbatical furlough for 1954-55 for work on doctorate at Columbia University and to study educational programs of certain major civic and state university art galleries and museums.
- John E. Verrill, assistant professor professional education, Duluth Branch, sabbatical furlough for 1954-55 to continue and complete residence requirements for doctorate at University of Wisconsin.
- Gordon O. Voss, assistant professor professional education, Duluth Branch, sabbatical furlough for 1954-55 for work on doctorate at Cornell University.
- Herman J. Vossen, Cottonwood County agricultural agent-assistant professor, Agricultural Extension, sabbatical furlough October 29, 1954 to June 30, 1955 for work on Master's degree.

LEAVES OF ABSENCE, 1955-56

- Harold Macy, Dean of the Institute of Agriculture and Professor of Bacteriology, without salary March 8 to May 31, 1956 to serve as agricultural research consultant for International Cooperation Administration, Department of State, to survey agricultural research and extension problems of Korea, and to integrate with instructional programs of college of agriculture of Seoul National University Cooperative Project.
- Athelstan F. Spilhaus, dean and professor Institute of Technology, without salary November 7 to December 2, 1955 to attend the 42nd session of the Executive Board of UNESCO in Paris, and without salary April 5-20, 1956 for the 43rd session in Madrid.
- Edmund G. Williamson, Dean of Students and professor of psychology, sabbatical furlough March 1 to June 30, 1956 to accept a Fulbright award to make a study of several Japanese universities in the field of student personnel services and counseling.
- John G. Darley, associate dean of the Graduate School and professor of psychology, without salary February 1 to July 31, 1956 to serve at the University of California as a member of a small central planning staff to set up a long-range study of diversification in American higher education.
- H. Harvard Arnason, professor and chairman of Art Department, sabbatical furlough for 1955-56 to accept a Fulbright Fellowship to study the history of sculpture in France.
- Robert H. Beck, professor of general education, sabbatical furlough for 1955-56 for study in The Netherlands in the field of comparative education.
- Ralph F. Berdie, professor of psychology and director of Student Counseling Bureau, sabbatical furlough March 1 to December 31, 1956 to accept a Fulbright award to conduct research in social psychology and on the motivations of youth to attend college, time to be spent in Australia.
- Herbert M. Bosch, professor in School of Public Health, with salary March 1-31, 1956 to conduct a seminar on sanitation and sanitary engineering activities by official health agencies at the University of Puerto Rico and the Department of Health of the Commonwealth of Puerto Rico.
- Herbert E. Clefton, professor of Romance Languages, with salary April 1 to June 15, 1956 on account of illness.
- George Filipetti, professor in School of Business Administration, with salary October 4 to December 15, 1955 on account of illness.
- Samuel S. Goldich, professor of geology and mineralogy, sabbatical furlough for fall quarter of 1955-56 to do field work in northern Minnesota and to prepare manuscripts for the Guidebook to the Geology of Northeastern Minnesota for a field trip to be conducted in connection with annual meeting of the Geological Society of America in Minneapolis November 1-3, 1956, and to prepare a paper for a scientific journal giving results of research in the Rock Analysis Laboratory.

- Gladstone B. Heisig, professor in the School of Chemistry, sabbatical furlough for 1955-56 to work with chromatography in the laboratory of Dr. F. H. Pollard at the University of Bristol in England, and to visit chemical plants and educational institutions on the continent while abroad to compare the content of inorganic courses given with those in the United States.
- William T. Heron, professor of psychology, sabbatical furlough for 1955-56 to visit a number of university laboratories of the country including the universities of Washington, California, Stanford, Duke, Yale, and Harvard to learn what men teach in like fields of responsibilities.
- Leonid Hurwicz, professor in School of Business Administration, without salary for 1955-56 to serve as a Fellow at the Center for Advanced Study in the Behavioral Sciences at Stanford University.
- Richard C. Jordan, professor and head of mechanical engineering, with salary September 16 to October 15, 1955 to serve as official delegate of Executive Committee of the American Society of Refrigerating Engineers at the Ninth International Congress of Refrigeration in Paris and to present a paper.
- Donald B. Lawrence, professor of botany, without salary for the fall quarter of 1955-56 to devote time to organization for publication of Alaskan research studies.
- Werner Levi, professor of political science, continuation of leave without salary for the fall quarter of 1955-56 to continue his Australian study on a Fulbright award.
- Nathan Lifson, professor of physiology, sabbatical furlough for 1955-56 for advanced study and research in the department of biochemistry at Oxford University, England.
- David W. Louisell, professor in Law School, without salary February 1 to June 15, 1956 to serve as visiting professor of law at the University of California (Berkeley).
- Clarence C. Ludwig, professor and director Municipal Reference Bureau, without salary December 16, 1955 to March 17, 1956 to serve as consultant to the Institute of Public Administration at the University of the Philippines.
- Thomas M. McCall, professor and superintendent Northwest School and Station, with salary April 13 to May 25, 1956 on account of illness.
- Harlan E. McClure, professor in the School of Architecture, without salary for 1955-56 to serve as head of the architectural school at Clemson College, South Carolina.
- Tremaine McDowell, professor of English, sabbatical furlough for 1955-56 to conduct studies of courses and research in American Studies in various colleges and universities in relation to procedures at the University of Minnesota.
- Milo J. Peterson, professor of agricultural education, sabbatical furlough January 1 to June 30, 1956 to work with President-emeritus Miyawaki in Tokyo and to establish a headquarters at Chiba University to study the development of a teacher training program and to conduct research and field studies dealing with the training of teachers in vocational agriculture in Japan.
- William E. Petersen, professor of dairy husbandry, with salary February 2 to March 31, 1956 on account of illness.
- Philip M. Raup, professor of agricultural economics, with salary August 10 to September 14, 1955 to accept a fellowship by the American Council of the International Conference of Agricultural Economists at Helsinki, Finland.
- Leo G. Rigler, professor and chief of radiology, without salary for 1955-56 for study and to prepare a monograph and revise a textbook.
- Ella J. Rose, professor of home economics education, with salary March 16 to June 30, 1956 on account of illness.
- Skuli Rutford, professor and director of Agricultural Extension, without salary March 5 to May 31, 1956 to accept assignment under International Cooperation Administration to set up an agricultural extension service in Korea.

- Dorothy Simmons, professor-state leader extension home program in Agricultural Extension, without salary March 5 to May 31, 1956 to accept assignment under International Cooperation Administration to help develop a home program to be part of the agricultural extension service program being set up in Korea.
- Dora V. Smith, professor of general education, sabbatical furlough for 1955-56 to locate and stimulate the writing of children's books in the Near and Far East which reveal children in these countries today for American children and to develop a set of criteria for writing and judging such books.
- H. Burr Steinbach, professor of zoology, sabbatical furlough for 1955-56 to work in Copenhagen, Denmark in the laboratory of Dr. Hans Ussing, a leader in the field of active transport of ions by living cells, and to gather knowledge about methods and aims of biology teachers in several of the major universities of the world.
- Alan E. Treloar, professor in the School of Public Health, without salary March 16, 1956 to March 15, 1957 to direct a research program of national scope on the future needs for hospital facilities for the American Hospital Association.
- Dimitri Tselos, professor of art, sabbatical furlough for 1955-56 to investigate the character and evolution of modern Greek art from 1830 to 1950 and examine literature found at the Gennadius Library, the French Institute of Greek Studies, and the University Library in Athens to select the most important material for the University of Minnesota and personal files.
- John G. Turnbull, professor in the School of Business Administration, without salary for 1955-56 to serve as visiting professor in the department of economics and social sciences at the Massachusetts Institute of Technology.
- Hugh L. Turritin, professor of mathematics in the Institute of Technology, without salary for 1955-56 to accept a Fulbright award to lecture at the University of Innsbruck, Austria.
- Joseph A. Wise, professor of civil engineering, 50% time leave without salary for the winter and spring quarters of 1955-56 to serve as consulting engineer to the Walter Butler Company of St. Paul.
- Henry G. Zavoral, professor-extension animal husbandman in Agricultural Extension, with salary October 12 to November 9, 1955 on account of illness.
- George W. Anderson, associate professor of history, sabbatical furlough for 1955-56 for research and travel in Egypt, Lebanon, Syria, Iraq, Turkey, and areas which are pertinent to courses taught at the University of Minnesota.
- Werner W. Boehm, associate professor in the School of Social Work, without salary for 1955-56 to accept directorship of special curriculum study project under the auspices of the Council on Social Work Education.
- John Bowditch, associate professor of history, sabbatical furlough for 1955-56 for research on a historical essay dealing with the problem of total war and to visit the Hoover War Library at Stanford and the Library of Congress.
- John A. Buttrick, associate professor in the School of Business Administration, without salary for spring quarter of 1955-56 to accept a visiting lectureship at Stanford University.
- Thomas H. Canfield, associate professor of poultry husbandry, sabbatical furlough September 16, 1955 to January 15, 1956 to learn better methods of teaching with major portion of time to be spent at Pennsylvania State University working directly with Professor Callenbach, head of poultry department.
- Donald W. Cowan, associate professor in School of Public Health and Assistant Director of the Students' Health Service, June 1-30, 1956 with half time salary to visit health services in various British universities.
- Rodolfo O. Floripe, associate professor of Romance Languages, with salary for 1955-56 on account of illness.
- Francisco Grande, associate professor in Laboratory of Physiological Hygiene, without salary September 16 to October 27, 1955 to give a series of

- lectures in South American countries under the sponsorship of the National Vitamin Foundation.
- Leonard L. Harkness, associate professor-state leader 4-H Club in Agricultural Extension, sabbatical furlough October 5, 1955 to June 23, 1956 for work toward Master's degree at Harvard University.
- Robert J. Holloway, associate professor in the School of Business Administration, without salary for 1955-56 to serve at the University of the Philippines under a Foreign Operations Administration contract at Stanford University.
- Herbert S. Isbin, associate professor of chemical engineering, with salary September 16-30, 1955 to visit several European nuclear reactor sites as a representative of the University of Minnesota.
- Philip S. Jordan, associate professor at the West Central School and Station, with salary December 1, 1955 to June 30, 1956 on account of illness.
- Gerhard K. Kalish, associate professor of mathematics, College of Science, Literature, and the Arts, sabbatical furlough for 1955-56 for research and study at the Institute for Advanced Study in Princeton, New Jersey.
- Ramer D. Leighton, associate professor-extension dairyman, Agricultural Extension, with salary November 16 to December 31, 1955 on account of illness.
- Herbert McClosky, associate professor of political science, without salary for 1955-56 to accept a fellowship at the Center for Advanced Study in the Behavioral Sciences at Stanford, California.
- Charles H. McLaughlin, associate professor of political science, without salary for 1955-56 to serve as visiting associate professor at the University of California, Berkeley.
- Robert E. Moore, associate professor of English, without salary for spring quarter of 1955-56 to do research on a projected history of the dramatic opera of the Restoration at the British Museum, London.
- Arthur E. Naftalin, associate professor of political science, continuation of leave without salary for 1955-56 to serve as State Commissioner of Administration.
- Benjamin Nelson, associate professor of General Studies, continuation of leave without salary for 1955-56 on account of illness.
- Helen L. Pilcher, associate professor in School of Home Economics, without salary August 1-31, 1955 for personal reasons.
- Gerald R. Prescott, bandmaster and associate professor of music, without salary March 5-15, 1956 for vacation.
- Ernst Simonson, associate professor in School of Public Health, Division of Physiological Hygiene, continuation of 25% time leave without salary for 1955-56 to do consultation work at the Veterans Administration Hospital and Mount Sinai Hospital.
- Elmer L. Thomas, associate professor of dairy husbandry, with salary November 25 to December 11, 1955 to assist with a United States exhibit at a fair in Bogota, Colombia on the use of dairy products.
- Marjorie H. Thurston, associate professor of rhetoric, sabbatical furlough for the spring quarter of 1955-56 for study, writing and travel.
- Louis Tobian, Jr., associate professor of medicine, 78% time leave without salary July 1, 1955 to March 31, 1956 with salary to be paid by the American Heart Association.
- Lewis W. Wannamaker, associate professor of pediatrics, with salary paid through the University of Minnesota by the Helen Hay Whitney Foundation September 1, 1955 to August 31, 1956 to serve as visiting investigator at the Rockefeller Institute for Medical Research, New York City.
- George A. Warp, associate professor of political science, without salary for 1955-56 to serve with the United Nations as lecturer on local and municipal government at the School of Public Administration in Rio de Janeiro.
- James D. Winter, associate professor of horticulture, with salary June 22 to August 3, 1956 on account of illness.
- Charlotte G. Wolff, associate professor in the School of Home Economics, continuation of leave without salary for the fall quarter of 1955-56 for work on Doctor's degree at Ohio State University.

- Chester W. Wood, associate professor and director of Student Personnel Services, Duluth Branch, continuation of leave without salary July 1, 1955 to June 30, 1956 serving as chief of the Division of Education in United Nations Korean Reconstruction Agency, Seoul, Korea.
- Donald Z. Woods, associate professor of rhetoric, without salary for 1955-56 to serve with the Cargill-Nutrena organization as a communications specialist in developing its training program and to improve the effectiveness of its communication methods.
- Bernard V. Beadle, assistant professor-district 4-H Club leader in Agricultural Extension, without salary July 29 to August 5, 1955 for a trip to Europe.
- Marthe Blinoff, assistant professor of Slavic and Oriental Languages, sabbatical furlough for 1955-56 to do research on the Russian intellectuals in France and to study the teaching of Russian in French lycees.
- Russell M. Cornell, assistant professor of civil engineering, 50% time leave with salary and 50% time without salary for 1955-56 on account of illness.
- Alan H. Donagan, assistant professor of philosophy, without salary September 16 to October 15, 1955 for personal reasons and without salary January 1 to February 29, 1956 to go to Australia to complete arrangements for immigration clearance for his family.
- Edward O. D. Downes, assistant professor of music, without salary for 1955-56 to accept a position as music critic with the *New York Times*.
- Howard F. Koeper, assistant professor in School of Architecture, without salary for 1955-56 to accept a Fulbright grant in Italy.
- Ruth E. Lawrence, director and assistant professor University Art Gallery, continuation of leave without salary July 1 to December 31, 1955 to accept a supplementary Hill Foundation grant paid through the University of Minnesota to complete ceramic research and study on the use of native materials in ceramics and to prepare for publishing the first and most comprehensive book on this subject.
- Warren S. Loud, assistant professor mathematics in College of Science, Literature, and the Arts, sabbatical furlough for 1955-56 on research study on certain nonlinear differential equations at the Massachusetts Institute of Technology.
- Pearl C. Niemi, assistant professor of Slavic and Oriental Languages, sabbatical furlough for 1955-56 for work on a study of imagery and symbolism in Dostoevsky and to study folklore and primitive religions at the University of Helsinki, Finland.
- Harold C. Pederson, assistant professor-extension economist marketing in Agricultural Extension, continuation of sabbatical furlough August 16 to November 30, 1955 to complete course work toward Doctor's degree at the University of Minnesota.
- Mabel K. Powers, assistant professor administration, College of Science, Literature, and the Arts, with salary July 19 to August 15, 1955 to visit parts of the Continent and to make a brief study of the system of examinations given to students before entering the equivalent of our secondary schools in England.
- Alfred R. Pray, assistant professor in School of Chemistry, sabbatical furlough for 1955-56 to conduct chemical research at the Rockefeller Institute for Medical Research in New York.
- William F. Scherer, assistant professor of bacteriology and immunology, continuation of leave without salary for 1955-56 for military service.
- Dorothy L. Sheldon, assistant professor in the General College, without salary for 1955-56 to accept position as dormitory counsellor in one of the schools in Germany under the Army.
- G. Robert Stange, assistant professor of English, without salary for 1955-56 to accept a Faculty Fellowship provided by the Fund for the Advancement of Education.
- Harold A. Stueland, assistant professor Humanities, Duluth Branch, sabbatical furlough for 1955-56 to complete residence requirement for Doctor's degree at Ohio State University.
- Hylton A. Thomas, assistant professor of art, without salary for 1955-56 to accept a Fulbright Fellowship for study in Italy.

- Deane A. Turner, assistant professor at the Southern School of Agriculture, without salary January 1 to June 1, 1956 to complete course work for Doctor's degree.
- Richard Radway, Agricultural Agent-assistant professor Roseau County, Agricultural Extension, sabbatical furlough October 24, 1955 to June 30, 1956 for graduate study toward Master's degree at University of Minnesota.
- Virginia M. Vaupel, Olmsted County Home Agent-assistant professor, Agricultural Extension, sabbatical furlough February 4, 1956 to February 2, 1957 for graduate work at Pennsylvania State University.

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 for the first time:

1954-55

- William Anderson, professor of political science, for spring quarter, to complete monographs under the Intergovernmental Relations research program.
- Allan H. Brown, professor of botany for spring quarter, to visit academic institutions in Japan for continued research on photosynthesis.
- Willis E. Dugan, professor of education, for spring quarter, to study recent developments and means of coordination of psychological services in public school systems.
- Ernst Gellhorn, professor of neurophysiology, for winter quarter, for writing part of a monograph on hypothalamus, autonomic imbalance, and their significance for physiology and neuropsychiatry.
- Olga Lakela, professor of botany and curator of herbarium at the Duluth Branch, for winter quarter, for continued study of the flora of St. Louis County, Minnesota.
- William E. Petersen, professor of dairy husbandry, for spring quarter, for the extension of an already planned trip to New Zealand as a guest of the New Zealand Dairy Board.
- Wesley W. Spink, professor of medicine, for winter quarter, for the preparation of a monograph on brucellosis.
- Laurence K. Cutkomp, associate professor of entomology and economic zoology, for spring quarter, for obtaining first hand information on research methods used for electrophysiological studies of the nervous system of insects, particularly as such studies may be useful in interpreting the physiological action of insecticides.
- William A. McDonald, associate professor of classical languages, for spring quarter, for continued field work and study at archaeological sites in Greece and Turkey.
- Cecil H. Meyer, associate professor of business and economics at the Duluth Branch, for spring quarter, for the completion of a monograph concerning research on United States savings bonds during the period 1935-53.
- Louise T. Dossdall, assistant professor of plant pathology and botany, for winter quarter, for the compilation and analysis of accumulated experimental data on certain diseases of ornamental plants.
- Gerald Hill, assistant professor of general arts, for spring quarter, for the improvement of teaching derived from first hand field study experience in the arts of England, France, Germany, Austria, and Italy.
- Gina Wangsness, assistant professor of German, for spring quarter, to attend regular term classes at a German university.

1955-56

- Ernst C. Abbe, professor of botany, for fall quarter to complete a long-term research project on the post-glacial migration of the northeastern North American flora.

- Wallace D. Armstrong, professor and head physiological chemistry, spring quarter, to study calcified tissues at Argonne or Oak Ridge laboratories. (Was cancelled.)
- Raymond S. Dunham, professor of agronomy and plant genetics, June 15 to September 15, 1956, to visit various experiment stations and other research centers where investigation of crop production practices and more specifically weed control methods is an important part of the research program.
- Ernst R. G. Eckert, professor of mechanical engineering, spring quarter, to study and lecture at the Institute of Technology in Munich, Germany.
- Alrik Gustafson, professor and chairman of Scandinavian, spring quarter, to prepare a manuscript on the history of Swedish literature.
- Paul M. Oberg, professor and chairman of music, winter quarter, to collect and transcribe 16th and 17th century polyphonic sacred music available only in manuscripts at Duebla and Mexico City (was cancelled on account of the health of Mrs. Oberg).
- Benjamin S. Pomeroy, professor and head of division of veterinary bacteriology, spring quarter, to study respiratory infections of poultry with special emphasis on the basophilic group of viruses. (Was cancelled.)
- Lemen J. Wells, professor of anatomy, for the spring quarter of 1955-56 for research work in Germany and a weekly seminar in embryological development.
- Harold T. Widdowson, professor of trade and industrial education, spring quarter, to seek additional techniques, devices and units of instruction for use with off-campus industrial personnel.
- Werner W. Boehm, associate professor in School of Social Work, winter quarter, to bring to completion a monograph on the theory of social case work. (Was cancelled to accept directorship of a special curriculum study project of the Council on Social Work Education.)
- Donald P. Duncan, associate professor in School of Forestry, fall quarter, to study forest influences research in the United States at a variety of experimental forests, watersheds and laboratories in the South and West.
- Jean W. Lambert, associate professor of agronomy and plant genetics, spring quarter, to study recent methods of research in plant breeding and genetics at certain institutions which are leaders in these fields.
- William V. O'Connor, associate professor of English, fall quarter, to complete a book on American literature.
- Eugene P. Pfeider, associate professor of mineral engineering, fall quarter, to study developments in mining engineering education and research in Sweden, England, and Germany. (Was cancelled.)
- Harold W. Wilson, associate professor in School of Journalism, winter quarter, to increase effectiveness as an instructor through a study of contemporary work in the graphic arts in the middle Atlantic area.
- James D. Winter, associate professor of horticulture, spring quarter, to study food processing and storage.

DEATHS

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

- William J. Noonan, clinical assistant professor of surgery, July 21, 1954.
- Melvin S. Henderson, professor emeritus of orthopedic surgery, Mayo Foundation, June 17, 1954.
- John J. McCann, West St. Louis County agricultural agent-assistant professor, July 20, 1954.
- J. Lewis Maynard, professor of inorganic chemistry, July 29, 1954.
- Daniel A. Listiak, professor of dentistry, August 16, 1954.
- Frederick Klaeber, professor emeritus of English, October 4, 1954.
- Gertrude Vaile, associate professor emeritus of sociology, October 15, 1954.
- Daniel C. Dvoracek, associate professor-extension economist in marketing, Agricultural Extension, October 21, 1954.
- Ann S. Nyquist, lecturer, School of Public Health, December 8, 1954.
- Verne H. Townley, research associate in dairy husbandry, January 1, 1955.

- Thomas F. Barnhart, professor of journalism, January 7, 1955.
 John F. Madden, clinical associate professor of medicine, March 9, 1955.
 John D. Galloway, clinical instructor of orthopedic surgery, May 4, 1955.
 S. Paul Kingston, lecturer, School of Public Health, June 27, 1955.
 Edwin M. Lambert, professor emeritus, School of Mines and Metallurgy, July 19, 1955.
 Paul A. O'Leary, professor of dermatology, Mayo Foundation, July 20, 1955.
 Thomas A. H. Teeter, dean and professor emeritus, Summer Session, August 29, 1955.
 Howard K. Gray, professor of surgery, Mayo Foundation, September 6, 1955.
 Jack Friedman, clinical assistant professor of radiology, September 30, 1955.
 Andrew T. Rasmussen, professor emeritus of anatomy, October 15, 1955.
 Albert J. Chesley, professor emeritus of preventive medicine and public health, October 17, 1955.
 William A. Schaper, professor emeritus of political science, November 16, 1955.
 Alvin H. Larson, assistant professor emeritus of plant pathology and botany, November 22, 1955.
 Emory N. Kemler, professor of mechanical engineering, December 6, 1955.
 Harry H. Bowing, professor emeritus of surgery, Mayo Foundation, December 8, 1955.
 William A. West, instructor in general education, December 20, 1955.
 Edwin S. Cieslak, associate professor of biological sciences, General College, January 11, 1956.
 R. Charles Adams, associate professor of anesthesiology, Mayo Foundation, January 21, 1956.
 Walter C. Coffey, president-emeritus of the University of Minnesota, January 31, 1956.
 Walter H. Ude, clinical associate professor of radiology, February 10, 1956.
 Paul R. McMiller, professor emeritus of soils, February 27, 1956.
 Carl O. Rosendahl, professor emeritus of botany, March 4, 1956.
 Philip S. Jordan, associate professor, West Central School and Station, March 9, 1956.
 Jules T. Frelin, assistant professor emeritus of Romance Languages, March 14, 1956.
 Gustav A. Hedberg, assistant professor of medicine, Mayo Foundation, March 28, 1956.
 Arthur McL. Clure, lecturer in social studies, Duluth Branch, April 4, 1956.
 Harold G. Russell, associate professor and assistant director of University Libraries, April 24, 1956.
 Everett C. Hartley, clinical assistant professor of obstetrics and gynecology, May 1, 1956.
 Harold A. Stueland, assistant professor of art, Division of Humanities, Duluth Branch, May 24, 1956.
 Robert R. Tracht, clinical assistant professor of ophthalmology, May 25, 1956.

HONORS AND DISTINCTIONS

Administration—James Lewis Morrill served as chairman, U. S. Advisory Commission on Educational Exchange, U. S. Department of State, 1954-55; member, President's Committee on Problems of Education Beyond High School, U. S. Department of Health, Education and Welfare, 1956; chairman, Committee on Relationships of Higher Education to the Federal Government, 1954-56, and chairman, Subcommittee on Military Manpower, 1954-55, American Council on Education. For the American Association of Land-Grant Colleges and State Universities, he served as chairman, Executive Committee, Subcommittee on the Book about Land-Grant Institutions, 1954-56; member, Committee on National Defense, 1955; member, Committee on Relationships with the National Association of State Universities, 1956; member, Committee on Survey of Land-Grant Institutions, 1956; and chairman, Committee on Government Controls of Higher Education, 1956. For the National Association of State Universities, he served as chairman, Joint Committee on Government Controls in University Administration, 1955-56, and as member, Special Committee on the Union of the National Association of State Universities and the

American Association of Land-Grant Colleges and State Universities, 1956. He was elected president, Association of American Universities, 1955-56; served for 1954-56 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; Ford Motor Company Fund Scholarship Board; Committee on the Present Danger; Council of Ten (University Presidents); Honorary Council, Ohioana Library Association; 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; and Committee on Professional Education, Commission on Colleges and Universities, North Central Association of Colleges and Secondary Schools. During 1955-56 he served as: member, College Grants Advisory Committee, Ford Foundation; trustee, United Hospital Fund of Minneapolis and Hennepin County; and as chairman, Committee for Continuing Study of Higher Education, Association of Minnesota Colleges. He served in 1956 as a member of the following: National Board, National Book Committee and Subcommittee on American Books Abroad; Advisory Committee, Institute of College and University Administrators; Interstate Committee on Higher Education, Council of State Governments; and Committee of Sponsors, Greater Minneapolis Council of Churches. He was elected to honorary membership in the following: American Alumni Council, 1954; National Council, Boy Scouts of America, 1954; Alpha Kappa Psi, 1955; The Ohio State University Association; and Omicron Kappa Upsilon (Dental), 1956. He was decorated "Commander of the Royal Order of the North Star" by the King of Sweden, 1956; received the Distinguished Merit Award, Alpha Sigma Phi, 1954; and was awarded the honorary degree, Doctor of Laws, by Michigan State College, 1955.

Stanley J. Wenberg served as member, Board of Directors, Minnesota Mental Health Education; secretary, Committee for the Continuing Study of Higher Education, Association of Minnesota Colleges; and member, Minnesota State Centennial Education Committee.

Alumni Relations—Edwin L. Haislet served as chairman, Recreation Committee, Board of Park Commissioners, 1954-56; member, Juvenile Delinquency Committee, Juvenile Detention Committee, chairman, Juvenile Detention Building Sub-committee, 1954-56, and member, Long Range Building Location Committee, Group Work and Recreation Division, 1956, Minneapolis Community Welfare Council; member, State Sponsoring Committee, Minnesota Hi-Y Youth and Government Program, 1954-56; member, U. S. Olympic Committee, 1954-56; member, Better Sports Committee, and chairman, Scholarship Committee, *Minneapolis Star and Tribune*, 1954-56; state co-chairman, Crusade for Freedom, 1955; treasurer, 1954, and president, 1955, Council House for Senior Citizens; general ticket chairman, Scout-O-Rama, 1955, and general chairman, Boy Scout Circus, 1956, Viking Council, Boy Scouts of America.

Academic Administration. Malcolm M. Willey served as director, 1954-56, member, Committee on Problems and Policy, 1954-56, and member, Committee on Faculty Research Fellowships, 1954-56, Social Science Research Council; member, Committee on UNESCO Program, and member, U. S. National Commission for UNESCO, 1954-56; member, Executive Committee of the Board, 1955-56, and member, Board of Directors, 1954-56, Midwest Inter-Library Corporation; member, Governor's (Minnesota) Commission on Aging, 1956; member, Board of Directors, Walker Art Center, 1954-56; member, Board of Managers, University House Corporation (Episcopalian), 1954-56; and contributing editor, *Long Island Forum*.

Office of Admissions and Records—True E. Pettengill served as associate editor, Board of Editors for *College and University*, American Association of Collegiate Registrars and Admissions Officers, 1954-56; and member, Special Projects Committee, Upper Midwest Association of Collegiate Registrars and Admissions Officers, 1955-56.

Office of the Dean of Students—Henry E. Allen served as chairman, Indian Subcommittee, 1954-56, and vice-chairman, Governor's Human Rights Com-

mission, 1956; chairman, Committee on Religious Values, Governor's Advisory Council on Children and Youth, 1954-56; administrative executive, Committee on Religion in State University Curricula, Religious Education Association, 1954-56; and member, Committee on Campus Inter-religious Activities, Commission on Religious Organizations, National Conference of Christians and Jews, 1954-56.

Ralph F. Berdie was granted a Fulbright Research Scholarship to conduct research on the motivations of youth to attend college in Australia, March, 1956. He served as chairman, 1955 Invitational Conference on Testing Problems, Educational Testing Service, Princeton, New Jersey; member, Counselor Training Committee, 1954-55, and member, Executive Committee, 1955-56, Division of Counseling Psychology, American Psychological Association; member, Executive Council, American College Personnel Association, 1955-56; and consultant to Dr. Robert Thorndike, Columbia University, on research project follow-up study of Air Force veterans, 1955-56.

Dorvan H. Breitenfeldt, Jr. was awarded the Tozer Foundation Scholarship, 1956.

Marilyn R. Fakler was awarded a fellowship by the National Foundation for Infantile Paralysis, 1954-55.

Theda Hagenah served as member, Executive Council, 1954-56, and secretary-treasurer, 1956, Minnesota Psychological Association; delegate to American Personnel and Guidance Association, 1956; member, National Grass Roots Committee, American College Personnel Association, 1955-56; Twin City Vocational Guidance Association delegate to National Vocational Guidance Association, 1955-56; and regional correspondent, Division 17, American Psychological Association, 1954-56.

Ernest H. Henrikson was consultant, Veterans Administration Aphasia Clinic at Fort Snelling, 1954-56; book review editor, *Journal of Speech and Hearing Disorders*, 1955-56; and member, Executive Council, American Speech and Hearing Association, 1955-56.

Vivian H. Hewer served as member, Board of Directors, Twin City Vocational Guidance Association, 1956; member, Advisory Board, Personnel Committee and Evaluation Committee, University Young Women's Christian Association, 1955-56.

John M. Huebner served as member, Committee on Licensing, Minneapolis Citizen's League, 1955-56; and member, 1955-56, and chairman, 1956, Mayor's Advisory Committee on Housing (Minneapolis).

Willard E. Johnston served as member, Minnesota Council for Gifted Children, 1956; member, Sub-Committee on Licensing, Minneapolis Citizen's League, 1955-56; and member, Mayor's Advisory Committee on Housing (Minneapolis), 1956.

Wilbur L. Layton served as member, Governor's (Minnesota) Advisory Committee on Vocational Rehabilitation, 1955-56; and member, Board of Directors, Minnesota Council for Gifted Children, 1955-56.

Dorothy K. Lee served as consultant, Workshop for Residence Counselors, Luther College, Decorah, Iowa, 1956.

Dale J. Lundeen was elected vice president, Minnesota Speech and Hearing Association, 1956; and was elected member of Sigma Xi, 1956.

Mabelle G. McCullough was elected to membership, Pi Lambda Theta (national honor and professional association for women in education), 1955; and served as volunteer, Public Correspondence Unit, United Nations, 1954-55; member, Advisory Board, University Y.W.C.A.; and member, Personnel Committee, Young Women's Christian Association, 1955-56.

Forrest G. Moore served as second vice president, 1955, member, Board of Directors, 1955, first vice president in charge of regional development, 1956, and editor, *Newsletter*, 1955, National Association of Foreign Student Advisers.

Gerhard Neubeck served as vice president, 1955-56, and president, 1956, Minnesota Council on Family Life; and member, Board of Directors, National Council on Family Relations, 1956.

Paul H. Ptacek was speech consultant, Conference for Reserve Commanders, Tenth Air Force, 1956.

George B. Risty served as chairman, Great Northern Scholarship Committee, 1956; chairman, International Milling Company Scholarship Com-

mittee, 1956; member, Scholarship Committee, Tozer Foundation, Inc., 1954-56; member, Sears Roebuck and Company Scholarship Committee (Minneapolis), 1954-56; and member, Junior Achievement of Minneapolis Scholarship Committee, 1954-56.

Martin L. Snoke served as member, Minnesota State Selection Committee for Naval ROTC Candidates, 1955-56; secretary, Joint Committee on High School and College Relations, Association of Minnesota Colleges and Minnesota Secondary School Principals Association, 1954-56; member, Liaison Committee, National Association of Student Personnel Administrators and the National Student Association, 1956.

Margaret N. Space served as treasurer, Pi Lambda Theta (national honor and professional association for women in education), 1954-55; and treasurer, Richfield Alumnae Chapter, Mu Phi Epsilon (national professional music sorority), 1955-56.

Edward O. Swanson served as program chairman, Annual Workshop, Minnesota Psychological Association, 1956; program chairman, Fifth Annual Conference on Statewide Testing Programs, 1955; and trustee, Twin City Vocational Guidance Association, 1956.

Ben Willerman received a Fulbright award as lecturer in psychology and consultant on research in social psychology, Universities of Amsterdam and Groningen, The Netherlands, 1954-55.

Edmund G. Williamson was awarded a grant by the International Educational Exchange Commission under the Fulbright Act to lecture on student counseling at the University of Tokyo, March-June, 1956. He served as member, Commission on Student Personnel, 1954-56, and chairman, Committee on Japanese University Counseling Project, 1954-56, American Council on Education; chairman, Advisory Committee on Counseling Service for Vocational Rehabilitation and Education, Veterans Administration, 1954-56; member, Editorial Board, *Journal of Educational and Psychological Measurement*, 1954-56; consulting editor, *Journal of Counseling Psychology*, 1954-56; and was re-elected to Advisory Council, U. S. National Student Association, 1954-56.

University of Minnesota Press—Helen Clapesattle served as vice president and secretary, and was elected a director, University Press Services, Inc., Association of American University Presses.

Helen L. MacDonald was elected director, Minneapolis Library Board.

Jane McCarthy was recipient of four awards for book design in the Chicago Book Clinic.

University Libraries—Maxene R. Bloch served as secretary-treasurer, Reference Section, Minnesota Library Association, 1955.

Caroline Brede was elected secretary-treasurer, Minnesota Chapter, American Association of Law Libraries, 1955-56.

Myrtle J. Eklund was member, National Executive Council, American Society for Public Administration.

Marie J. Eller served as treasurer, Alumni Association, Minnesota University Library School.

Ralph H. Hopp was president, Twin City Library Club; and member, Nominating Committee, Association of College and Research Libraries.

Rudolph Johnson was appointed by Governor Freeman to the Minnesota State Fine Arts Commission.

James Kingsley, Jr. served on Interview Board for examinations in librarianship, State Civil Service Department.

Blanche Moen served as member, Subscription Books Committee, American Library Association, 1955-56.

Harald Ostvold served as vice president, 1956, and president-elect, Ramsey County Historical Society. He served a three-months assignment to Seoul National University of Korea under the International Cooperation Administration, 1956.

Hubert E. Sauter was elected secretary, Minnesota Branch, American Society for Engineering Education, 1956.

Raymond H. Shove was a member, Parkboard Committee, Citizens' Committee for Greater Minneapolis, 1955-56; member, Council, American Library Association, 1954-56; member, Executive Board, Minnesota Library Association,

1954-56; and member, Publications Committee, Association of American Library Schools, 1954-55.

Edward B. Stanford was chairman, University Libraries Section, and member, Executive Board, Association of College and Reference Libraries; member, Citizens Library Committee of St. Paul, Minnesota, appointed to advise the Commissioner of Libraries and Museums on the selection of a new chief librarian for the St. Paul Public Library; and member, Advisory Committee of Librarians, Midwest Inter-Library Corporation.

David R. Watkins was president, 1954-55, and member, Executive Board, 1955-56, Minnesota Library Association.

Department of Concerts and Lectures—James S. Lombard was invited by the Foreign Ministries of Denmark, Sweden, Norway, and Finland to attend the music festivals in each of these countries, 1955; and served as co-chairman, Upper Midwest Regional Auditions of the Air; Sovereign Grand Chaplain (world), Sovereign Grand Lodge of the Independent Order of Odd Fellows, 1954-56; and member, Board of Directors, St. Paul Civic Opera, 1954-56.

Paul K. Peterson served as executive secretary, North Central Theatre Association; and project chairman, American Educational Theatre Association.

Coffman Memorial Union—Vincent Y. Dong was appointed editor, Region VII Newsletter, Association of College Unions, 1955.

Paul W. Larson was member, Regional Conference Planning Committee, Region VII, Association of College Unions, 1956.

Hans E. Hopf was appointed treasurer, Central United States Ski Association, 1955-56.

Marcia Koth won the Stephen Wells scholarship, University of Minnesota School of Journalism, 1955-56.

Gordon L. Starr was appointed to the Research Committee, Association of College Unions, 1955; treasurer, Region VII, Association of College Unions, 1956; scholarship chairman, Minnesota Recreation Association, 1955; and member, Trades and Industry Committee, United Hospital Fund, 1956. He was elected president, Hale School Parent and Teacher Association, 1956.

Bureau of Institutional Research—John E. Stecklein served as consultant on Evaluation of College Teaching, Buffalo Workshop, State Teachers College of New York State, 1956; consultant on testing, Bethel College, 1955; co-director, Study of Practical Nursing in Minnesota, Minnesota Nurses' Association.

Department of University Relations—William L. Nunn served as member, Board of Directors, Family and Children's Service of Minneapolis; member, Board of Directors, Navy League of Minnesota; member, Board of Directors, Public Relations Committee of Minneapolis YMCA; member, Board of Trustees, Twin Cities Area Educational Television Corporation; District Director-elect, American College Public Relations Association, 1955-56; member, Public Information Committee, American Association of Land-Grant Colleges and Universities, 1955-56; member, Education Committee, Minnesota Statehood Centennial Commission, 1956; taught Public Relations in the Graduate School of the Summer Schools of the University of Wisconsin in 1954 and 1956 and of Colorado A & M in 1955.

Business Administration—Laurence R. Lunden served as secretary, Midwestern Universities Research Association, 1954-56; president, Hennepin County Tuberculosis Association, 1955-56; secretary, General Survey Committee, California and Western Conference Cost and Statistical Study, 1954-56; chairman, Committee on Taxation and Fiscal Reporting to the Federal Government, 1954-56, and member, The Committee on Institutional Research Policy, 1954-56, American Council on Education; chairman, Joint Committee of Business Officers, Association of Land-Grant Colleges and Universities and National Association of State Universities, 1954-56.

William T. Middlebrook was general chairman, California-Western Conference Cost and Statistical Study, 1953-56; past chairman, Board of Directors, and member, Executive Committee, Midwest Inter-Library Corporation, 1951-54; member, Editorial Committee, National Committee on the Preparation of a Manual on College and University Business Administration, Volume II,

1952-54; member, ad hoc Advisory Committee on Contractual Procedures Covering Relationships with Educational Institutions, Research and Development Board, Department of Defense; member, Research Corporation Steering Committee on Inventions, Atomic Pioneers, Incorporated, 1952-54; chairman, Standing Committee on Relations with the Federal Government, and representative of the Central Association of College and University Business Officers on Committee on Pilot Cost Analysis Study, National Federation of College and University Business Officers, 1952-54; member, Committee on Contract Relations with the Federal Government, Engineering College Research Council, American Society for Engineering Education; member, Executive Committee, State-wide Committee on Metropolitan Opera; member, Advisory Committee on Enrollment Trends and Space Utilization, American Association of Collegiate Registrars and Admissions Officers; member, Governor's Task Force on Civil Service Salaries; and president, Otter Creek Coal Company (University of Minnesota part owner).

Walfred L. Pedersen was elected vice president, College and University Personnel Association, 1955-56.

College of Science, Literature, and the Arts—Ernst C. Abbe served as member, Council, and chairman, Committee on Financial Support (for scholarships), Minnesota Academy of Science, 1954-56. He received research grants from the Louis W. and Maud Hill Family Foundation, 1955 and 1956. He was a member, Committee of Boy Scouts of America, Troop 22, St. Paul, 1955-56.

James Aliferis served as guest conductor, Minneapolis Symphony Orchestra, January, 1955, and January, 1956; head of music, Educational, Musical and Cultural Recordings Corporation of St. Paul, 1954-56; choral director, Berkshire Music Center in cooperation with Boston Symphony Orchestra, Tanglewood, Massachusetts, 1954, 1955; Minneapolis adviser, International Society for Contemporary Music, 1954-56; and chairman, Music Committee, Walker Art Center, Minneapolis.

Harold B. Allen was Fulbright lecturer at the University of Cairo, Egypt, 1954-55.

George Amberg served as member, Twin City Film Council, 1954-56; member, Center Arts Council, 1954-56, and director of productions, 1955-56, Walker Art Center; juror, Pre-screening Committee, Film Council of America, 1955-56; juror, Golden Reel Festival Award Committee, Chicago, 1955-56; and panel chairman, American Film Assembly, Chicago, 1955-56.

Robert J. Ames was awarded a Ford Foundation Fellowship for study in Florence, Italy, 1954-55.

William Anderson was member, National Commission on Intergovernmental Relations, 1954-55; and member, Task Force on Functions of Minnesota State Government and Federal Aid (Self-Survey of Minnesota State Government), 1956.

H. Harvard Arnason was awarded a Fulbright research grant for art historical research in France, 1955-56.

Bernard P. Arnest was appointed by the Governor of Minnesota to the Executive Committee, Minnesota State Art Society of which organization he is vice president. In 1955 he was invited to execute the mural paintings for the new Federal Building on the St. Paul Capitol grounds.

David K. Berninghausen served as member, Committee on Standards for Public Libraries, Minnesota Library Association, 1954; member, Commissioner's Committee to Study Reorganization of the Minnesota State Library Agency, Minnesota State Department of Education, 1956; member, Education Planning Committee, Minnesota Governor's Advisory Council for Children and Youth, 1956; chairman, Minnesota State Building Fund Committee, Phi Delta Kappa (Honorary Education Fraternity), 1954-56; member, Board of Publications, Association of College and Research Libraries, 1954-56; and member, Board of Directors, and chairman, Statistics Committee, Association of American Library Schools.

Edward Berryman served as director, St. Mark's Cathedral Children's Choir in concert with Minneapolis Symphony Orchestra, April, 1955; director of music and choir, Episcopal Youth Conference, Carleton College, June, 1955; judge, regional contest, March, 1956, and member, Planning Committee for Organ Section, 1956, Minnesota Music Teachers' Association.

Fred H. Blum served as consultant, Sub-committee on Labor, Committee on Labor and Public Welfare, United States Senate, 1955-56; and was consultant, Trends of Social Order Committee, Philadelphia, 1955.

Werner W. Boehm was elected to membership, U. S. Committee of the International Conference of Social Work, 1955; and was guest lecturer (in French), School of Social Work, University of Montreal, 1955, 1956. He served as director and coordinator, Social Work Curriculum Study, Council on Social Work Education, 1955-56; chairman, Section I, Services to Individuals and Families, and member, Committee on Services to Agencies and Communities, National Conference of Social Work, 1954-56; vice president, Minnesota State Welfare Conference, 1954-55; consultant on staff development, Hennepin County Welfare Board; member, Executive Committee, Family and Children's Division, Hennepin County Welfare Council; and member, Survey Committee, Greater St. Paul Community Welfare Council.

John R. Borchert served as consultant, Highway Study Committee, State of Minnesota; consultant, Social Studies Curriculum Revision, State Department of Education and Minneapolis School System; member, Task Force on Metropolitan Relations, Minneapolis Long Range Capital Improvements Committee; chairman, Golden Valley Planning Commission; member, Advisory Committee on Geography and Climatology, Environmental Research Section, Office of the Quartermaster General; and chairman, Committee Advisory to Geography Branch of the Office of Naval Research, National Research Council.

John Bowditch received a research grant from the Rockefeller Foundation, 1955-56.

Raymond W. Brink served as consultant, Commission on Accreditation of Service Experiences, American Council on Education.

May Brodbeck was recipient of fellowship, Social Science Research Council, 1955-56; and was elected secretary-treasurer, Western Division, American Philosophical Association.

Jan O. M. Broek was awarded a Visiting Fulbright Professorship at the University of Malaya, Singapore, 1954-55; was Visiting Fulbright Lecturer, University of Oslo, Norway, September, 1955; received a research grant from the Office of Naval Research, 1954-56; and served as chairman, Liaison Committee, Association of American Geographers and Air Force ROTC, 1956.

Allan H. Brown was editor, series of Biological *Monographs*, Row-Peterson Co.; consultant, Molecular Biology Panel, National Science Foundation; consultant, Advisory Panel on Biology to Office of Naval Research, American Institute of Biological Sciences; member, Editorial Board, *Plant Physiology*, 1954-56; lecturer by invitation at several universities in Japan, 1955; member, Arrangements Committee, Second Gatlinburg Symposium on Photosynthesis; and member, Editorial Committee on Symposium Report. He received an Office of Naval Research grant, 1954-56.

Bryng Bryngelson was elected to membership in the American Medical Writer's Association, 1956.

J. William Buchta was executive secretary, Advisory Committee on Government-University Relationships, National Science Foundation, 1954-55; and editor, *Reviews of Modern Physics*, 1954-56.

Alfred L. Burt served as a member, Canada-United States Committee on Education.

John W. Bystrom was member, State of Minnesota School Board, 1954-55; finance chairman, State Democratic-Farmer Labor Party; campaign director, Orville Freeman for Governor; member, Citizen's Committee for Public Education in Minneapolis; and member, Citizen's League of Greater Minneapolis and Hennepin County.

Theodore Caplow was awarded a Fulbright Lectureship, Sociological Institute, State University of Utrecht, The Netherlands, 1954-55. He served as second vice president, Midwest Sociological Society, 1956; relocation adviser, 1954-56, and member, Relocation Advisory Council, 1956, Minneapolis Housing and Redevelopment Authority; and received a research grant, Fund for the Advancement of Education, 1956.

Ralph D. Casey served as member, American Council on Education for Journalism, 1954-56; distinguished service member, American Society of Newspaper Editors, 1954-56; chairman, Committee on Liaison with Foreign Com-

munications Association, Association for Education in Journalism, 1954-56; and was awarded a Citation for twenty-five years of service to Minnesota journalism by the Minnesota Editorial Association, 1955.

Arnold F. Caswell was chairman, Mid-Winter Clinic, 1956, and chairman, Committee on General Music in the Junior High School, 1954-55, Minnesota Music Educators Association; member, Committee on Research, North Central Zone, Music Educators National Conference, 1955-56; secretary, State Committee for the Evaluation and Improvement of Instruction in Art, Dramatics and Music; vice president, New Friends of Chamber Music, Minneapolis; and served as adjudicator at music contest-festivals, Minnesota Public School Music League.

Mitchell V. Charnley was member, National Council on Radio-Television Journalism, 1955-56; and chairman, Public Relations Committee, and member, Board of Directors, 1956, Mental Health Association of Minnesota. He received a special award for services as director of Radio-Television News Short Courses, Northwest Radio-Television News Association, 1956.

Warren B. Cheston received a research grant from the National Science Foundation, 1955-56.

Asher N. Christensen was awarded a Fulbright Lectureship at the University College of Wales, Aberystwyth, Wales, 1954-55; and was invited to be a member of the faculty, Salzburg Seminar in American Studies, Salzburg, Austria, 1955. He served as member, Committee on Contributing Editors, *The Handbook of Latin American Studies*, 1955; and was invited to give the William A. Strickland Memorial Forum Lecture at Blake School, Hopkins, Minnesota, 1956.

Kenneth E. Clark was recipient of research grant from National Science Foundation (administered through the American Psychological Association), 1954-56.

Miriam Cohn served as program chairman, Group Work Section, Minnesota State Welfare Conference; and member, Program Committee, Group Work Section, National Conference of Social Work, 1954-55.

Maurice F. Connery served as training consultant, St. Paul Police Department, 1954-56; training and research consultant, Ramsey County Probation Department, 1954-56; member, Committee on Personnel, National Probation Parole Association, 1956; member, Committee on Training and Recruitment, Family Service Association of America, 1956; member, *ad hoc* Committee on Corrections, Council of Social Work Education, 1954-56; member, Professional Advisory Board, Sheltering Arms, 1955-56; member, Health and Welfare Committee, Ramsey County Community Chest and Council, 1954-56; member, Committee on Training for Psychiatric Social Work, 1954-56, and chairman, Psychiatric Social Work Section, Twin City Chapter, 1955-56, National Association of Social Workers; civil service examiner in Psychiatric Social Work and Social Work in Correctional Setting, State of Minnesota, 1954-56; member, Committee on Probation and Parole, Governor's Advisory Committee on Children and Youth, 1954-56; chairman, Minnesota Alumni, Columbia University School of Social Work, 1954-56; member, Speakers Panel, National Conference of Christians and Jews, 1954-56; and program adviser on Mental Hygiene, Minnesota Parent and Teacher Association, 1954-56.

Russell M. Cooper served as vice chairman, Commission on Research and Service, 1955-56, and chairman, Committee on Liberal Arts Education, 1954-56, North Central Association of Colleges and Secondary Schools; member, Commission on Instruction and Evaluation, American Council on Education, 1954-56; member, 1954-56, and chairman, 1955-56, National Committee on General Education, and member, Executive Committee, 1956, Association for Higher Education, a department of the National Education Association; and was program chairman, Minnesota Conference on General Education sponsored by the State Commissioner of Education, 1956.

David Cooperman received a Rockefeller grant in legal and political philosophy, 1955.

A Orville Dahl served as technical consultant, Pollen Survey Committee, American Academy of Allergy, 1954-56; honorary vice president, Section 6 (Palynology), 8th International Botanical Congress, Paris, July, 1954; member, Subcommittee on Postgraduate Education in Biology, National Research Coun-

cil, 1955-56; research associate, Cell Research Institute, Karolinska Institutet, Stockholm, Sweden, August, 1954; and participant, 8th International Congress for Cell Biology, Leiden, Holland, September, 1954. He was appointed to "Comite International de Palynologie" by the Comite Directeur of the Union Internationale des Sciences Biologiques, Paris, France, 1956.

Harold C. Deutsch served as member, American Council on the Study of War Documents; member, Council on International Exchange of Persons (Fulbright Committee), 1955; and consultant on international affairs curriculum, Army War College.

Norman J. DeWitt is president-elect, Classical Association of the Middle-west and South, 1956.

George A. Donohue was awarded a research grant, Minnesota Heart Association, to study the attitudes of Twin City employers toward cardiacs, 1954; and was consultant, Minnesota Attorney General's Office, 1955.

Monroe D. Donsker served as member, Executive Committee, Minnesota Branch, Mathematical Association of America.

Allen Downs was granted an award at the California State Fair for his film, "Color of the Day," 1955.

Richard T. Drinnon received a Fulbright Scholarship for study in The Netherlands, 1954-55.

Gordon Duckworth served as member, California State Piano Committee, 1954-55; was recipient of scholarship, Music Academy of the West, Santa Barbara, California, 1954; and was Florence and William C. Bagley Scholar, Columbia University, 1955-56.

Dorothy T. Dyer was president, 1954, program chairman, 1955, and chairman, Operating Committee, 1955-56, National Council on Family Relations.

Samuel Eddy was member, Council, American Association for the Advancement of Science, 1954-55.

Nancy A. Edes served as sub-chairman, Committee on Music in Childhood, 1955-56, and chairman of one session, Mid-Winter Music Clinic, 1956, Minnesota Music Educators' Association.

Robert C. Eidt served as Student Project for Amity Among Nations group adviser in Argentina, 1954; and was elected vice president, SPAN, 1955-56.

Lorenz E. A. Eitner was awarded a Guggenheim Foundation scholarship for a year's research project in Germany, 1956; and was elected to the National Planning Committee, College Art Association.

Richard M. Elliott was editorial consultant, *Contemporary Psychology*, 1956.

W. Edwin Emery, Jr., received the national Sigma Delta Chi Distinguished Service Award for research in journalism, 1955; served as associate editor, *Journalism Quarterly*, 1954-56; member, Board of Directors, and chairman, Convention Program Committee, National Conference of Editorial Writers, 1955-56; member, Journalism History Committee, Association for Education in Journalism, 1954-56; and member, National Education Committee, 1955-56 and vice president, Minnesota Chapter, 1956, Public Relations Society of America.

Herbert Feigl served as member, Board of Trustees, Institute for the Unity of Science; member, Editorial Board, *Philosophy of Science*; member, Advisory Committee, International Encyclopedia of Unified Science; co-editor, *Philosophical Studies*; and was appointed Matchette Foundation lecturer at Brooklyn College, New York, 1956. He was recipient of a research grant, Louis W. and Maud Hill Family Foundation; and a travel grant, National Science Foundation, for participation in the International Congress for Philosophy of Science, Zurich, Switzerland, 1954.

Paul Fetler was recipient, Publication Award for "Three Pieces for Violin and Piano," Society for the Publication of American Music; and of two commissions for compositions for Modern Dance Trio, 1955, 1956. Performances of his compositions included: Third Symphony by Minneapolis Symphony Orchestra; choral works by Hamline University Singers; and piano works in various parts of the United States.

William W. Fletcher was elected president, Minnesota Speech and Hearing Association, 1954; member, Sigma Xi, 1956; and was awarded a fellowship,

University of Miami Medical School and Bureau of Vocational Rehabilitation, U. S. Department of Health, Education, and Welfare, 1955.

Margaret M. Forbes served as associate editor, *Classical Journal*, Classical Association of the Middlewest and South.

Roy G. Francis served as member, North Central Rural Sociology Committee, and member and chairman, Population Sub-committee, Farm Foundation (Chicago), 1954-56; and was consultant on problems of leadership, National Red Cross, 1956.

Albert W. Frenkel was awarded research grants by the Kettering Foundation, 1955-56, and the National Science Foundation, 1955-56; and was invited participant in Gordon Conference and the Gatlinburg Symposium on Photosynthesis, 1955.

Joseph G. Gall received the Lalor Foundation Junior Fellowship for summer research at Marine Biological Laboratory, Woods Hole, Massachusetts, 1954; was invited speaker at the Annual Symposium, Society for Experimental Biology, Leeds, England, 1954; and received research grants from the National Science Foundation, 1955, 1956.

Earl R. George served as chairman, American Music Committee, National Federation of Music Clubs; and chairman, Minnesota Theory-Composition Section, Music Teachers' National Association, 1954-55. He received a Fulbright teaching fellowship at the University of Oslo, Norway, 1955-56. His compositions were performed throughout the nation, 1954-56.

J. Edward Gerald was chairman, Task Force Committee on Research, Reports, and Public Information, Department of Administration, State of Minnesota; chairman, Committee on Professional Freedom and Responsibility, Association for Education in Journalism; and member, Advisory Committee, Minneapolis *Star* Program of Information on World Affairs.

Howard Gilkinson served as member, Social Science Committee, 1954-56, and vice chairman, Personal and Social Psychology Section, 1956, Speech Association of America. He is editor-elect, *Speech Monographs*, 1956.

Samuel S. Goldich was recipient of research grants from Geological Society of America and National Science Foundation.

Kenneth L. Graham was elected executive secretary-treasurer, American Educational Theatre Association, 1956; served as member, Executive Board, 1954-56, and director, Children's Theatre Conference, 1954, American Educational Theatre Association; contributing editor, *Players Magazine*, 1955-56; executive secretary, North Central Theater Association, 1954-56; critic-judge, District and Regional Speech Festivals, State High School League, 1954-56; member, Play Selection Committee, State High School League and Minnesota Association of the Teachers of Speech, 1954-56.

Mark Graubard was awarded the George Washington Honor Medal by the Freedoms Foundation at Valley Forge, 1956.

Fred Gross served as chairman, Committee on Social Work in Psychiatric Settings, 1954-55, member, Psychiatric Social Work Section, 1955-56, and chairman, Social Work Research Section, 1956, Southern Minnesota Chapter, National Association of Social Workers; member, Regional and National Committees on Social Workers in Medical Education, American Association of Psychiatric Social Workers, 1954-56; member, Oral Examining Boards, Minneapolis Civil Service Commission and Minnesota State Civil Service Commission, 1954-55; local chairman, Alumni Association Fund-raising Campaign, University of Chicago; and member, Planning Committee, Institute on Alcoholism, State Board of Health, 1955.

John W. Gruner served as member, Fulbright Advisory Screening Committee in Geology and Geophysics, 1954-56; honorary member, Gemological Institute of America; consultant, Contract of U. S. Signal Corps on "Hydrothermal Growth of Barium Titanate Crystals"; and was holder of contract with Atomic Energy Commission on finding uranium deposits.

George S. Hage was elected president, American Studies Association of Minnesota and the Dakotas, 1956.

John W. Hall was ex-officio member, Council, and editor, *Proceedings*, Minnesota Academy of Science. He was awarded a research grant from National Science Foundation, 1954-56.

Agnes Hansen served as president, Xi Chapter, Sigma Delta Epsilon (graduate women's scientific society), 1954.

Jack B. Haskins was director, research study on attitude and reader-interest of Minnesota physicians to *Minnesota Medicine*, Board of Editors, Minnesota State Medical Association.

Edward L. Hill served as associate editor, *Mathematical Reviews*, 1954-56; and was awarded research contracts by U. S. Air Force and Bureau of Aeronautics, Navy Department, 1955.

E. Adamson Hoebel was president-elect, American Anthropological Association, 1956; member, Governor's Interracial Commission; member, Board of Directors, Social Science Research Council; member, Board of Directors, American Association on Indian Affairs; director, Summer Institute at Harvard University, Social Science Research Council; and was recipient of a research grant, Ford Foundation.

Theodore Hornberger was advisory editor, *American Literature*, 1954-56; advisory editor, *College English*, 1955-56; and chairman, American Literature Group, Modern Language Association of America, 1956.

John Hospers was recipient of a Fulbright Research Fellowship to Bedford College, University of London, 1954-55.

William S. Howell served as member, Committee on Discussion and Debate Materials and Interstate Cooperation, National University Extension Association; consultant on speech activities, Minnesota State High School League; and critic-judge, state high school forensic activities.

Thelma Hunter served as chairman, Minneapolis Schools Committee, St. Paul Civic Opera, 1954-56; adjudicator, State-Regional Contest, Minnesota Public School Music League, 1955; and member, Recital and Master Class, Minnesota Music Teachers' Association, 1956.

P. Lee Irwin was member, Advisory Board, Washington Newspaper Publishers Association.

Paul S. Ivory served as vice president for orchestra, clinic chairman, and was elected president, 1955, Minnesota Music Educators' Association; and member, Editorial Board, *Journal of Research in Music Education*, 1955-56. For the Music Educators' National Conference he served as member, Commission on Research to Golden Anniversary Commission, and as representative, at Chicago meeting of National Commission for Teacher Education and Professional Standards, National Education Association.

James J. Jenkins served as co-principal investigator on Office of Naval Research contract; member, Committee on Linguistics and Psychology, and consultant, Southwest project in Comparative Psycholinguistics, Social Science Research Council; secretary-treasurer, Minnesota Psychological Association, 1954-55; and delegate of Minnesota Psychological Association to the Conference of State Psychological Associations, 1954. He was recipient of research grant-in-aid, Ford Foundation; and Faculty Research Fellowship, Social Science Research Council.

Arthur B. Jennings served as regional chairman, American Guild of Organists, 1954-55; consultant on organs for churches, St. Paul, Minneapolis, Duluth, Pittsburgh; and gave recital, American Guild of Organists, Knoxville, Tennessee, 1954.

Lawrence H. Johnson served with the working committee of MURA, 1954-56; and was recipient of research grants from MURA, 1954 and 1955.

Robert L. Jones was consultant on Human Resources Research, Air Force Personnel and Training Research Center, Maxwell Air Force Base, 1954; member, Technical Committee on Education, Mayor's Council on Human Relations, Minneapolis, 1955-56; director of research studies under grants from Minneapolis *Star* and *Tribune*, Carnegie Endowment for Peace, Association for Education in Journalism via the Fund for the Republic, and Board of Editors, Minnesota Medical Association. He served as member, Advisory Editorial Board, *Journalism Quarterly*.

Tom B. Jones served as secretary, Minnesota Chapter, Archaeological Institute of America, 1954-56; and consultant, Central Intelligence Agency.

Philip D. Jordan served as member, Executive Council, Mississippi Valley Historical Association; director, American Folk Arts Foundation; member,

Publications Committee, Minnesota Historical Society; and member, Committee on the History of Public Health, American Public Health Association.

Rita Juhl was coordinator, Music Clinic, Minneapolis, Minnesota Music Educators, 1956.

Gerhard K. Kalisch was awarded a study grant by the Louis W. and Maud Hill Family Foundation, 1955-56.

John C. Kidneigh served as chairman, Commission on Accreditation, member, Committee on Teaching Materials, and delegate in Delegate Assembly, Council on Social Work Education; member, National Board, chairman, Committee on Personnel Practices of National Staff, and member, Delegate Assembly, National Association of Social Workers; chairman, National Social Service Advisory Council; consultant, U. S. Veterans Administration; member, Training Committee, and member, Policy Committee on Training, National Institutes of Mental Health, U. S. Public Health Service; member, National Board, and consultant on Social Work Education, Unitarian Service Committee; member, Executive Committee, Hennepin County Welfare Council; member, Board of Directors, Minneapolis Family and Children's Service Society; member, Board of Directors, Minneapolis Urban League; member, Program Committee, National Conference of Social Work; member, Research Section, member, Committee on Community Organization, and member, Board of Directors, Southern Minnesota Chapter, National Association of Social Workers; and member, Health and Welfare Committee, Minneapolis Citizens League.

Fred L. Kildow served as director: Minnesota High School Press Association, National Scholastic Press Association, and Association Collegiate Press.

Janet E. King was member and secretary, local Psychiatric Social Work Committee, 1954-55, member, local Social Work Inter-association Personnel Committee, 1954-55, and member, local Social Work Education Committee, 1954-55, National Association of Social Workers; member, Budget Committee, 1955-56, and secretary-treasurer, Psychiatric Social Work Section, 1955-56, Southern Minnesota Chapter, National Association of Social Workers; member, Casework Committee, International Institute, St. Paul, 1955-56; and member, Council of United World Federalists, St. Paul, 1954-56.

Gisela Konopka served as member, National Program Committee, 1954-55, member, National Committee on Relationship with other Professions, 1955-56, and member, National Committee on Policy and Planning, 1956, American Orthopsychiatric Association; member, 1955-56, and chairman, 1955-56, Regional Chapter, National Committee on Social Work Practice, and corresponding consultant, Group Work Section, 1955, National Association of Social Workers; member, Advisory Committee on Detention and Shelter of Children, National Probation and Parole Association, 1954-55; vice-chairman, Committee on Correctional Institutions and Camps, 1954 and 1956, and chairman, Committee on Youth Participation, 1954, Minnesota Governor's Advisory Council for Children and Youth; chairman, South Central Youth Project, 1955-56, member, Executive Committee, Family and Child Welfare Division, 1955-56, and member, Committee on Juvenile Delinquency, 1955, Community Welfare Council, Minneapolis; member, Advisory Board, University of Minnesota Y.W.C.A., 1956; consultant to Group Therapy Project, Big Sisters, Minneapolis, 1956; consultant to Special Project, Warwick State Training School, New York Welfare Board, 1955; and consultant, Committee on Standards of Treatment Centers for Children, Child Welfare League, 1955-56. She was awarded the Florina Lasker Fellowship for Advanced Study of Social Welfare at the New York School of Social Work, 1954-55; and was invited by the University of Hamburg, Germany, and the Victor Gollanz Stiftung, Germany, to teach Social Group Work, Summer Travel Grant, U. S. State Department, 1956.

Joseph J. Kwiat was Fulbright research scholar in Germany, 1954-55; chairman, Advisory and Nominating Committee, 1955-56, and member, Bibliography Committee, 1954-56, Literature and Related Arts Group, Modern Language Association; chairman and organizer, joint meeting, American Studies Association and the College Art Association, 1955-56; guest lecturer and consultant on American Civilization Programs, Germany, 1954-55; and consultant to Fulbright Commission, Washington, D.C., 1955.

Donald B. Lawrence served as chairman, Committee on Index, chairman, Publications Committee, and chairman, Committee on Ecological Life Histories, Ecological Society of America; member, 1954-55, and chairman, 1955-56, Committee on Conservation, Minnesota Academy of Science; member, Editorial Board, *Minnesota Naturalist*, member, Board of Directors, and member, Nature Forum Committee, Minnesota Natural History Society; chairman, Committee on Wild Rice, Minnesota Conservation Commission; member, Committee on Glaciological Program, International Geophysical Year; member, Advisory Committee, Quetico-Superior Research Center; honorary member, and member, Research Committee, Mazama Mountaineering Club of Portland, Oregon.

Werner Levi was awarded a Fulbright research grant for study in Australia, 1954-55.

Benjamin E. Lippincott served as director, Training, 9148 Group U. S. Air Force Reserve, and chairman, Educational and Guidance Staff, 2655 Air Reserve Center, Minneapolis; educational consultant, Reserve General and Specialized Training Conference, Tenth Air Force and ConAC, U. S. Air Force; and member and chairman, Nominating Committee, American Political Science Association.

Clarence C. Ludwig served as executive secretary, League of Minnesota Municipalities; editor, *Minnesota Municipalities*; member, Executive Committee on Membership, 1954, and member, Special Committee on American Municipal Association-League Relationships, 1956, American Municipal Association; adviser on research project on safety organization, Public Administration Service; and was local government consultant to Institute of Public Administration, University of the Philippines, winter quarter 1956 under University of Michigan contract financed by International Cooperation Administration of the United States Government. For the state of Minnesota he served as: member and secretary, Interim Highway Study Commission, 1954-55; member, Governor's Civil Defense Advisory Committee; member, Aeronautics Advisory Committee; member, Executive Committee, Minnesota State Safety Council; member, Governor's Youth Conference and subordinate committee; and member, Task Force, state self-survey. He also served as member, Task Force, Minneapolis Capital Long-Range Improvement Committee; and member, Citizens' League Committee on Metropolitan Parks, Minneapolis.

Willem J. Luyten was delegate of the National Science Foundation to the Dublin meeting, International Astronomical Union; and served as member, Executive Committee, Charlottesville, Virginia meeting, National Science Foundation, 1956.

Kenneth MacCorquodale was elected member, Editorial Boards, *Journal of Experimental Psychology* and *Psychological Review*.

Errett W. McDiarmid served as consultant, Survey of Library Service for the Blind, American Foundation for the Blind; chairman, Minnesota UNESCO Committee; member, Board of Trustees, and member, Executive Committee, James J. Hill Reference Library, St. Paul; member, Executive Committee, Division of Arts and Sciences, American Association of Land-Grant Colleges and State Universities; and president, St. Anthony Park Library Association, St. Paul.

Tremaine McDowell was elected secretary-treasurer, American Studies Association of Minnesota and the Dakotas, 1954-56; and was associate editor, *American Quarterly*, 1954-56.

Paul E. Meehl served as consultant in clinical psychology, Mental Hygiene Clinic, St. Paul, and Veterans Hospital, Minneapolis, U. S. Veterans Administration; was elected president, Midwestern Psychological Association, 1954-55; and was awarded a research grant, Division of Behavioral Sciences, Ford Foundation. He was chairman, special investigative committee, Lutheran Church—Missouri Synod.

Lennox A. Mills delivered a paper on American Policy in Southeast Asia, Conference at Allerton Park, University of Illinois, 1954; and was invited to present a paper at the International Conference on South and Southeast Asia held at the School of Oriental and African Studies, University of London, England, 1956.

Dwight E. Minnich was trustee, Mount Desert Island Biological Laboratory, Salsbury Cove, Maine; president, Minnesota Human Genetics League; director, Hennepin County League for Planned Parenthood; and associate editor, *Journal of Morphology*.

Elio D. Monachesi was elected fellow, American Association for the Advancement of Science, 1954. He served as member, Executive Committee, Midwest Sociological Society, 1954-56; member, Minnesota Warden Selection Committee, 1955; member, Interview Board, Minnesota State Civil Service Department as follows: for the selection of correctional workers and deputy wardens, 1955, for the selection of penal classification officer, 1956, and for the selection of associate wardens, 1956; chairman, Correctional Advisory Committee, Minnesota Department of Welfare, 1955-56; and was Minnesota state representative to the Midwest Sociological Society, 1954-56.

Samuel H. Monk was invited to serve as Berg Visiting Professor at New York University, 1954-55.

Robert D. Moulton conducted a workshop, Children's Theatre of Winnipeg, Canada, 1955; and was adjudicator, 25th Annual Festival, Manitoba Drama League, 1956.

Verval J. Mueller served as chairman, Council Districts and Regions, member, Executive Committee, member, Education Committee, and chairman, Minnesota District, American Association of Medical Social Workers; chairman, Committee on Selection of Students for Schools of Social Work, Council on Social Work Education; interviewer, National Roster of Interviewers for Schools of Social Work; interviewer, Board for Medical and Psychiatric Social Workers, State Civil Service Department, Minnesota; member, Social Work Guild, Protestant Episcopal Diocese of Minnesota; delegate, Health Care Division, Hennepin County Community Chest and Council; chairman, Inter-Association Committee on Personnel Practices, Chapters of Twin Cities Social Work Associations; member, Interviewing Board, Supervisory Social Work Personnel, Minneapolis Civil Service Department; member, Social Welfare Committee, Twin City Cooperatives; and for the National Association of Social Workers, Southern Minnesota Chapter, he was chairman, Steering Committee; member, Executive Committee, Medical Social Work Section; chairman, Practice Committee; and member, Executive Committee.

Carl B. Nelson was adjudicator for public school music contest-festivals in Minnesota, 1956; and group leader, String Clinic, Mid-Winter Clinic, Minnesota Music Educators' Association, 1956.

Lowry Nelson received a Fulbright Research Award, 1954-55, for study of rural life in Italy; the Distinguished Service Award, Utah Academy of Sciences, Arts, and Letters, 1955; and was re-elected member, Executive Council, American Sociological Society.

Edward P. Ney served as consultant, U. S. Air Force through Tufts College, 1954-56; and received research grants from the Office of Naval Research, 1954-56, and from International Geophysical Year through the National Science Foundation, 1956.

Alfred O. C. Nier served as member, Council, American Physical Society, 1954-56; member, Advisory Committee for Physics, Chemistry, Engineering, Astronomy and Mathematics, National Science Foundation, 1954-56; member, Advisory Committee to Stable Isotope Division, Oak Ridge National Laboratory, 1954-56; member, Subcommittee for Nuclear Geophysics and Subcommittee for Nuclear Constants, National Research Council, 1954-56; member, Visiting Advisory Committee, Department of Physics, Princeton University, 1954-56; consultant to Atomic Energy Commission through Carbide and Carbon Chemical Corporation and General Electric Co.; member, Board of Trustees, Science Museum, City of St. Paul, 1954-56; member, Technical Advisory Committee, and chairman, panel advising on atomic and radiation physics, National Bureau of Standards, 1954-56; and received research grants from National Science Foundation, 1954-56, and from the Office of Naval Research, 1954-56.

Raymond B. Nixon served as chairman, Committee of Sigma Delta Chi (professional journalism society) on study plans of the daily press; editor, *Journalism Quarterly*, 1955-56; member, National Council on Communications Research, Association for Education in Journalism; member, President's Com-

mittee for Employment of the Physically Handicapped, 1956; and member, National Panel of Labor Arbitrators, American Arbitration Association.

Paul M. Oberg served as executive secretary-treasurer, Minnesota Public School Music League, 1954-56; member, Board of Directors, Minnesota Music Educators' Association, 1954-56; chairman, Certification Committee, Minnesota Music Teachers' Association, 1954-55; member, Regional Committee, Music Teachers' National Association, 1954-56; adjudicator for state music organizations in Minnesota, Iowa and Wisconsin, 1954-56; and chairman, Special Committee on Accreditation, State Department of Education, 1955-56.

Anne W. Oren served as member, State Committee on Manual of Health and Welfare, State Department of Public Welfare.

Gerald B. Ownbey was visiting investigator, Rancho Santa Ana Botanic Garden, 1954.

Richard Paige was conductor of Music, "Peace Arch" ceremony, Blaine, Washington, for United States and Canadian Governments, 1955; and served as adjudicator, Western Washington Music Festival, 1955; and adjudicator, Public School Music Festivals, Minnesota, 1956.

Donald G. Paterson served as consultant, Counseling (Vocational) Ph.D. Training Program, Veterans Administration, 1954-56; member, Candidate Review Committee, Citizens' League of Minneapolis and Hennepin County, 1955-56; member, Conference Committee on Research in Traffic Safety Education, National Commission on Safety Education of the National Education Association, Washington, D.C., June, 1955; member, Board of Directors, Twin Cities Vocational Guidance Association, Inc., 1954-56; member, Board of Directors, Minnesota League for Human Genetics, 1954-56; member, Board of Directors, membership chairman, and editor, *Newsletter*, Minnesota Branch, American Civil Liberties Union, 1954-56; member, Executive Council and Executive Committee, Prospect Park and East River Road Improvement Association, Minneapolis, 1954-56; member-at-large, Citizens Committee on Public Education, 1954-56; was elected member, Walter Van Dyke Bingham Lecture Committee, American Psychological Association, 1955; and was chosen to deliver the Walter Van Dyke Bingham Lecture at Ohio State University, April 17, 1956.

Ruby B. Pernel served as member, Board, and chairman, Case Work Committee, International Institute, St. Paul; member, Program Planning Committee, Minneapolis YWCA; member, Committee on Child Caring Institutions, Governor's Advisory Committee on Children and Youth; member, Executive Committee, and vice chairman, Group Work Section, Southern Minnesota Chapter, National Association of Social Workers; and member, Section II Program Committee, National Conference of Social Work.

Shirley Peterson served as adviser, Pilgrim Fellowship, St. Anthony Park Congregational Church.

Wayne Peterson received honorable mention for two choral works in Kansas Wesleyan Choral Competition, 1955; and was awarded a student commission from Louisville Philharmonic Society, 1955.

Gerald R. Prescott served as member, Policy and Steering Committee, College Band Directors National Association; clinician, Wheat State Music Camp, Emporia (Kansas) State Teachers College, 1955; band conductor, Music Camp, West Texas State College, 1955; band judge, Tri-State Band Festival, 1955; clinic director, Band Reading Workshop, Pittsburgh, 1956; and adjudicator for public school music contest-festivals in South Dakota and Minnesota, 1956.

Sheldon C. Reed was member, Research Board, National Association for Retarded Children, 1955-56; president, American Society of Human Genetics, 1956; and secretary, Minnesota Human Genetics League, 1954-56.

Henry W. Riecken served as chairman, Inter-University Faculty Summer Seminar at Brandeis University sponsored by the Social Science Research Council; member, Committee on Research Training, Social Science Research Council; consultant on research, Section on Public Health Education, Minnesota State Board of Health; member, Mayor's (Minneapolis) Council on Human Relations; and consultant, Minnesota Mental Health Association. He was recipient of a research grant from the Behavioral Sciences Division, Ford Foundation.

Arnold M. Rose was consultant, Human Resources Research Office, U. S. Army; consultant, Minnesota Youth Conservation Commission; and president, Society for the Study of Social Problems, 1955-56. He received a research grant from the Rockefeller Foundation.

Ephraim Rosen served as member, Oral Examination Board for Psychologists, State Civil Service Department; and was chairman, 1955-56, Program Committee, Division of Personality and Social Psychology, American Psychological Association.

Ralph G. Ross was president, Minneapolis Civic Opera Association, 1954; and director of lecture series "Art as Wisdom and Document," Walker Art Center, 1955-56.

Earl V. Rymer was named chairman, Committee for Certification, 1955, and chairman, Piano Committee, 1954, Minnesota Music Teachers' Association; and was adjudicator for music contest-festivals, Minnesota and Wisconsin, 1954-56.

Henriette E. Saloshin served as vice president, 1954-55, and member, Program Committee, 1955-56, National Association of Social Workers; member, Executive Committee, American Association of Group Workers, 1954-55; member, Inter-Association Committee, Temporary Inter-Association Council, 1954-55; member, Executive Committee, Group Work and Recreation Division, member, Criteria Committee, and member, Long Range Planning Committee, Social Welfare Council of Minneapolis; member, Board of Directors, member and chairman, Sub-Committees, St. Louis Park Study Committee; member and chairman, Sub-Committees and Scholarship Committee, Minneapolis Federation for Jewish Service; member, Educational Advisory Committee, National Conference of Christians and Jews, 1954-55.

Otto H. Schmitt served as member, Editorial Committee, Minnesota Academy of Science, 1954; member, Steering Committee, and member, Committee of Four, preliminary to organization of National Biophysics Society, 1956; member and vice chairman, Administrative Committee, Medical Electronics, 1955, and member, Administrative Committee, Ultrasonics Engineering, 1956, Institute of Radio Engineers; member, Editorial Board, *Circulation Research*, 1954-55; delegate to assembly, 1955-56, and member, Board of Directors, 1956, Basic Sciences Section, American Heart Association; member, Executive Committee, and member, Committee on Electrical Techniques in Medicine and Biology (Science and Electronics Division), American Institute of Electrical Engineering, 1956; was elected a fellow, Institute of Radio Engineers, 1955; and was named chairman of symposium to study animal orientation, Office of Naval Research.

Roy A. Schuessler served as member, Board of Directors, Local Chapter, National Association of Teachers of Singing, 1954-56; member, Board of Directors, White Bear Civic Concert Association, 1955-56; and adjudicator and vocal counselor, public school music contest-festivals in Minnesota, Wisconsin, and North Dakota, 1954-56.

George M. Schwartz was chairman, State Mapping Advisory Board; member, Sub-committee on Fundamental Geologic Research, National Science Foundation; member, Council, Geological Society of America; and member, Steering Committee, Glossary Project, American Geological Institute.

Lyndell N. Scott served as member, Home Service Advisory Committee, Hennepin County Chapter, American Red Cross; member, Interviewing Board for Social Worker I and II, Minnesota Civil Service Department; secretary, Division of Graduate Schools, member, Commission on Schools and Departments, member, Committee on Field Work in the Advanced Curriculum, and member, Committee on Research in Pre-professional Education, Council on Social Work Education; delegate, Community Chest and Council, Hennepin County; and representative of Council on Social Work Education on the Western College Association Accreditation Team for All-University Review, University of Southern California.

Michael Scriven served as member, Committee on Academic Freedom and Tenure, Minnesota Chapter, American Association of University Professors; and was first prize winner in competition sponsored by the *British Journal for the Philosophy of Science*.

Wilfrid S. Sellars was invited to give the University of London Special Lectures in Philosophy, 1955-56.

Gertrude R. Shiely served as member, Psychiatric Social Work Section, 1954-56, and member, Hospitality Committee, 1955-56, Southern Minnesota Chapter, National Association of Social Workers; member, Executive Board, and chairman, Membership Committee, Alumni Association, University of Minnesota School of Social Work, 1954-55; member, Health Committee, 1954, and member, Casework Committee, 1954-56, Minnesota Welfare Conference; University Hospital delegate to Family and Child Welfare Division, Hennepin County Chest and Council, 1954-56; University Hospitals representative on Steering Committee, Child Welfare Forum, Minnesota Department of Public Welfare, 1956; life member, Board of Governors, Christ Child School for Exceptional Children, St. Paul, 1955; chairman, Nominating Committee, American Association of University Women (St. Paul Branch), 1954-56; and member, Fund Raising Committee, College of St. Catherine, 1954-56.

Lloyd M. Short served as chairman, Special Examining Committee to Choose a Director, Minnesota Civil Service Department, 1955; chairman, Functional Task Force on overall structure of government, Minnesota State Self-Survey, 1956; member, Board of Directors, Minnesota Institute for Governmental Research, 1954-56; member, Board of Directors, 1954-55, and member, Forms and Structures Committee, 1954-56, Citizens' League of Minneapolis and Hennepin County; member, Program and Policy Committee, American Society for Public Administration, 1954-56; member, Joint Committee on Training for Government Service, American Association of Land-Grant Colleges and State Universities—U. S. Department of Agriculture; and member, Schools and Universities Advisory Board, Citizens' Committee for the Hoover Report. He was on the staff of the Institute of Public Administration, University of the Philippines, under appointment by the University of Michigan, winter quarter, 1955; and was elected to honorary life membership, Minnesota League of Women Voters, 1956.

Mulford Q. Sibley served as member, Board of Directors, Twin City Co-operatives Credit Union; vice president, Minnesota Co-operative Memorial Society; vice president, Northwestern Regional American Studies Association; member, Board of Directors, Co-operative Services, Inc., 1955; and associate editor, political journal *Liberation*.

John Sirjamaki served on the Editorial Board, *American Quarterly*.

Donald K. Smith served as president, Minnesota Association of Teachers of Speech, 1954-56; secretary, Interest Group on History of Speech Education, Speech Association of America, 1956; and consultant to Departments of Welfare and Conservation, Minnesota, 1955.

Robert F. Spencer received research grants from Asia Foundation to observe activities at the Sixth Great Buddhist Council, Rangoon, Burma, 1954; and from Arctic Institute of North America and Office of Naval Research, 1955.

Gale L. Sperry was Minnesota chairman, College Band Directors National Association, 1955-56; contest manager, State-Regional Music Contest, 1956; and adjudicator and clinician for public school music contest-festivals or clinics for Minnesota, Wisconsin, and Montana, 1956.

Nelson T. Spratt, Jr. received a grant from the Louis W. and Maud Hill Family Foundation to lecture as visiting professor at Minnesota colleges, 1955; served as member, Panel on Biology of Neoplasia, National Academy of Sciences advisory to American Cancer Society, 1954-56; member, Advisory Panel for Developmental Biology, National Science Foundation, 1956; and was elected to staff membership, Marine Biological Laboratory, Woods Hole, Massachusetts, 1955.

Laurence D. Steefel was awarded a Fulbright Research Fellowship, 1954-55.

Grover C. Stephens received a research grant from the National Science Foundation, 1955.

Malcolm B. Stinson served as research consultant, Family Centered Project, St. Paul Community Chest and Council; consultant on study of old age assistance recipients, State Department of Social Welfare; member, Local Committee to Effect Consolidation of American Association of Social Workers, American Association of Psychiatric Social Workers, American Association

of Medical Social Workers, American Association of Group Workers, National Association of School Social Workers, and Social Work Research Group; chairman, Local Chapter, Social Work Research Group; member, liaison committee, Research Section, National Association of Social Workers and the Society for the Study of Social Problems, American Sociological Society; and vice chairman, Committee on Community Organization, Local Chapter, National Association of Social Workers.

Frederick M. Swain, Jr. received a research grant from the National Science Foundation; and was recipient of the Outstanding Alumnus Award presented by the University of Kansas at the meeting of the American Association of Petroleum Geologists, 1956.

Allen Tate served as member, Committee Awarding the Bollingen Prize, 1955; and was awarded the honorary Litt.D. degree by Coe College, 1955.

Marvin J. Taves was awarded a research grant, U. S. Public Health Institutes, Department of Health, Education and Welfare, 1956. He was member, Committee on New Projects, Society for the Study of Social Problems, 1955; member, Sub-committee on the Sociology of Marketing, Rural Sociological Society, 1955; elected secretary-treasurer, Midwest Sociological Society, 1954-56; and elected to Gamma Sigma Delta, Minnesota Chapter (honor society of agriculture).

Hylton A. Thomas was awarded a Fulbright grant for art historical research in Italy, 1955-56; and a study grant for the Brussels Seminar, Belgium American Foundation, 1955.

David W. Thompson served as critic-judge of speech activities, Minnesota State High School League, 1955-56.

Dimitri Tselos was awarded a Fulbright Research Grant for art historical research in Greece, 1955-56.

Mary C. Turpie was member, special committee to study means of furthering an understanding and appreciation of American art, American Studies Association, 1954-55.

Franklin G. Wallace was consultant in parasitology, Veterans Hospital, Minneapolis.

John C. Weaver was awarded a Citation for meritorious contributions to geography, Association of American Geographers, 1955.

Bernhard D. Weiser conducted the master class, Duluth Music Teachers' Association, 1955.

Dorothy Westra was member, All-American Opera Company sponsored by State Department and U. S. Army, toured Europe, May, 1955, and was presented medal by Italian Government. She served as adjudicator, public school music contest-festivals, 1956; and consultant, music activities of youth groups, St. Mary's Episcopal Church, 1955-56.

Frederick Wezeman served as member, Committee on Constitution and By-Laws, American Library Association, 1954-56.

Frank M. Whiting served as member, Board of Governors, National Theatre Conference; member-at-large, Advisory Board, American National Theatre and Academy; vice president and convention chairman at Los Angeles, 1955, elected president, 1956, American Educational Theatre Association.

Lloyd A. Wilford was named official archaeologist, State of Minnesota.

Irene H. Williams served as member, Committee on Social Work Practice, National Association of Social Workers, 1955-56; and member, Committee on Services to Unmarried Mothers, Minneapolis Welfare Council, 1956.

Harold W. Wincler served as consultant on typography and make-up of publications, Chamber of Commerce of the United States, 1955; consultant on design, typography and make-up, Farmers' Union Press Association and Minnesota Department of Welfare, 1955-56; consultant on design and make-up of editorial page, Minneapolis *Tribune*, 1955; and was member, Advisory Board, *Gopher Historian*, Minnesota Historical Society.

John R. Winckler received research grants from the Office of Naval Research, 1954-56, and from the International Geophysical Year through the National Science Foundation, 1956.

Robert D. Wirt served as member, Advisory Board, The Sheltering Arms, 1955-56; and was awarded a research contract by the U. S. Public Health Service, 1956.

Herbert E. Wright, Jr. was awarded a Guggenheim Fellowship, 1954-55; and a Wenner-Gren Fellowship, 1954-55.

Institute of Technology—Axel B. Algren served as member, Board of Education, Minnehaha Academy, 1954-56; and member, Swedish Hospital Association, 1956. For the American Society of Heating and Air Conditioning Engineers he served as follows: member, Council, 1956; member, Technical Advisory Committee on Air Cleaning, 1954-56; member, Technical Advisory Committee on Standards, 1954-56; member, Technical Advisory Committee on Panel Heating and Cooling, 1954-56; and member, Technical Advisory Committee on Plant and Animal Husbandry, 1954-56. He was member, Technical Data Committee, National Warm Air and Air Conditioning Association, 1954-56.

Neal R. Amundson was director, research projects sponsored by Atomic Energy Commission, Office of Naval Research, and National Science Foundation; and was awarded a Fulbright Scholarship and Guggenheim Fellowship at Cambridge University, England, 1954-55. He served as member, Advisory Editorial Board, *Chemical Engineering Science*.

Alvin G. Anderson was elected member, North Central Regional Committee, American Geophysical Union, 1956.

Steve S. Barich served as member, Advisory Committee on Scientific, Engineering, and other Specialized Personnel, Minnesota State Selective Service.

Gust Bitsianes was awarded the J. E. Johnson, Jr. award for contributions to the literature on manufacture of pig iron, American Institute of Mining and Metallurgical Engineers.

Stanley M. Block served as member, Systems and Procedures Task Force for the Government Survey, State of Minnesota, 1956.

Paul W. Bullen was member, Planning Commission, and chairman, Park Board, Village of Brooklyn Center.

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.

Bryce L. Crawford, Jr., was elected to the National Academy of Science, 1956. He served as secretary, 1954, and member, Executive Committee, 1954-56, Division of Chemical Physics, American Physical Society; member, Editorial Board, *Annual Review of Physical Chemistry*, 1954-56; associate editor, *Journal of Chemical Physics*, 1954-56; chairman, Committee on Postdoctoral Fellowships, and chairman, Committee on Molecular Spectra and Molecular Structure, Division of Chemistry and Chemical Technology, National Research Council; secretary, Commission on Molecular Spectroscopy, member, Commission on Optical Data, International Union of Pure and Applied Chemistry; chairman, Advisory Committee on Solid Propellants, Bureau of Ordnance, U. S. Navy; and member, Executive Board, The Coblenz Society. He was awarded research grants and contracts from Bureau of Ordnance, U. S. Navy, and from Office of Ordnance Research, U. S. Army.

Edward W. Davis was awarded the honorary Doctor of Engineering degree by Purdue University, 1955; the honorary Doctor of Science degree by the University of Minnesota, 1956; and was recipient of the Richards Award, 1955, and the J. E. Johnson, Jr., Award, 1955, American Institute of Mining and Metallurgical Engineers.

Jesse E. Fant served as first vice president, Northwestern Section, American Society of Civil Engineers, 1956.

Stuart W. Fenton was awarded an Alfred P. Sloan research grant, 1955.

Lawrence E. Goodman served as member, Editorial Board, *Journal of Applied Mechanics*, 1955-56; and was sponsor in dynamics to Executive Committee, Applied Mechanics Division, American Society of Mechanical Engineers, 1954-56.

James P. Hartnett served as chairman, Committee on Heat Transfer in Biotechnology, Heat Transfer Division, American Society of Mechanical Engineers, 1955-56.

Thomas F. Irvine, Jr. was appointed by the Ramsey County Board of Commissioners to serve as member, Ramsey County Library Board; and was elected to membership in Sigma Xi, 1955.

Herbert S. Isbin directed research projects sponsored by the National Science Foundation and the Atomic Energy Commission; and served as chairman, Nuclear Energy Division, American Institute of Chemical Engineers; consultant to Wright Field on atomic energy matters; and was official visitor, representing the U. S. Air Force (Wright Field), to European atomic energy installations.

Armand S. Johnson served as associate investigator, research grant, National Institutes of Health.

Loyal A. Johnson was elected delegate from the Minnesota Section, American Society of Agricultural Engineers, to the Minnesota Federation of Engineering Societies.

Richard C. Jordan served as delegate, representing National Academy of Sciences—National Research Council, as honorary vice president, Engineer's Joint Council, and as special delegate of the American Society of Refrigerating Engineers, Ninth International Refrigeration Congress, Paris, France, 1955; member, Council, 1954-56, member, Executive Committee, 1954-56, chairman, International Affairs Committee, 1955-56, member, Professional Development Committee, 1955-56, chairman, Special Awards Committee, 1954-55, and chairman, 1954-55, and member, 1955-56, Nominating Committee, American Society of Refrigerating Engineers; member, Board of Abstractors, *Refrigeration Abstracts* 1954-56; consultant, Snow, Ice and Permafrost Research Establishment, U. S. Corps of Engineers, 1955; elected fellow, American Society of Refrigerating Engineers, 1955; member, Case National Advisory Committee, 1954-55; elected member, Research Council, 1955-56, chairman, Technical Advisory Committee on Solar Energy Utilization, 1955-56, member, Technical Advisory Committee on Heat Pumps, 1954-56, and member, Technical Advisory Committee on Evaporative Coolers, 1954-55, American Society of Heating and Air Conditioning Engineers; consultant and member, Advisory Panel on Engineering Sciences, 1954-56, and vice chairman, 1955-56, National Science Foundation; member, 1954-56, elected member-at-large, 1956, and member, Executive Committee, 1956, Division of Engineering and Industrial Research, National Research Council. He aided in the planning and execution of program, "World Symposium on Applied Solar Energy" at Phoenix and Tucson, Arizona, 1955; and was member, Lamme Award Committee, American Society for Engineering Education, 1954-56.

Miles S. Kersten was appointed member, National Advisory Committee, American Association of State Highway Officials Road Test, organized under the Highway Research Board, National Research Council.

Izaak M. Kolthoff served as director, research project on rubber sponsored by the National Science Foundation; chairman, Committee of Analytical Chemistry, National Research Council; member, Advisory Screening Committee, Committee on International Exchange of Persons, Conference Board of Associated Research Councils; president, Section on Analytical Chemistry, and vice president, International Union of Pure and Applied Chemistry; chairman-elect, Division of Analytical Chemistry, American Chemical Society, 1955; associate editor, *Journal of the American Chemical Society*; editor, *Chemical Analysis Series* and the *Organic Analysis Series* published by Interscience Publishers, Inc., 1955. He was awarded research grants from the U. S. Public Health Service, Louis W. and Maud Hill Family Foundation, Office of Ordnance Research, National Science Foundation, Research Corporation, and Air Research and Development Command U. S. Air Force. He was elected honorary member, The Society for Analytical Chemistry and the Peruvian Chemical Society; and was awarded the honorary Doctor of Science degree by the University of Chicago, and an honorary professorship by San Marcos University, Lima, Peru.

John H. Kuhlmann was named fellow, American Institute of Electrical Engineers, 1956.

Washington D. Lacabanne served as member, Iron Ore Estimating Division, State of Minnesota Tax Commission, 1954-55; and member, Minnesota State Commission on Underground Petroleum Storage.

Walter M. Lauer served as member, Board of Editors, *Journal of the American Chemical Society*, 1954-56; and chairman, Minnesota Section, Ameri-

can Chemical Society, 1956. He was awarded a John Simon Guggenheim Fellowship, 1954.

Benjamin J. Lazan served as member, Executive Committee, Society for Experimental Stress Analysis, 1956; member, Executive Committee of Fatigue Group, American Society for Testing Materials, 1954-56; and sponsor in materials to Executive Committee, Applied Mechanics Division, American Society of Mechanical Engineers, 1954-56.

Adolph O. Lee served as consultant for City of New Prague in connection with municipal power service; chairman, Ethical Practices Committee, member, Education Committee, and secretary, Capital Chapter, Minnesota Society for Professional Engineers; and chairman, Constitution and By-Laws Committee, Minnesota Federation of Engineering Societies.

William N. Lipscomb served as associate editor, *Journal of Chemical Physics*; president, American Crystallographic Association, 1955-56; and fellow, American Mineralogical Society. He was awarded a Guggenheim Fellowship at Oxford University (England), 1954-55; and was recipient of research contracts from the Office of Naval Research and the Office of Ordnance Research.

Robert S. Livingston was member, Sub-committee on Photochemical Storage of Energy, National Research Council; associate editor, *Research in Photosynthesis*, and invited speaker, Gatlinburg Conference held under sponsorship of National Science Foundation, 1955; invited speaker at Conference on Solar Energy at Tucson, Arizona, under joint sponsorship of Association for Applied Solar Energy, Stanford Research Institute, and University of Arizona, 1955; and was awarded research contracts by National Science Foundation and Air Research and Development Command, U. S. Air Force.

Rufus W. Lumry received research grants from the Louis W. and Maud Hill Family Foundation, the National Science Foundation, and the Office of Naval Research. He was elected to membership in the American Society of Biological Chemists.

Clarence E. Lund served as adviser to Seoul National University, Engineering College, Seoul, Korea, 1955; coordinator on Seoul National University of Korea Cooperative Project within the Institute of Technology, 1954-56; member, Condensation Control Within Buildings Committee; and adviser, 1954-56, Building Research Advisory Board, National Academy of Sciences.

James L. Lundy was awarded a Ford Foundation grant for management research; and was elected to the Board of Directors, Minnesota Society of Industrial Engineers.

Arthur J. Madden, Jr., directed research projects sponsored by the National Science Foundation and the Army Signal Corps.

Gayle W. McElrath served as general chairman, Eleventh Midwest Quality Control Conference, 1956; director, Minnesota Section, and member, National Education Committee, American Society for Quality Control; associate editor, *Engineering Economy*, and member, National Engineering Economy Committee, American Society for Engineering Education; member, Corporate Board of Trustees, Wesley Temple Corporation, 1956; member, Editorial Subcommittee on Mathematical Statistics, "Mathematical Tables and Other Aids to Computation," published by the National Research Council.

Edward J. Meehan served as associate director, research project on rubber, National Science Foundation.

Arthur N. Milgram served as member, panel for selection of fellows in mathematics, National Science Foundation, 1956; and was recipient of research grant, Office of Naval Research, 1954-56.

Harold M. Mooney was chairman, Publications Committee, Geophysics Sub-division, American Institute of Mining and Metallurgical Engineers, 1955-56; and received a research grant from California Research Corporation.

Thomas E. Murphy served as program chairman, Twin City Section, Society of Automotive Engineers, 1955-56; and chairman, Minnesota Section, American Society for Engineering Education, 1955-56.

Morris E. Nicholson served as chairman, Program Committee, Institute of Metals Division, American Institute of Mining, Metallurgical and Petroleum Engineers.

Wayland E. Noland served as chairman, Arrangements Committee, Minnesota Section, American Chemical Society, 1956; councilor, Minnesota Chapter, Gamma Alpha, 1955-56; and vice chairman, Board of Directors, Twin City Alumni Chapter, Alpha Chi Sigma, 1954-55.

William E. Parham served as member, Board of Editors, *Journal of Organic Chemistry*, 1954-56; secretary-treasurer and member, Executive Committee, Division of Organic Chemistry, and councilor and member, Committee on National Meeting and Divisional Activities, American Chemical Society, 1954-56; and consultant, E. I. du Pont de Nemours and Co. and Sinclair Oil Co., 1954-56. He was awarded research grants by the Office of Ordnance Research, 1954-56, and the National Science Foundation, 1956.

Eugene P. Pfeider served as director in charge of estimating iron ore reserves, Minnesota State Department of Taxation, 1954-55; member, Executive Committee, Mining-Geology-Geophysics Division, and member, Executive Committee, Mineral Industry Education Division, American Institute of Mining and Metallurgical Engineers.

Edgar L. Piret directed research projects sponsored by Iron Range Resources and Rehabilitation Commission, the Army Signal Corps, and the National Science Foundation. He was recipient of the William H. Walker Award for Distinguished Research Contributions, American Institute of Chemical Engineers; and was awarded a Dutch-Swedish Lectureship to The Netherlands, Sweden, Belgium, and Finland.

George W. Preckshot served as chairman, Local Section, American Institute of Chemical Engineers; and directed a research project sponsored by the Atomic Energy Commission.

Lloyd H. Reyerson was appointed member, Council Policy Committee, 1956, member, Advisory Editorial Board, *Chemical and Engineering News*, and member, National Manpower Committee, American Chemical Society. He was recipient of an Alumni Achievement Award from Carleton College, June, 1955; and a research grant from the Monsanto Chemical Company. He served as chairman, Foreign Research Scientists Program, National Academy of Sciences; and general chairman for the 128th National Meeting, American Chemical Society in Minneapolis, September, 1955. He was awarded the honorary degree, Doctor of Science, by Carleton College, June, 1956.

Paul C. Rosenbloom served as member, Advisory Panel for Mathematics, National Science Foundation, 1954-56; received research grant from the Office of Naval Research, 1954-56; and served as editor, college section, *Minnesota Mathematics Newsletter*, published by the Minnesota Council of Mathematics Teachers, 1955-56.

James J. Ryan was president, 1954-55, and national director, 1956, Minnesota Society of Professional Engineers; chairman, Governor's Committee on Automobile Safety, Minnesota Safety Council; director, contract research, U. S. Air Force; and was elected fellow, American Association for the Advancement of Science.

Ernest B. Sandell served as assistant editor, *Analytica Chimica Acta*, and member, Advisory Board, *Comprehensive Analytical Chemistry*.

George J. Schroepfer was member, Advisory Committee on Sanitary Engineering Research, U. S. Public Health Service; director and principal investigator, research grant, National Institutes of Health, 1955-56; and director, Minneapolis-St. Paul Sanitary District Research Program, 1956. He was recipient, Arthur S. Bedell Award, Federation of Sewage and Industrial Wastes Association; and member, Board of Engineering Consultants, U. S. Corps of Engineers.

Lee I. Smith served as chairman of one of the sessions, Organic Division, National Meeting, American Chemical Society, 1955.

Athelstan F. Spilhaus served as United States representative on the Executive Board of UNESCO, and as a member, U. S. National Commission for UNESCO, 1955-56; chairman, Advisory Panel on General Sciences to the Assistant Secretary of Defense (Research and Development), 1954-56; member, Research and Development Advisory Council, Army Signal Corps, 1954-56; member, Scientific Advisory Board, U. S. Air Force, 1954-56; member, Arctic Glossary Board of Consultants, U. S. Air Force, Headquarters Air University, 1954-56; member, one committee, National Academy of Sciences,

1954-56; member, United States National Committee, and member, Technical Panel on the Earth Satellite Program, International Geophysical Year, National Research Council, 1954-56; member, Board of Trustees, and chairman, Scientific Advisory Committee, Woods Hole Oceanographic Institution, 1954-56; member, Subcommittee on Meteorological Problems, National Advisory Committee for Aeronautics, 1954-56; member, Permanent Subcommittee on Station Instruments and Exposure, Commission on Instruments and Methods of Observation, International Meteorological Organization, 1954-56; member, Pacific Science Board, and chairman, Standing Committee on Meteorology, Pacific Science Association, 1954-56; member, Committee on Awards, American Meteorological Society, 1954-55; member, Visiting Committee for the Department of Aeronautical Engineering, Massachusetts Institute of Technology, 1955-56; member, Committee on Problems of Foreign Technical Cooperation, American Association of Land-Grant Colleges and State Universities, 1955-56; member, Advisory Commission, State Department of Business Development, 1954-56; member, Governor's Committee of 100, 1955-56; delegate, National Academy of Sciences—National Research Council, to the Tenth General Assembly of International Union of Geodesy and Geophysics, Rome, Italy, September, 1954; representative, United States National Committee for the International Geophysical Year to the meeting of the Comité Spécial de l'Année Géophysique Internationale, Rome, Italy, October, 1954; member, United States delegation to the Eighth Session of the General Conference of UNESCO, Montevideo, Uruguay, November-December, 1954.

Lorenz G. Straub served as president, International Association for Hydraulic Research, 1954-56; member, Committee on Technical Sessions, 1954-56, and member, Advisory Committee of Mechanics Division, 1954-56, American Society of Civil Engineers; member, Council on Wave Research, The Engineering Foundation, 1954-56; member, Executive Committee, Division of Engineering and Industrial Research, 1954-56, and member, Committee on Ship Structural Design, 1955-56, National Research Council; member, United States Beach Erosion Board, 1954-56; member, Mississippi River Parkway Planning Commission, 1954-56; member and vice chairman, Upper Mississippi and St. Croix River Improvement Commission, State of Minnesota, 1954-56; member, Advisory Board of Hydroballistics Research, Office of Naval Research, 1954-55; and representative, American Section, Permanent International Association of Navigation Congresses, at meeting of Permanent International Commission, Paris, June, 1955. He was awarded various research grants and served as principal research investigator, 1954-56, on projects for the Army Corps of Engineers; Bureau of Ships, Office of Naval Research, Navy Department; Army Signal Corps; Florida State Road Department and U. S. Bureau of Public Roads; Department of Public Utilities, City of Tacoma, Washington; Public Utility District No. 2, Grant County, State of Washington; U. S. Department of Agriculture; and served on consulting boards and as special adviser to Missouri River Sediment Advisory Board; Missouri River Navigation Board; Consulting Board on Control of Lower Mississippi River; Board on Los Angeles River Flood Control; Board on Santa Ana River Control; United States and Mexico International Boundary and Water Commission; U. S. Waterways Experiment Station research, Committee on Tidal Hydraulics, 1954-56, and Oregon Coast, 1955, for Army Corps of Engineers; St. Lawrence Water Power Development for New York Power Authority, 1954; harbor developments on Lake Superior for mining and steel companies, 1954-56; power supply problems for utility companies, Kansas City, Missouri, and Indianapolis, Indiana, 1954-55; member, International Board of Consultants, High Aswan Dam, Egypt, 1954-56; consultant, hydroelectric developments in Iraq, 1954-56; and adviser, method of closure, Gavins Point Dam, Missouri River, 1954-55. He continued as chairman, Editorial Advisory Committee, Civil Engineering Textbook Series, Ronald's Press, 1954-56.

Theodor W. Thomas served as first vice president, Northwestern Section, American Society of Civil Engineers, 1955.

Hugh L. Turriffin was awarded a Fulbright grant to serve as Visiting Professor of Mathematics, University of Innsbruck, Austria, 1955-56, and lectured in Austria, Italy, and Switzerland.

Stefan E. Warschawski received a research grant from the Office of Naval Research; and served as member, Joint Committee on teaching mathematics to engineering students, Mathematical Association of America and American Society for Engineering Education, 1954-56.

John E. Wertz was awarded research contracts by the Chemistry and Biomedical Divisions, U. S. Air Force; and by the Louis W. and Maud Hill Family Foundation.

John H. Williams served as chairman of panel on "Future Power," Governor's Conference (Minnesota), 1955; vice president, 1954-55, and president, 1956, Board of Directors, Midwestern Universities Research Association; university representative, Council of Participating Institutions, Argonne National Laboratory, 1955-56; and received research grants from Atomic Energy Commission and the Office of Naval Research, 1954-56.

Joseph A. Wise received a research grant from the American Institute of Steel Construction.

Donald H. Yardley was director of work on determining iron ore reserves, Mines Tax Commission, State of Minnesota, 1955-56.

Norman R. Ziemke served as associate investigator, research grant, National Institutes of Health, 1955-56.

Institute of Agriculture—Torfine L. Aamodt was elected president, Central Plant Board, 1956; and represented National Board agricultural interests before committees in Congress, 1956.

Roland H. Abraham served as administrative adviser, Publications Committee, North Central Extension Directors Association, 1956; president, Minnesota Chapter, Epsilon Sigma Phi (national honorary Extension fraternity) 1956; and president, Minnesota Alpha Zeta Alumni Association, 1956.

William H. Alderman was awarded the Wilder Medal for outstanding work in fruit breeding, American Pomological Society, 1955.

Harold K. Anderson was awarded the Human Development Workshop Scholarship, National 4-H Foundation, 1955; and was chairman, North Central 4-H Leaders Conference, 1956.

Parker O. Anderson served as member, Forestry Committee, Minnesota Bankers' Association, 1955-56; member, Resource Committee, Minneapolis Senior Chamber of Commerce, 1956; member, Rural Fire Prevention Committee, 1956; member, Board of Directors, Minnesota "M" Club, 1956; and state chairman, Farmer-Sportsman Conservation Award Committee and Rural Youth Conservation Award Committee, 1956. He was made honorary fire chief, Minneapolis Fire Department, 1955.

Woodrow J. Aunan was re-elected member, Executive Committee, Reciprocal Meats Conference, 1955-56.

Gwendolyn M. Bacheller served as member, Nutrition Development Committee, National 4-H Club, 1954-56; secretary, State Nutrition Council, 1956; member, Board, Northland Recreation Laboratory, 1956; and member, Activities Committee, St. Paul International Institute, 1956.

Clyde H. Bailey received the Gamma Sigma Delta award for distinguished service, 1954; and was elected to honorary membership, Phi Tau Sigma (food scientists), 1956.

Bernard V. Beadle was elected president, Northland Recreation Laboratory, 1956.

Ronald I. Beazley was chairman, Marketing Research Committee, 1954-56, and chairman, Marketing Information Committee, 1955-56, Minnesota Forest Products.

Emmett N. Bergman was awarded a research grant from Atoms for Agriculture.

William A. Billings was recipient of the Outstanding Achievement Award, the Distinguished Service Award, and the Meritorious Service Award, Minnesota Turkey Growers' Association, for service to the Minnesota turkey industry.

Carl Borgeson served as chairman, Seed Stocks Committee, International Crop Improvement Association; crops judge, International Grain and Hay Show; and crops judge, Royal Agricultural Winter Fair, Toronto, Canada.

David R. Briggs received a research grant from the National Science Foundation.

Rodney A. Briggs was elected secretary, Minnesota Crop Improvement Association, 1956.

Marion A. Brooks was recipient of research grant from the National Institutes of Health.

Bruce A. Brown was elected associate member, Society of Sigma Xi, 1955.

Charles R. Burnham was elected to Gamma Sigma Delta (honor society of agriculture).

Paul M. Burson served a six months' assignment as soils specialist to Seoul National University of Korea under the International Cooperation Administration, 1956.

Richard S. Caldecott was recipient of research grant from the Atomic Energy Commission.

Alfred C. Caldwell was awarded research grants from Minnesota Lime Producers Association, American Potash Institute, Green Giant Company, and Atoms for Agriculture.

Robert N. Campbell was member, Committee on Membership, The American Phytopathological Society, 1954-56.

Thomas H. Canfield received the Teaching Award of 1955, Poultry Science Association; the Outstanding Teacher Award, Minnesota Agricultural Education Club, 1956; served as secretary-treasurer, Minnesota Poultry Industry Council; secretary-treasurer, Midwest Goose Growers Association; and was elected to Gamma Sigma Delta, 1956.

Clyde M. Christensen was recipient of research grants from Cargill, Inc., 1954-56; and Miller's National Federation, 1954-56.

Jonas J. Christensen served as collaborator, U. S. Department of Agriculture, in charge of Cooperative Rust Laboratory, 1955-56; vice president, North Central Division, American Phytopathological Society, 1955-56; member, Plant Pathology Advisory Committee, North Central Region, 1956; member, Program Committee, Third International Rust Conference, Mexico City, 1956; consultant to Army Chemical Corps, Fort Detrick, Maryland, 1954-56; member, International Conference on the use of Antibiotics in Agriculture, National Academy of Science—National Research Council, October, 1955. He was recipient of research grants from Army Chemical Corps, 1954-56; Rockefeller Foundation, 1954-56; and U. S. Atomic Energy Commission, 1954-56.

John O. Christianson was elected to Gamma Sigma Delta (honor society for agriculture), 1954; and was awarded the Insignia of Knighthood of the Royal Vasa-Order, First Class, by His Majesty King Gustav of Sweden. He served as secretary, Subsection on Short Courses, American Association of Land-Grant Colleges and State Universities, 1955-56; member, Executive Committee, Masonic Memorial Cancer Hospital; member, Committee on Selection of Minnesota's Outstanding Young Man, Junior Chamber of Commerce; and chairman, State Y.M.C.A. Board, 1955-56.

Donald H. Clifford served as member, Committee on Nomenclature, American Veterinary Medical Association.

Willard W. Cochrane served as vice president, American Farm Economic Association, 1954-55; member, Agricultural Economics Committee, Social Science Research Council; judge in annual awards contest for best published research, American Farm Economic Association; consultant on marketing research, Agricultural Marketing Service, U. S. Department of Agriculture; and was elected to Gamma Sigma Delta (honor society for agriculture).

Cora Cooke was Extension delegate to Minnesota Poultry Industry Council, 1956.

Joseph O. Culbertson served as president, Flax Institute of the United States.

Troy M. Currence received the Leonard H. Vaughn Award, American Society for Horticultural Science, 1954.

Laurence K. Cutkomp served as adviser and committee member, Division of Plant Industry, Minnesota Department of Agriculture; and member, Technical Committees NC-19 and NC-33, Central States Region, 1956.

William H. Dankers was member, Board of Directors, and member, Executive Committee, Minnesota United Nations Association, 1954-56.

Louise T. Dossdall served as national chairman for Sigma Delta Epsilon on National Committee for UNESCO, 1954-56; and consultant, Minnesota State Florists' Association, 1954-56.

Austin A. Dowell served for the American Association of Land-Grant Colleges and State Universities as: chairman, 1954-55, North Central Region Resident Instruction Section; member, 1954-56, and secretary, 1954-55, Resident Instruction Committee on Organization and Policy; secretary, 1954-55, and chairman, 1955-56, Resident Instruction Section; member, Executive Committee, 1955-56; and secretary, Division of Agriculture, 1955-56.

Donald P. Duncan was vice chairman, 1954-55, and chairman, 1955-56, Division of Forest Recreation, Society of American Foresters.

Roy S. Dunham served as director, and member, Editorial Board, *Weeds*, North Central Weed Control Conference; chairman, Technical Committee, North Central Weed Control; and crops judge, Minnesota State Fair.

Carl J. Eide served as associate editor, *Phytopathology*, journal of the American Phytopathological Society, 1956; and special temporary scientific aide with the Rockefeller Foundation in Colombia and Mexico, 1955. He was recipient of research grants from Stauffer Chemical Company, 1955-56; and Tennessee Copper Corporation, 1954-56.

Selmer A. Engene was editor, Minnesota Farm Managers' Association.

Gertrude A. Esteros was member, Board of Directors, and chairman, Activities Committee, International Institute, St. Paul, Minnesota, 1954-56.

Theodore H. Fenske received the National 4-H Alumni Award, 1955; and served as member, National Organization Committee, Boy Scouts of America, 1954-56.

Reuel Fenstermacher served as member, Civil Defense Committee, Minnesota State Veterinary Medical Society; member, Swine Brucellosis Committee, U. S. Livestock Sanitary Association; chairman, special committee of diagnosticians appointed by the Agricultural Research Service, U. S. Department of Agriculture.

Evan F. Ferrin was elected to Minnesota's Livestock Hall of Fame by the Minnesota Livestock Breeders' Association.

James B. Fitch was named by Minnesota Livestock Breeders' Association to Minnesota's Livestock Hall of Fame, 1956. He was awarded a citation for dairy work, Kansas Inter-breed Dairy Council, and his portrait was hung in the Dairy Building, Kansas State College, 1955.

Frank W. Forbes was member, Regional Supervisory Committee, North Central Area, 1956.

Roxana R. Ford was elected president, Minnesota Home Economics Association, 1955-56; and was appointed member, State Advisory Committee for Vocational Education, 1955.

Evelyn M. Franklin was elected president, Phi Upsilon Omicron, 1956.

David W. French was member, Minnesota Regional Technical Committee on Oak Wilt, 1954-56; and received a research grant from Insulation Board Institute, 1954-56.

William F. Geddes served as member, Subcommittee on Food Technology, Food Protection Committee, and member, Committee on Cereals, Academy of Sciences, National Research Council, 1954-56; member Postdoctorate Fellowship Award Committee, Institute of Food Technologists, 1955-56; reappointed general collaborator, Northern Utilization Research Branch, U. S. Department of Agriculture, Peoria, Illinois, 1954-56; re-elected editor, *Cereal Chemistry and Transactions*, American Association of Cereal Chemists, 1954-56; and was recipient of research grants from Millers' National Federation, Minneapolis Grain Exchange, Quartermaster Research and Development, and Corn Products Sales Company.

Thomas A. Gochnauer received research grant from Apiary Research, State of Minnesota Department of Agriculture, 1955-56.

Archie L. Good was recipient of research grant from the U. S. Air Force.

Annette T. Gormican was elected alternate delegate, Minnesota Dietetic Association, 1954-56; and first vice president, Sigma Delta Epsilon (Xi Chapter), 1955-56.

Edmund F. Graham served as chairman, Minnesota Cooperative Artificial Breeding Associations, 1955-56; coordinator, Planning Committee, 1956 Annual

Convention, National Association of Artificial Breeders; and was recipient of special research grants from non-university funds.

Alexander A. Granovsky served as member, Social Welfare Committee, International Institute of St. Paul, Minnesota; honorary member, Minnesota Golf Course Superintendents Association; and national president, Organization for the Rebirth of the Ukraine.

Ralph S. Grant was appointed by the Mayor as member, Board of Directors, Duluth Zoo.

Janis Grave received a research grant from Minnesota Lime Producers Association.

Otis F. Hall was member, State Conservation Curriculum Committee, Minnesota Department of Education; representative member, Minnesota Conservation Education Council; and member, Advisory Committee, Experimental Study of Conservation and Resource Use of Education, Minneapolis Public Schools.

Hans P. Hanson at the request of the Norwegian Director-General of Agriculture served as consultant to the Norwegian Department of Agriculture on agricultural extension service and 4-H Club program, and spent three months in Norway, 1955.

Henry L. Hansen served as chairman, Technical Advisory Committee, Quetico-Superior Wilderness Research Center; chairman, Committee on Management of Itasca State Park, Minnesota Division of State Parks; secretary, Division of Silviculture, Society of American Foresters, 1954-55; president, 1954-55, and member, Executive Committee, 1955-56, Minnesota Chapter, Gamma Sigma Delta (honor society of agriculture). He received research grants from Dow Chemical Co., 1954-55; and Heyden Chemical Corporation.

Lester E. Hanson was recipient of the American Feed Manufacturer's Award, American Society of Animal Production, 1955. He served as member, Subcommittee on Feed Adjuvants, National Research Council; member, Meat Animal Advisory Committee, North Central Region; member, Program Committee, Nutrition Section, American Society of Animal Production, 1955 and 1956; and member, Editorial Board, *Journal of Animal Science*. He received research grants, 1954-56, from Abbott Laboratories, American Cyanamid Co., Archer-Daniels-Midland Co., Merck & Company, and Northwest Feed Mfg. Association.

Leonard L. Harkness was awarded a Conservation Fellowship, Harvard University, 1955-56. He served as member, Board of Directors, Minnesota Tuberculosis and Health Association, 1954-56; member, Youth Projects Committee, Minnesota State Horticulture Society, 1955; member, State Farm Safety Committee, Minnesota Safety Council, 1956; member, Board of Trustees, Wesley Foundation, 1956; member, General Committee, Junior Livestock Show, 1956; member, Committee on Extension Research, North Central Extension Area, 1956; and member, State CROP Committee, 1956.

Evelyn D. Harne was member, Recreation and Rural Arts Development Committee, National 4-H Club, 1955-56.

Helen Hart served as member, National Council, 1954-56, program chairman, Atlanta Meeting, 1955, was president-elect, 1955, and president, 1956, American Phytopathological Society; and member for Minnesota Agricultural Experiment Station, Third International Wheat Rust Conference, Mexico City, 1956.

Ermond H. M. Hartmans was member, North Central Farm Management Extension Committee, 1955-56.

B. Austin Haws was awarded a research grant from Velsicol Corporation, 1954-56; and was elected to membership, Society of the Sigma Xi, Iowa State Chapter, 1955.

Mykola H. Haydak was awarded a Certificate of Merit, *American Bee Journal*, for outstanding service to the beekeeping industry and for basic contributions to beekeeping literature, 1955.

Alexander C. Hodson served as member, Subcommittee on Vector Control, and member, Committee on Sanitary Engineering and Environment, National Research Council; president, Minnesota Chapter, The Society of the Sigma Xi; treasurer, Ecological Society of America; editor, Tree Insect Section, *Biologi-*

cal Abstracts; and received a research grant, Iron Range Resources and Rehabilitation Commission, 1954-56.

Frederick G. Holdaway served as chairman, North Central States Regional Technical Committee on Regional Research Project NC-20; chairman, Zoology Section, Minnesota Academy of Science, 1956; secretary, Corn Borer Section Meeting, North Central States Branch, Entomological Society of America, 1956; and was recipient of research grant from the Minnesota Iron Range Resources and Rehabilitation Commission.

Harvey H. Hoyt received a research grant from the Upjohn Company.

Andrew Hustrulid served as trustee, Village of Falcon Heights, 1954-55; secretary-treasurer, 1954 and vice president, 1955, Minnesota Federation of Engineering Societies; and vice president, Minnesota Section, American Society of Agricultural Engineers, 1955.

Kathleen M. Jeary was elected to honorary membership in Phi Upsilon Omicron, 1955.

Robert Jenness served as chairman, Committee on Milk Protein Nomenclature, Classification and Methodology, American Dairy Science Association, 1955-56; member, Editorial Board, *Journal of Dairy Science*, 1954-56. He was awarded research grants by the American Dry Milk Institute and the Eastern Utilization Research Branch, U. S. Department of Agriculture.

Minerva O. Jenson was elected to membership in Phi Upsilon Omicron, 1956.

Oscar B. Jesness was appointed by President Eisenhower as member of the National Agricultural Advisory Commission; deputy chairman, Board of Directors, Federal Reserve Bank of Minneapolis; member, Board, Minnesota Institute of Governmental Research, St. Paul; member, Advisory Council, Agricultural Commission, American Bankers Association; technical adviser, Committee on Economic Development on "Economic Policy for American Agriculture"; and member, Foreign Commerce Department Committee, Chamber of Commerce of the United States.

James J. Jezeski served as president, Minnesota Dairy Technology Society, 1955-56; vice president, Minnesota Milk Sanitarians Association, 1955-56; consultant, Twin City Quality Control Committee, 1954-56; member, Civil Service Examining Committees for the State of Minnesota, 1954-55; member, Editorial Board, *Journal of Dairy Science*, 1954-56; and consultant for Biological Warfare, St. Paul Civil Defense, 1954-56.

Elmer M. Johnson was elected Judge, Municipal Court, Fridley, Minnesota.

Elton L. Johnson served as president, Minnesota Poultry Industry Council, 1954-56; vice president, 1954, and president, 1955-56, Minnesota Poultry Improvement Board; president, Gibbs-Brimhall-Falcon Heights Parent-Teacher Association, 1954-55; chairman, Religious Education Committee, Falcon Heights Congregational Church, 1954-55; chairman, NCA-8 North Central Regional Poultry Advisory Committee, 1956; and received research grants from the Vy-Lactos Laboratories, Inc., Des Moines, Iowa, and the Sulphite Pulp Manufacturers Research League, Inc., Appleton, Wisconsin, 1954-56.

Frank H. Kaufert served as president, Forestry History Foundation; vice president, 1955-56, and president, 1956, Forest Products Research Society; director, Forestry Research Project, 1954-56, and elected fellow, 1956, Society of American Foresters; president, Keep Minnesota Green, Inc.; chairman, Conservation Film Project, Louis W. and Maud Hill Family Foundation; member, Evaluation Committee on Penn State University, The Middle States Association of Colleges; and adviser to Conservation Committee, Minneapolis Chamber of Commerce.

Howard C. H. Kernkamp served as president, Minnesota State Veterinary Medical Society; chairman, Brucellosis Research Conference on North America; and received a research grant from the Agricultural Research Service, U. S. Department of Agriculture.

Milton F. Kernkamp was administrative adviser, North Central Regional Technical Committee in Plant Pathology, 1956.

Thomas H. King served as member, Regional Technical Committee on Stone Fruit Viruses, 1954-56; member, North Central Regional Technical Committee on Relations of Weather to Agricultural Production, 1954-56; member, Committee on Pests of Agricultural Crops, 1954-56, chairman, Sub-committee

on Plant Diseases, 1954-56, and chairman, Subcommittee on Microbiological Control of Root Rot Diseases, 1955-56, National Research Council and Agricultural Board; member, Public Relations Committee, American Phytopathological Society, 1954-56; and was recipient of research grants from Green Giant, 1954-56; Shell Chemical Company, 1954-55; and Libby, McNeill and Libby Canning Company, 1954-56.

Ralph L. Kitchell served as president, American Association of Veterinary Anatomists; and was recipient of grant-in-aid from the National Research Council.

Helmi L. Koivisto was elected recording secretary, Minnesota Home Economics Association, 1956.

E. Fred Koller served as consultant, U. S. Department of Agriculture on barriers to movement and merchandising of milk, 1954-55; and was elected member, Gamma Sigma Delta (honor society of agriculture).

Thor Kommedahl was member, Weed Committee, North Central Weed Control Conference, 1954.

Fred A. Krantz received the Certificate of Merit from Vegetable Growers Association of America, 1956.

Jean W. Lambert was recipient of a short-term leave and travel grant from Rockefeller Foundation for study and research on barley genetics in Norway and other northwestern European countries.

Raymond H. Landon was treasurer, Minnesota Archaeological Society, 1954-56.

Jane M. Leichsenring received the Borden Award for fundamental research in human nutrition, 1954; and was given special research grant from the Human Nutrition Research Branch, Agricultural Research Service, U. S. Department of Agriculture, 1955.

Irvin E. Liener received research grant from the American Dairy Association.

Albert J. Linck was recipient of research grant from Green Giant, 1955-56.

Eleanor Y. Loomis was vice president, 1956, and state editor, 1955, Minnesota Home Economics Association; and councillor, Phi Upsilon Omicron, 1954-55.

Helen A. Ludwig was chairman-elect, Art Section, American Home Economics Association, 1956.

Walter O. Lundberg served as member, Subcommittee on Animal Products, Committee on Foods, National Research Council Advisory Board on Quartermaster Research and Development, 1954-56; member, Board of Directors, Research and Development Associates, Food and Container Institute, 1954-55; chairman, Agricultural and Food Chemistry Division, American Chemical Society, 1954-55; and was appointed by Governor Freeman to serve on the Minnesota State Board of Education, 1956. He was awarded special research grants from Hormel Foundation; Archer-Daniels-Midland Company; U. S. Fish and Wildlife Service; U. S. Department of Agriculture; Oscar Mayer and Company; Lederle Laboratories; General Foods Corporation; Quartermaster Food and Container Institute; and Sharp and Dohme, Inc.

John M. MacGregor received research grants from Atoms for Agriculture, Spencer Chemical Company; Allied Chemical and Dye Corporation; and Phillips Petroleum Company.

Harold Macy served for the American Association of Land-Grant Colleges and State Universities as follows: member, Executive Committee, 1955, member, Advisory Board, National Cooperative Agricultural Extension Center for Advanced Study, 1954-56, member, Division of Agriculture Executive Committee, 1955, chairman, Experiment Station Committee on Organization and Policy, Subcommittee on Liaison with National Science Foundation, 1955, and as representative on Agricultural Research Institute, National Research Council, 1956; member, Board of Directors, 1955-56, and member, Community Service Committee, 1955, Rotary Club of St. Paul; vice-chairman, State Soil Conservation Committee, 1954-56; member, Executive Committee, Minnesota Safety Council, 1954-56; member, Hormel Institute Board, 1954-56; and consultant in Korea and Japan for International Cooperation Administration regarding agricultural research, March, April, May, 1956.

Osgood Magnuson served as member, Soil and Water Conservation Committee, Extension Subcommittee on 4-H Club Work, 1956; chairman, Steering Committee, Junior Poultry Fact-Finding Conference, 1956; member, General Committee, Junior Livestock Show, 1956; member, Board of Directors, Spring Barrow Show, 1956; member, Board of Directors, Red River Valley Winter Shows, 1956; secretary, St. Anthony Park Association, 1956; treasurer, and member, Board, Lutheran Student Foundation of Minnesota, 1956; and was delegate from St. Anthony Park Lutheran Church to National Convention, Evangelical Lutheran Church, 1956.

Philip W. Manson served a five-month assignment in Korea as agricultural adviser, University of Minnesota—Seoul National University Cooperative Project, at Suwon, Korea; a two-week assignment for Food and Agriculture Organization, at Rome, Italy, to visit Israel to review and report on the progress of the new Department of Agricultural Engineering as set up in the Institute of Technology, Haifa, Israel, in 1952; chairman, Subcommittee III of Committee C-13, American Society for Testing Materials; member, committee to review all watershed applications in Minnesota as set up under U. S. Public Law No. 566; chairman, Committee on Quality Requirements of Drain Tile, American Society of Agricultural Engineers; treasurer, Minnesota Federation of Engineering Societies; and chairman, Nominating Committee, Minnesota Section, American Society of Agricultural Engineers. He was elected to Gamma Sigma Delta; and received special research grants from the Agricultural Research Service, U. S. Department of Agriculture, and from the American Concrete Agricultural Pipe Association of Chicago.

William H. Marshall was vice president, 1954-55, and president, 1955-56, Minnesota Academy of Science. He received a research grant from the State of Minnesota Conservation Department, 1955-56.

William P. Martin served as consulting editor, *Soil Science*; member, Committee for Agronomy Monographs and Advances in Agronomy, American Society of Agronomy; and secretary, North Central Regional Soil and Fertilizer Technical Research Committee. He was awarded a grant from the Smith-Douglass Company, Richmond, Virginia, to supplement the undergraduate scholarship program in Soils; and research grants from Spencer Chemical Company; Allied Chemical and Dye Corporation; and Phillips Petroleum Company.

Thomas M. McCall was awarded a Certificate of Merit, Crookston (Minnesota) Chamber of Commerce.

Gerald R. McKay served as guest instructor, short course in visual aids for foreign students at Michigan State University, Foreign Operations Administration, 1954.

Merle P. Meyer was secretary-treasurer, Southern Minnesota Chapter, Society of American Foresters.

Vernon M. Meyer was secretary-treasurer, Minnesota Section, American Society of Agricultural Engineers.

Clarence E. Mickel served as chairman, North Central Branch, Entomological Society of America, 1956; president, Minnesota Gladiolus Society, 1955-56; and member, North Central Regional Technical Committee on Entomology, 1954-56.

Ralph E. Miller was chairman, Centennial Committee, St. Paul Y.M.C.A.; and received the Service Key Award, Alumni Association, Iowa State College.

Howard A. Morris served as adviser, Minnesota Cheese Industries Association, 1954-56; council delegate to City of St. Paul Parent and Teacher Association, and member, Board, Chelsea Heights School Parent and Teacher Association, 1955-56; judge of cheese, Minnesota State Fair, June Educational Contest of Minnesota State Department of Agriculture, and Minnesota Cheese Industries Association Contest, 1954-55; program chairman, Minnesota Dairy Technology Society, 1954-55; program chairman, 5007th Organized Reserve Research and Development Unit, 1955-56; and was food adviser, Food Service Division, Office of the Quartermaster General, Washington, D.C., 1955.

Evelyn R. Morrow was elected secretary, Epsilon Sigma Phi, 1956; and chairman, Farm and Home Section, State Safety Committee, 1956. She was recipient of the Leadership Training Award, Fund for Adult Education, 1956; and of the Scholarship Award, University of Chicago, 1956.

Will M. Myers served as member, Board of Directors, Minnesota Crop Improvement Association; member, General Certification Committee, and chairman, Grass Certification Committee, International Crop Improvement Association; chairman, Committee on Publication Needs, American Society of Agronomy; foreign adviser to Organizing Committee, Seventh International Grassland Congress; chairman, Session on Use of Radiation-Induced Mutations, Brookhaven National Laboratory Symposia in Biology; chairman, Session on Stem Rust Resistance, Third International Wheat-Rust Conference; member, Board of Agricultural Consultants, Rockefeller Foundation; vice president, Flax Institute of the United States; member, Advisory Board, Soybean Crop Improvement Council; and crops judge, Minnesota State Fair. He was recipient of research grant from the Rockefeller Foundation.

Josephine B. Nelson served as chairman, Home Economics Information Committee, 1954-55, and recording secretary, 1955-56, Minnesota State Nutrition Council; member, In-Service Training Committee, American Association of Agricultural College Editors, 1955-56; and received the Certificate of Honorary Membership in the St. Paul Gavel Club for "distinguished and unselfish service rendered the City of St. Paul," 1954.

Wallace W. Nelson was elected to membership in Sigma Xi.

Ralph G. Nichols served as member, ROTC National Advisory Committee on Instruction, U. S. Air Force, 1954-56.

Isabel T. Noble received a special research grant, Household Economics Research Branch, Agricultural Research Service, U. S. Department of Agriculture; and was selected member, Board of Directors, National Health Council.

Joseph C. Olson served as technical adviser, Dairy Advisory Committee, Minnesota Department of Agriculture, 1955-56; technical adviser, Minneapolis and St. Paul Milk Quality Control Committee, 1955-56; responsible investigator, Commission on Environmental Hygiene, Armed Forces Epidemiological Board, 1955-56; associate editor, *Journal of Milk and Food Technology*, 1955-56; trustee, Village of Birchwood, 1955-56; and member, Program Committee, Minnesota Milk Sanitarians Association, 1955-56.

Charles K. Otis served as chairman, Technical Committee, Regional Farm Structures Research Project NC-23; secretary, Village Planning Commission, Falcon Heights, Minnesota; treasurer, Pack Committee, Cub Scout Pack 33, North Star Area Indianhead Council, Boy Scouts of America; member, Committee on Farm Building Needs and Statistics, member, Committee on Feed Handling, and member, Nominating Committee, American Society of Agricultural Engineers, 1954-55; and was elected to Gamma Sigma Delta, 1955.

Scott S. Pauley served as vice president and director, Forest Genetics Research Foundation; chairman, Forest Tree Improvement Committee, Society of American Foresters; and representative, Lake States Forest Tree Improvement Committee.

Harold C. Pederson served as member, State Farm Safety Committee, 1956; chairman, Four-State Extension Grain Marketing Committee, 1956; member, Committee on Awards, Federation of County Fairs, 1956; and member, Committee on 4-H Club Awards, Evangelical Lutheran Church, 1956.

William E. Petersen served as member, Agricultural Board, chairman, Committee on Calf Losses, and chairman, Animal Health Committee, National Research Council, 1955-56; was awarded the honorary degree, Doctor of Science, by the University of Vermont; and was awarded recognition as Outstanding Teacher in Dairy Production, American Dairy Association.

Allan G. Peterson was member, representing Minnesota, North Central States Regional Technical Committee NC-29, 1955-56. He was awarded a research grant by Velsicol Corporation, 1954-56.

Robert A. Phillips served as member, Veterans Memorial Rose Garden Committee, 1955-56; and designed the Veterans Memorial Rose Garden in the Court of Honor, Minnesota State Capitol Grounds, 1955.

Benjamin S. Pomeroy served as secretary-treasurer, Minnesota State Veterinary Medical Society; member, Committee on Poultry Diseases, American Veterinary Medical Association; member, Committee on Transmissible Diseases of Poultry, U. S. Livestock Sanitary Association; chairman, Committee on Standardization of Antigens for Pullorum Disease, National Poultry Improvement Plan; and member, Subcommittee on Feed Adjuvants, National

Research Council. He was awarded research grants from: Agricultural Research Service, U. S. Department of Agriculture; Lederle Laboratories, Inc.; Minnesota Turkey Growers' Association, Inc.; and Dr. Salsbury's Laboratories.

Glenn I. Prickett was member, School and College and Farm Sections, National Safety Council, 1956; member, Publication Committee, Minnesota Society for Crippled Children and Adults, Inc., 1956; and member, Minnesota Safety Council, 1954-56.

Clarence O. Quie received the Distinguished Service Award, National Association of County Agricultural Agents, 1954.

Philip M. Raup served as member, Board of Editors, *Journal of Land Economics*, 1954-56; vice president, Association for the Study of World Refugee Problems, 1955-56; and consultant, Governor's Tax Study Committee, Minnesota, 1956. He was awarded a fellowship, International Conference of Agricultural Economists, 1955; and a research grant from Harvard University Law School for study of the land tax system in Denmark and Finland, 1955.

Louis W. Rees was member, Committee D-7, American Association of Testing Materials.

A. Glenn Richards was recipient of research grant from National Institutes of Health, 1955-56; and from National Science Foundation, 1955-56.

Ernest H. Rinke was elected to Gamma Sigma Delta (honor society of agriculture).

George W. Roadfeldt received the Distinguished Service Award, National Association of County Agricultural Agents, 1956.

Martin H. Roepke was awarded a research grant from the Agricultural Research Service, U. S. Department of Agriculture.

Skuli Rutford served on a three-month assignment to Korea under the International Cooperation Administration to set up Agricultural Extension Service at Seoul National University, 1956; chairman, Conference Committee, North Central Directors Association, 1955-56; chairman, Advisory Committee to American Institute of Cooperation, American Association of Land-Grant Colleges and State Universities, 1954-56; member, National Agricultural Policy Program Planning Committee, 1954-56; member, State Soil Conservation Commission, 1954-56; member, State Farm Labor Advisory Committee, 1954-56; and member, Regional Executive Committee, Livestock Conservation, Inc., 1954-56.

Jay H. Sautter served as chairman, Committee on Education, American Colleges of Veterinary Pathology; and received research grants from U. S. Atomic Energy Commission, and from the Agricultural Research Service, U. S. Department of Agriculture.

Thorvald Schantz-Hansen was chairman, Conservation Subcommittee, Arrowhead Association.

Edwin L. Schmidt was awarded research grants from American Farm Research, Spencer Chemical Company; Allied Chemical and Dye Corporation; and Phillips Petroleum Company.

Arthur E. Schneider served as chief adviser in Korea for the University of Minnesota-Seoul National University Project supported by the International Cooperation Administration, 1954-56.

Max O. Schultze received research grants from Williams Waterman Research Corporation, and U. S. Department of Agriculture.

Arthur J. Schwantes served as member, Farm Conference, and chairman, Committee on Research, National Safety Council; member, and secretary, Farm Safety Section, Minnesota Safety Council; member, College Conference Advisory Board, United Cooperatives (farmers' cooperatives), Alliance, Ohio; and chairman, Jury on Awards, American Society of Agricultural Engineers. He received the Meritorius Service Award from the Minnesota Safety Council.

Harold R. Searles was vice president, Dairy Shrine Club, 1956; and secretary, Purebred Dairy Cattle Association, 1956.

Alvin F. Sellers served as chairman, North Central Technical Committee NC-27, U. S. Department of Agriculture; president, American Society of Veterinary Physiologists and Pharmacologists; and received a research grant from the Agricultural Research Service, U. S. Department of Agriculture.

Robert N. Shoffner served as chairman, Technical Committee, North Central Regional Poultry Breeding Project, 1954-55; member, Committee,

Minnesota Record of Performance Breeders, 1955-56; member, Advisory Committee, Minnesota Turkey Breeders, 1954-56; and chairman, Committee for Scout Troop 22, 1954-55.

Dorothy Simmons was member, Extension Organization and Policy Committee, American Association of Land-Grant Colleges and State Universities, 1954-56; and served on a three-months assignment to Korea under International Cooperation Administration to set up Agricultural Extension Service at Seoul National University, 1956.

Hubert J. Sloan served as administrative adviser, North Central Regional Technical Committee for Projects NCM-7, NCM-14, and NCA-8; member, Committee of Three, North Central Regional Directors; member, Projects and Proposals Committee, Agricultural Research Institute, National Research Council; senior alternate, Committee of Nine, American Association of Land-Grant Colleges and State Universities; director, Poultry Science Association, 1954-55; chairman, Minnesota Rural Electric Research Council; and member-at-large, Section O—Agriculture, American Association for the Advancement of Science. He was awarded a bronze plaque for outstanding achievement to the Minnesota turkey industry.

Fred Smith served as a member, Committee on Polysaccharide Nomenclature, American Chemical Society; and received research grants from Corn Industries Research Foundation; Du Pont de Nemours and Co.; Office of Ordnance Research; and Northern Utilization Research Branch, U. S. Department of Agriculture.

Lloyd L. Smith, Jr. was chairman, Aquatic Life Advisory Committee, Ohio River Valley Water Sanitation Commission, 1954-56. He was elected to membership, Gamma Sigma Delta (honorary agricultural fraternity), 1956; and received research grants from the U. S. Fish and Wildlife Service, 1954-56; National Science Foundation; and State of Minnesota Department of Conservation, 1955-56.

Marvin E. Smith served as adviser on the "Keep Minnesota Green" Committee, 1956.

Leon C. Snyder served as secretary, North Central Advisory Committee on Horticultural Crops, 1955-56; member, Board of Experts, Home and Hobby Section, Minneapolis *Star* and *Tribune*, 1955-56; and member, Budget and Policy Committee, Landscape Arboretum Committee, Fruit List Committee, and Executive Board, Minnesota State Horticultural Society.

Francis A. Spurrell served as secretary-treasurer, American Veterinary Radiology Society.

Elvin C. Stakman served as consultant, U. S. Atomic Energy Commission, 1954-56; member, Committee for Scientific Personnel and Education, National Science Board, 1956; and member, Executive Committee, U. S. National Commission for UNESCO, 1954-56. For the National Academy of Sciences-National Research Council, he served as follows: chairman, Committee on Science in UNESCO, 1954-56; member, Lilly Fellowship Board, 1954-55; member, Executive Committee, Agricultural Board, 1954-56; member, Subcommittee on Atmospheric and Industrial Hygiene, Committee on Sanitary Engineering and Environment, Division of Medical Sciences, 1954-56; member, Committee on Plant and Crop Ecology, Division of Biology and Agriculture, 1954-56; and member, Policy Committee, Office of International Relations, 1954-56. He was chairman, Committee on International Cooperation, American Phytopathological Society, 1954-56; U. S. delegate for Department of State, Eighth Pakistan Science Conference, Dacca, India, 1956; and member, Third International Wheat Rust Conference, Mexico City, 1956. He was invited to serve as Hitchcock Professor, University of California, 1955; and was recipient of the Centennial Award, Michigan State College, 1955, and of Medalla del Mérito Agronómico, La Asociacion Colombiana de Ingenieros Agrónomos, Colombia, 1955.

Louise A. Stedman was elected national secretary, Omicron Nu, 1954-56. She served as member, Executive Committee, and member, Research Section, Division of Home Economics, American Association of Land-Grant Colleges and State Universities, 1955-56.

Charles E. Stevens received a research grant from North Central Regional Aid, U. S. Department of Agriculture.

Clarence M. Stowe served as secretary, American Society of Veterinary Physiologists and Pharmacologists; and received research grants from Sharp and Dohme, and Division of Merck and Company, Inc.

Edward T. Sullivan was member, Marketing Research Committee, and member, Marketing Information Committee, Minnesota Forest Products.

John P. Sullivan received a research grant from the Louis W. and Maud Hill Family Foundation.

Harold B. Swanson served as member, Board of Directors, and immediate past president, 1954-55, and member, Reuben Brigham Award Committee, 1955-56, American Association of Agricultural College Editors; and secretary, Extension Editor Advisory Committee, U. S. Department of Agriculture, 1955.

Milo H. Swanson was member, Technical Advisory Committee, Poultry and Egg National Board, 1955-56; acting secretary-treasurer, Minnesota Poultry Industry Council, 1955-56; vice chairman, NCM-7, North Central Marketing Technical Committee, 1956; member, Board of Education, St. Anthony Park Lutheran Church, 1956; and member, Advisory Board, St. Anthony Park Association, St. Paul, Minnesota, 1955-56.

Elmer L. Thomas served as member, University Advisory Committee, National Association of Retail Ice Cream Manufacturers, 1955-56; chairman, Student Affiliate Committee, 1954-55, member, Committee on Judging Dairy Products, 1955-56, and editor, Student Chapter News Section, *Journal of Dairy Science*, 1955-56, American Dairy Science Association; technical adviser for dairy products exhibit, International Trade Fair, Bogota, Colombia, 1955, sponsored by the U. S. Department of Agriculture, U. S. Department of Commerce, and the Dairy Industries Society International.

William T. S. Thorp served as associate editor, *Diseases of Laboratory Animals*, chairman, Committee on Academic Standards for Graduates of Foreign Veterinary Colleges, and representative to the National Society for Medical Research, American Veterinary Medical Association; and member, Program Committee, Division of Veterinary Medicine, American Association of Land-Grant Colleges and State Universities, 1955-56.

Orrin C. Turnquist served as director, American Potato Association, 1955-56; and secretary, Minnesota Vegetable Growers' Association, 1956.

Paul E. Waibel was program chairman, Twin City Nutrition Seminar, 1955-56.

Walter B. Wallin was secretary, Upper Mississippi Valley Section, Forest Products Research Society; and trustee, La Grange Chapter, Alpha Zeta Alumni Association.

Irvine A. Watson was member, Third International Wheat Rust Conference, Mexico City, 1955.

Alvin F. Weber served as resident secretary, American Veterinary Medical Association.

Richard E. Widmer was nominated to Gamma Sigma Delta, 1955.

Kenneth E. Winsness was secretary-treasurer, Minnesota Forestry Alumni Association.

James D. Winter received the Distinguished Service Award, Wisconsin State Horticultural Society, 1955; and was awarded a Single Quarter Faculty Leave for study of processing crops in Europe, 1956.

Laurence M. Winters was awarded special research grants from U. S. Public Health Service; and Louis W. and Maud Hill Family Foundation.

Raymond S. Wolf received the Certificate of Honorary Membership in the St. Paul Gavel Club for "distinguished service rendered the City of St. Paul," 1955; the American Federation of Television and Radio Artists Award for the "best farm radio program," Twin City Ad Club, 1955; and the Public Interest Award for "exceptional service to farm safety," National Safety Council, 1954-55. He was chairman, Radio Section, Minnesota Safety Council, 1956.

Charlotte G. Wolff was awarded the Doctoral Research Fellowship, American Home Economics Association, 1954-55; and was elected to Omicron Nu and Phi Upsilon Omicron, 1955.

Henry G. Zavoral was chairman, Livestock Section, Minnesota Safety Council, 1956.

Raimunds Zemjanis received a research grant from the Louis W. and Maud Hill Family Foundation.

College of Education—Clifford P. Archer organized and directed the International Center for Rural Education, 1954; was chairman, State Committee on Study and Improvement of Instruction, 1955-56; chairman, Committee on Rural Life and Education on the World Scene, and one of the editors, 1955 *Yearbook*, Department of Rural Education, National Education Association; section chairman and leader, National Conference on Rural Education, Washington, D.C., 1954; and president, Twin City Area, Schoiia, schoolmen's professional organization, 1955-56.

Gertrude M. Baker was member, Necrology Committee, American Association for Health, Physical Education, and Recreation, 1955-56.

Robert H. Beck served as member, Minneapolis Citizens' Committee on Public Education; member, National Executive Committee, American Philosophy of Education Society; and president, Northwestern Philosophy of Education Society, 1954-56. He was recipient of a Fulbright research grant for the study of secondary education in the Netherlands and lectured throughout that country, 1955-56.

Arthur H. Ballet was chairman, Secondary School Curriculum Committee, 1954, and chairman, Secondary School Section at annual convention in Los Angeles, 1955, American Educational Theatre Association; and program chairman, Central States Speech Association, 1956.

Emma M. Birkmaier served as editor, *Minnesota Language Bulletin*, Minnesota Council for the Foreign Languages, 1954-55; acting chairman, Foreign Language Section, and chairman, Section on Teacher-Training Program, Minnesota Education Association, 1954-55; chairman, Methodology Section, American Association of Teachers of Slavic and East European Languages, 1954-55; delegate to the National Federation of Modern Language Associations, 1954-55; member, Committee for the Selection of Foreign Language Texts, U. S. Armed Forces Institute, Departments of the Army, Navy and Air Forces; member, Education Committee, International Institute, St. Paul, Minnesota; consultant, Foreign Language Teacher In-Service Training Program, Minneapolis Public Schools, 1954-55; chairman, Committee on Methods and Materials for Use in Learning German at the Grade School and Junior High School Levels, and member, Advisory Committee on Syllabi for Elementary School French Classes, Foreign Language Program, Modern Language Association, 1954-56; chairman, Committee to negotiate for departmental status in the National Education Association, Central States Modern Language Teachers Association; member, Committee on the elementary teacher training program, and member, Committee on elementary grades syllabus, American Association of Teachers of German; and member, Committee on Fulbright Teacher Exchange Program, U. S. Office of Education.

Clarence H. Boeck was chairman, Science Conference, Minnesota Teachers of Science, 1954-55; and chairman, Review of Research, National Association Research in Science Teaching, 1954-56.

Guy L. Bond served as a member, Board of Directors, National Association of Remedial Teachers, 1954-56; chairman, Minnesota Committee on Improvement of Reading, 1955-56; consultant, Reading Program at Fort Dodge, Iowa, 1956; consultant, High School Reading Program at Austin, Minnesota, 1956; consultant, North High School Experimental Reading Program, Minneapolis, Minnesota, 1956; and member, Committee on Evaluation, International Reading Association, 1956.

Nelson L. Bossing served as member, Committee for the Study and Improvement of the Instructional Program in Minnesota, State Department of Education, 1954-56; member, Board of Directors, Minnesota Association of Secondary School Principals; president, Minnesota Association for Supervision and Curriculum Development, 1954-55; member, 1954-56, and chairman, 1956, Executive Committee, National Conference on Core Teaching; member, Board of Directors, 1955-56, and member, Commission on Core Curriculum, 1955-56, National Association for Supervision and Curriculum Development; and member, National Commission on International Education, Phi Delta Kappa, 1954-56.

Agnes B. Bratlee was editor, *News Letter*, 1954-55, associate editor, *Bulletin*, 1954-55, and secretary, College Teachers Section, 1954-56, Western Arts

Association; executive secretary, 1954-56, and program chairman, Annual Spring Conference, 1955-56, Minnesota Art Education Association.

Jean A. Burgess served as chairman, Dance Section, Minnesota Association of Health, Physical Education and Recreation, 1954-55; chairman, Dance Section, Central Association of Health, Physical Education and Recreation, 1955-56; and member, National Dance Board, 1955-56.

Naomi C. Chase served as member, Curriculum Committees on Language Arts, Social Studies, and Reading, Minnesota State Department of Education, 1955-56; member, planning committee for the national convention, Association for Student Teaching, 1956; member, planning committee for national convention, 1956, and chairman, Nominating Committee, Elementary Section, 1955, National Council of Teachers of English.

Theodore Clymer served as leader of workshops as follows: Elementary and Secondary Teachers, Amery, Wisconsin, 1954-55; Elementary Teachers, St. Paul, 1954-56; Minnesota Association of High School Administrators, Rochester, 1955-56; Elementary and Secondary Teachers, Fort Dodge, Iowa, 1955-56; Tri-State Administrators' Conference, Iowa, 1955-56; and South Dakota County Institutes, South Dakota Department of Education, 1955-56.

Walter W. Cook served as delegate, Minnesota White House Conference on Education, 1955; member, Executive Committee, Minneapolis Citizens' Committee for the Public Schools, 1954-56; conference participant, National Manpower Council, 1954; member, Education Committee, Minnesota Statehood Centennial Commission, 1955-56; research consultant, Federal Office of Education, 1955; member, Studies and Standards Committee, American Association of Colleges for Teacher Education, 1954-56; and member, Committee for the Study and Improvement of the Instructional Program in Minnesota, State Department of Education, 1954-56.

Otto E. Domian served as director of study of state support for public education, Minnesota Legislative Interim Commission; consultant, Minnesota Association of School Administrators; president, Minnesota Society for the Study of Education; and president, Minnesota Division, Horace Mann League.

Willis E. Dugan was member, Editorial Board, *Personnel and Guidance Journal*, 1955-56, treasurer and member, Executive Council, 1954-55, American Personnel and Guidance Association; state chairman, Minnesota March of Dimes, 1954-56; vice chairman, Minnesota State Board of Examiners of Psychologists, 1954-56; member, Commission on Training and Guidance, National Urban League, 1955-56; member, Board of Trustees, 1954-55, and chairman, Nominations and Elections Committee, 1956, National Vocational Guidance Committee; member, Executive Committee, Twin City Vocational Guidance Association, 1954-56; member, National Advisory Board, Educational Testing Service for Junior High School Guidance Inquiry, 1956; and consultant, Program of Counseling Psychology (Vocational), Veterans Administration Hospital, Fort Snelling, 1955-56.

Ruth E. Eckert served as president, 1954-55, and member, Executive Committee, 1954-56, National Society of College Teachers of Education; consultant on higher education, 1954-56, and member, 1956, Educational Policies Commission; member, Advisory Committee on Research, U. S. Office of Education, 1956; member, Technical Advisory Committee on Study of Social Work Education, 1956; member, National Advisory Committee on Presbyterian Colleges of the United States; curriculum consultant, U. S. Presbyterian Church, 1955-56; and consultant on Evaluation of Arkansas Teacher-Education Experiment, Ford Fund for the Advancement of Education, 1955.

William H. Edson was member, Executive Committee, Student Personnel Association for Teacher Education, American Personnel and Guidance Association, 1954-56; consultant to the writing committee, *Teacher Education for a Free People*, publication of the American Association of Colleges for Teacher Education, 1954-56; and chairman, College Activities, Minneapolis and Hennepin County Chapter, American Red Cross, 1955-56.

Frederick E. Ellis served as consultant, Minneapolis Citizens' Committee on Public Education, 1954-55; chairman, Academic Freedom Committee, Minnesota Chapter, American Association of University Professors, 1955-56; member, Board of Directors, International Institute, St. Paul, 1954-55; and president, Northwest Philosophy of Education Society, 1955-56.

Ned A. Flanders served as consultant, Family Life Curriculum Project, American Social Hygiene Association, 1954-55; consultant, faculty reorganization, College of Home Economics, North Dakota Agricultural College, 1954-55; consultant, Minnesota State Conference, Future Homemakers of America, 1954-56; consultant, Kansas State Conference, Public Health Nurses' Association, 1954-55; consultant, Pre-fall Workshop, Minneapolis Public School Administrators, 1955-56; chairman, Citizens' Committee on Education, Meadowbrook School District, 1955-56; and vice president, Twin City Chapter, Society Working for Advancements in Teaching, 1955-56. He was elected to Scholia, Twin City area, schoolmen's professional organization, 1954-55.

Clifton Gayne served as member, Educational Development Committee, and member, Planning Committee, St. Paul Council of Arts and Science; member, Board of Directors, and chairman, Building Committee, International Institute of St. Paul; editor, *Bulletin*, chairman, Editorial Board, 1954-55, and chairman, College Teachers of Art Education, 1954-56, Western Arts Association; member, Editorial Committee, 1954-55, chairman, Accreditation Committee, 1954-56, and chairman, Committee on Standards for Preparation of Art Teachers, 1954-56, National Art Education Association; chairman, Coordinating Committee on Collegiate Problems of Teacher Education, 1954; chairman, Committee for Evaluation and Improvement of Instruction in Art, Dramatics and Music, State Department of Education, 1955-56; and member, Executive Board, Minnesota Art Education Association.

Carl V. Goossen served as chairman, Committee on Establishing Evaluative Criteria for the Science Program in Elementary and High Schools, Minnesota State Department of Education.

Lauren B. Granger served as state coordinator, cooperative project in adult education in agriculture, conducted jointly by the University of Minnesota, the State Department of Education, and Minnesota public schools, Louis W. and Maud Hill Family Foundation grant; official delegate to annual conferences, Adult Education Association of the United States, 1954 and 1955; member, Nominating Committee, Minnesota Council for Adult Education, 1956; consultant, Adult Education Committee, Minnesota Vocational Agriculture Instructors Association, 1955-56; counselor, annual meeting, Minnesota Association of Cooperatives, 1955; assistant superintendent, Education Department, Minnesota State Fair, 1955-56; and member, Visiting Committee, North Central Association of Colleges and Secondary Schools to evaluate the Mora, Minnesota Junior-Senior High School, 1955. He was elected to Gamma Sigma Delta, honor society of agriculture, 1955.

Paul R. Grim served as program chairman, and member, Executive Committee, Minneapolis Citizens' Committee on Public Education, 1954-55; member, and vice-chairman, State Advisory Committee on Teacher Education, Minnesota State Department of Education, 1955-56.

William R. Hastie served as member, Editorial Advisory Board, *Arts and Activities*, 1954-56; vice president, 1955-56, member, Editorial Research Board, 1954-56, and chairman, College Teachers Section, 1954-56, National Art Education Association; member, Council, 1954-56, associate editor, *Western Arts*, and chairman, State Affiliation Committee, 1954-56, Western Arts Association.

Helen P. Hauptfuehrer was secretary-treasurer, Tri-State Unit, National Association for Student Teaching, 1954-56.

Cyril J. Hoyt served as member, Committee on Statistical Methodology in Educational Research, American Educational Research Association.

Eloise M. Jaeger served as member, Facilities and Equipment Committee, and member, Audio-Visual Aids Committee, American Association for Health, Physical Education and Recreation.

Donovan A. Johnson served as member, Evaluation Team, Central High School, St. Paul; and chairman, Evaluation Team, Breck School; member, Board of Directors, and publication chairman, Minnesota Council of Mathematics Teachers, 1954-55; chairman, Budget Committee, member, Supplementary Publicity Committee, 1954-55, vice president, Yearbook Committee, and member, Curriculum Evaluation Committee, 1955-56, National Council of Teachers of Mathematics.

Palmer O. Johnson was statistical editor, *Journal of Experimental Education*; and member, Committee on Research Promotion, American Educational Research Associate.

Stanley B. Kegler served as consultant, Educational Testing Service, Princeton, New Jersey.

Robert J. Keller was appointed director, Study of Higher Education in Minnesota, Governor's Committee on Higher Education; member, Department of Ministerial Relations, Presbyterian Church, U.S.A.; worked with the North Central Association of Colleges and Secondary Schools as member, Commission on Secondary Schools, member, Minnesota State Committee on Secondary Schools, and chairman, Visiting Committees for the Evaluation of Willmar Junior-Senior High School (Willmar), Our Lady of Peace High School (St. Paul) and Hopkins Senior High School (Hopkins); for the Association of Minnesota Colleges he served as member, Committee on Continuing Study of Higher Education, Committee on High School-College Relations, and Committee on Higher Education; served for the Minnesota Association of Secondary School Principals as member, Board of Directors, Council for the Improvement of Secondary Education, Planning Committee for the 1955 Workshop on Junior High School Problems, and Nominating Committee. He was member, Board of Directors, and chairman, Personnel Committee, Westminster Foundation, Synod of Minnesota, Presbyterian Church, U.S.A.; research director, Use of Closed Circuit Television for Teacher Education Project, Fund for the Advancement of Education, 1955-56; member, Research Commission, Phi Delta Kappa; and consultant: Minnesota Basic Science Examining Board, the Committee on Instruction, American Association of Junior Colleges, and the Committee on Administration, North Central Council of Junior Colleges.

Willard R. Lane was appointed to the Yearbook Commission, Rural Department, National Education Association; served as member, Oklahoma State Commission for Teacher Preparation and Certification; acting executive secretary, Oklahoma State School Board Association; and chairman, Conference Committee, Southwestern Cooperative Program for the preparation of school administrators.

Warren G. Meyer served as member, Advisory Council on Distributive Education for the North Central Region, member, Research Committee, and consultant, Vocational Division Bulletin No. 260, Work Experience Laboratories, U. S. Office of Education; distributive education representative, Research and Publications Committee, and alternate member, Policy and Planning Committee, American Vocational Association; editor *Business Education Forum*, Distributive Occupations Department, United Business Education Association; organized Four-State Textile Fiber Teacher-Training Clinic; was consultant and participant, Merchandising Forum, Northwest Retailers Association; teacher-trainer in distributive education, Vocational Division, State Department of Education; adviser, Minnesota Coordinator's Association; member, Research and Long-Range Planning Committee, Minnesota Vocational Association; member, Executive Board, Minnesota Business Education Association; vice president, Phi Chapter, Delta Pi Epsilon; and co-sponsor, Business and Distributive Education Club.

William J. Micheels served as national vice president, Stout State College Alumni Association, 1954-56; member, Industrial Arts Policy and Planning Committee, 1954-56, and member, Committee on Automotive Instruction, 1955, American Vocational Association; trustee, 1954-56, and member, Executive Committee, 1954-55, National Association of Industrial Teacher Educators; member, National Advisory Committee, 1954-56, and member, National Judging Team, 1954, Ford Industrial Arts Awards; member, Editorial Advisory Board, American Technical Society, 1955-56; chairman, Research Committee, Minnesota Vocational Association, 1955; and was awarded a Certificate of Appreciation, National Standard Parts Association, 1955.

Gordon M. A. Mork served as a member, Advisory Committee, Governor's Conference on Children and Youth; panel member, Minneapolis White House Conference; member, Committee on Improvement of Instruction, Minnesota State Department of Education; delegate from Minnesota Education Associa-

tion to National Education Association Convention, Chicago; vice president, and nominee for president, Minnesota Education Association; and was elected to American Educational Research Association.

R. Norine Odland served as secretary, Committee on Improvement of Instruction Evaluating Reading Programs, Minnesota State Department of Education, 1955-56.

Neville P. Pearson was named chairman, Selective Service Board 122, Traverse County Minnesota; president, Audio-Visual Coordinators' Association of Minnesota; member, Board of Directors, member, Board of Publications, and member, Teacher Education Committee, Department of Audio-Visual Instruction, National Education Association; member, Audio-Visual Synodical Board, Augustana Lutheran Church; and member, Audio-Visual Committee, and member, Advisory Committee on Teacher Education, Minnesota State Department of Education.

Roy C. Prentis served as consultant on School Facilities Survey, U. S. Office of Education, 1954.

Ray G. Price served as member, Publications Committee, United Business Education Association, 1954-56; chairman, Board of Examiners (State of Minnesota), Accrediting Commission for Business Schools, 1956; member, Board of Directors, Consumers Union, 1955-56; president, Council on Consumer Information, 1954-56; participant, Conference on Consumer Affairs, Council of Economic Advisers, Executive Office of the President, Washington, D.C., May, 1956; editor, Dollars and Sense Column, *Journal of the National Education Association*, 1954-55; member, Planning Committee, and editor, *Proceedings*, Institute on Consumer Problems, University of Minnesota, 1955; member, High School Textbook Evaluation Panel, U. S. Armed Forces Institute, 1954-56; member, Management Committee, University Branch, Young Men's Christian Association, 1955-56; and member, Administrative Committee, John R. Gregg Award in Business Education, 1954-56; and faculty sponsor, Phi Chapter, Delta Pi Epsilon, honorary graduate fraternity in business education, 1954-56.

Maynard C. Reynolds served as president, Division on Teacher Education, 1955-56, member, Governing Board, 1954-56, and editor of Special Publications, 1956, International Council for Exceptional Children; member, Executive Council, Minnesota Psychological Association, 1956; vice president, Minnesota Council for Special Education, 1954-56; member, Divisional Executive Committee, and chairman, Planning Committee on Sheltering Arms, Family and Children's Division, Community Welfare Council of Minneapolis; member, Advisory Committee on Volunteer Services, Minnesota State Department of Public Welfare, 1955-56; and member, Elliot Park Neighborhood House, 1954-56, and Sheltering Arms, 1955-56.

Helen M. Slocum was member, Joint Committee on Relations with the Armed Services, 1954-56; chairman, Health Section, Central District Association for Health, Physical Education and Recreation, 1954-55; and chairman, Research Committee, Central Association for Physical Education of College Women, 1955-56.

Dora V. Smith served as consultant, Committee on the Revision of the Language Arts Curriculum for Secondary Schools, Minnesota State Department of Education; director, National Commission on the English Curriculum, National Council of Teachers of English; gave annual Kappa Delta Pi address in Cleveland, Ohio, American Association of School Administrators. She was on sabbatical leave 1955-56, on tour through the Orient, Middle East, Southern Europe, and Great Britain studying children's books in foreign languages which, if translated into English, would aid international understanding.

Gordon I. Swanson served as member, Research and Planning Committee, and convention chairman, Minnesota Vocational Association; member, Research Committee and Policy Committee, Minnesota Vocational Agriculture Instructors Association; member, Teacher Training Committee, American Vocational Association; member, Education Committee, National Association of Soil Conservation Districts; consultant, Outdoor Education Committee, Minneapolis Public Schools; member, Committee on Research and Constructive Studies, and editor, 1958 *Yearbook*, Rural Department, National Education Association; Assistant superintendent, Education Department, Minnesota State Fair; district representative, Phi Delta Kappa; chairman, High School Com-

mittee, Central Regional Research Conference, Agricultural Education, Columbus, Ohio; vice president, College of Education Unit, Minnesota Alumni Association; member and secretary, Gamma Sigma Delta, the national honorary agricultural society; and member, Minnesota State Civil Service Examining Committee. He was elected to Alpha Tau Alpha, honorary agricultural education fraternity.

Suzanne S. Tinker was named secretary, "Kindred Group," College Instructors of Courses in Camping.

Tracy F. Tyler served as coordinator of project under contract between the University of Minnesota and International Cooperation Administration for strengthening Seoul National University of Korea, 1954-56; editor, *Journal of the Association for Education by Radio-Television*, 1954-56; secretary-treasurer, Scout Committee, Troop 17, North Star District, Indianhead Council, St. Paul, Minnesota, Boy Scouts of America, 1955-56; member, Governor's Advisory Council on Children and Youth, 1954-56; chairman, Discussion Group C, Institute for Education by Radio-Television, Ohio State University, 1956; and delegate representing Association for Education by Radio-Television, to conference on cultural relations between representatives from South and Southeast Asia and the United States, University of Minnesota, May, 1956.

Howard Wakefield served as consultant on educational planning and procedures to various governmental agencies in Ohio; consultant on research and professional development to Ohio County Superintendents Association and Ohio Department of Elementary School Principals; consultant on school district organization to Committee for the White House Conference on Education, and National Commission on the Intermediate Administrative Unit.

Edith West served as consultant, Social Studies Curriculum Revision, Minneapolis Board of Education; chairman, panel for annual meeting, member, Executive Board, Social Education, chairman, Curriculum Committee, and chairman, sub-committee in Audio-visual Education, National Council for the Social Studies, 1954-55; and was coordinator, Minnesota Council for the Social Studies, 1955-56.

Marjorie U. Wilson served on two committees for the National Research Council, American Association for Health, Physical Education and Recreation.

Arnold S. Woestehoff served as president, 1956, vice president, 1955-56, and member, Editorial Committee, 1955-56, National Institutional Teacher Placement Association; member, Governor's Committee on Teacher Supply, 1954-56; president, Sanford Junior High School Parent and Teachers Association, 1955-56; delegate, Minnesota White House Conference on Education; member, Sub-committee on Public Relations and Publicity, Minneapolis Citizens' Committee on Public Education, 1956; director, program of joint discussion group with National Institutional Teacher Placement Association, Atlantic City meetings, 1956, and member, Coordinating Committee on Collegiate Problems of Teacher Education, annual meeting, Chicago, 1956, American Association of School Administrators; representative to annual meeting, Council on Cooperation in Teacher Education, American Council on Education, Washington, 1955; and member, Board of Directors, College of Education Alumni Association, 1956.

Stanley G. Wold was elected to Phi Delta Kappa, 1955.

Robert M. Worthington served as president, and chairman, Executive Council, Minnesota Industrial Arts Association, 1954-56; president-elect, member, Executive Committee, and general convention chairman, Minnesota Vocational Association, 1954-56; chairman, Youth Activities Committee, member, Scholarship Committee, and member, Youth Leadership Committee, Saint Paul Lodge No. 59, Benevolent and Protective Order of Elks, 1954-56; member, Saint Paul Mayor's Town Meeting on Youth, 1956.

C. Gilbert Wrenn served as a member, Minnesota State Board of Examiners in Psychology, 1954-55; member, Board of Trustees, Minnesota Association for Mental Health, 1954-56; member, National Advisory Committee for the Air Training Command, U. S. Air Force, 1954-56; member, American Board of Examiners in Professional Psychology, 1954-56; member, Council of Representatives, American Psychological Association, 1955-56; member, Executive Council, Division of Counseling Psychology, 1954-56, and member, Executive Council, Division of Educational Psychology, 1955-56, American Psychological

Association; re-elected editor, *Journal of Counseling Psychology*, 1954; and reappointed, consultant, 1954-56, Counseling Psychologist Program in Veterans Administration Hospitals.

Institute of Child Welfare—John E. Anderson served as member, Governor's Advisory Council on Children and Youth; vice-chairman, Panel on Education, Governor's Fifth State Conference on Children and Youth, 1956; member, Governor's Commission on Aging, 1956; member, Editorial Committee, *Annual Review of Psychology*, 1954-56; member, Publications Board, 1955-56, member, Committee on Ethical Standards, 1956, member, Committee on Retired Psychologists, 1954-56, and president, Division on Maturity and Old Age, 1955-56, American Psychological Association. He was awarded a research grant (with Dale B. Harris) by the National Institute of Mental Health, U. S. Public Health Service; and a conference on "Concept of Development" was held in his honor at the University of Minnesota, December 8-10, 1955.

Evelyn Deno served as member, Inter-community Advisory Committee for the conversion of The Sheltering Arms facility, Community Welfare Council of Hennepin County, 1955; chairman, Program and Policy Planning Committee, 1955, and member, Advisory and Technical Advisory Boards, 1955-56, Sheltering Arms project; member, Elliot Park Neighborhood House for Retarded Children, 1954-56; and president, Minnesota Council on Family Life, 1955-56.

Elizabeth M. Fuller served as vice president, Kindergarten-Primary Division, 1956, and member, Future Plans Committee, 1955, National Education Association; member, Governor's Conference on Safety Education, 1955; member, Minneapolis Group Day Care Committee, 1954-56; member, Credit Evaluation Committee, Minnesota Teachers Colleges, 1954-56; member, Committee on Childhood Education, American Association of University Women, 1954-56; member, Committee on Summer Camp Program, Elliot Park Neighborhood House, 1954-55; consultant and member, Citizens Committee on Early Childhood Education, 1954-56; and consultant for Preschool Group Work, Society for the Blind, 1954-56.

Eugene S. Gollin was member, Advisory Committee, Elliot Park Neighborhood House for Retarded Children, 1955-56; and was awarded a research grant from the National Science Foundation.

Dale B. Harris served as member, Advisory Committee on Young Workers, Bureau of Labor Standards, U. S. Department of Labor; member, Board of Editors, *Annual Review of Psychology*; member, Governing Council, Society for Research in Child Development, Inc., 1955-56; member, Executive Council, Minnesota Psychological Association, 1955-56; member, Advisory Board, Governor's Fifth State Conference on Children and Youth, 1956; member, Board, Children's Home Society of Minnesota, 1954-56; and president, Division on Developmental Psychology, American Psychological Association, 1955-56. He was awarded a research grant (with John E. Anderson) by the National Institute of Mental Health, U.S. Public Health Service.

Dan C. Overlade served as member, Consultant Committee, Midwest Project on In-Service Training of Teachers for Family Life Education, American Social Hygiene Association.

Merrill F. Roff was principal investigator, research contract with School of Aviation Medicine, U. S. Air Force, 1954-56.

Mildred C. Templin was member, Committee for Study of Research in Speech and Hearing, National Institute of Neurological Diseases and Blindness, Gallaudet College, Washington, D.C.

College of Medical Sciences—Ray M. Amberg, served for the Minnesota State Department of Health, as chairman, Advisory Committee on Allocation of Federal Hill-Burton Funds, member, Advisory Committee on Hospital Administrators Registration Law, and member, Advisory Committee on Hospital Licensure; for the American College of Hospital Administrators, he served as regent, chairman, Budget Committee, and member, Joint Committee with the American Hospital Association; he was chairman, Committee on Government Relations, Minnesota Hospital Association; chairman, Committee on Reorganization, Association of Twin City Hospitals; and for the Minnesota Tuberculosis and Health Association, was president, 1955-56, member, Execu-

tive Committee, and chairman, Council on Government Relations. He was recipient of The Francis E. Harrington Award for Outstanding Service in the Field of Public Health, 1955.

Gaylord W. Anderson served as consultant on Medical Intelligence, Office of Surgeon General, U. S. Army; member, Health Advisory Committee, U. S. Public Health Service, International Cooperation Administration; consultant to Robert A. Taft Sanitary Engineering Center, Atlanta, Georgia; member, Board of Editors, *Public Health Reports*; member, Committee on Army Medical Education, National Research Council; chairman, Lasker Awards Committee, American Public Health Association; trustee, American Board of Preventive Medicine; chairman, Advisory Committee on Poliomyelitis, Minnesota State Department of Health; consultant, South Dakota Legislative Research Council; vice chairman, member, Executive Committee, and chairman, Committee on Community Needs, United Hospital Fund (Minneapolis); chairman, Health and Medical Care Committee, and member, Executive Committee, Community Welfare Council of Hennepin County; and member, 1955, and vice chairman, 1954, St. Paul Pop Concert Committee.

John A. Anderson was elected member, Council, American Pediatric Society, 1954-56; chairman, Committee to Cooperate with the Food and Drug Administration, American Academy of Pediatrics, 1955-56; member and vice president, Advisory Board, National Council for Infant and Child Care, 1955-56; member, Editorial Board, *Advances in Pediatrics*, Yearbook Publishers, Chicago, Illinois, 1955-56; member, Advisory Board, Sheltering Arms School for Research in Mentally Retarded Children, Minneapolis, Minnesota, 1955-56; and was elected to Editorial Board, *Pediatrics*, official journal, American Academy of Pediatrics, 1955-56.

Ray C. Anderson was elected member, Editorial Board, *American Journal of Human Genetics*, 1954-56.

Richard W. Anderson served as consultant, Twin City Clinic, 1954-56; and chairman, Mental Health Forum, Minneapolis, 1955.

Wallace D. Armstrong was awarded the honorary Doctor of Odontology degree by the University of Stockholm, 1955. He served as member, National Dental Advisory Council, U. S. Public Health Service, 1954-56; member, Council, International Association for Dental Research, 1954-55; and received research grants from the Atomic Energy Commission, U. S. Public Health Service, and U. S. Army.

Abe B. Baker served as chairman, Training Grants Committee, 1954-56, and member, Study Section, 1954-56, National Institutes of Neurological Diseases and Blindness; member, Medical Advisory Board, National Multiple Sclerosis Society, 1954-56; member, Clinical Advisory Board, United Cerebral Palsy Association, 1954-56; chairman, National Committee for Research in Neurological Disorders, 1954-56; member, Medical Policy Committee, Minnesota Mental Health, 1954-56; chairman, Special Courses Committee, American Academy of Neurology, 1954-56.

Annie Laurie Baker served as past president and member, Executive Board, and temporary chairman, Regulation of Practice Committee, Minnesota Welfare Conference; chairman, Nominating Committee, and member, Executive Committee, Southern Minnesota Chapter, National Association of Social Workers; chairman, Advisory Committee, Volunteer Program in State Hospitals; member, Religious Interest Section, Governor's Conference on Children and Youth; chairman, Executive Committee, and chairman, Committee on Nursing Home Volunteers, Minneapolis Council of Churches; member, Executive Committee, St. Andrews Brotherhood of Japan; and member, Committee on Membership, Minnesota Rehabilitation Association.

Cyrus P. Barnum, Jr., received research grants from American Cancer Society, U. S. Public Health Service, and Eli Lilly and Co.

Jacob E. Bearman was member, Board of Directors, and moderator, Training Course in Experimental Design, Minnesota Section, American Society for Quality Control; principal investigator, training grant "development of Biostatistical Aids to Research," National Institutes of Health; member, Research Advisory Committee, and member, Sub-committee on Population Estimates and Juvenile Delinquency Rates in Minneapolis, Community Welfare Council of Hennepin County.

Elexious T. Bell was honored by having an annual E. T. Bell Lectureship established by the Minnesota Pathological Society, 1955; received the Distinguished Service Award, Minnesota Chapter, Sigma Xi, 1956; and was recipient of a research grant, U. S. Public Health Service, 1954-56.

Ellis S. Benson was area consultant in clinical laboratories procedures, Veterans Administration, 1954-56; member, Committee on Medical Technology, Minnesota Society of Clinical Pathology, 1955-56; and was elected fellow, American Society of Clinical Pathology, 1955. He was awarded research grants by the National Heart Institute, 1954, 1955, 1956; and by the American Heart Association, 1956.

Raymond N. Bieter was member, Committee on Analgesic and Habit Forming Drugs, National Research Council, 1955-56.

Richard G. Bond was elected member, Royal Society of Health (British).

Herbert M. Bosch served as consultant, Sanitary Engineering, Department of the Army; consultant, U. S. Public Health Service; member, Epidemiological Board, Commissions on Environmental Hygiene, U. S. Armed Forces; member and chairman, Subcommittee on Waste Disposal, Committee on Sanitary Engineering and Environment, and member, Committee on Civil Defense, National Research Council; consultant (visited Brazil under this consultant-ship summers of 1954, 1955), International Cooperation Administration; member and vice president, Minnesota State Board of Health, 1955; consultant, South Dakota Legislative Research Council; member, Expert Panel on Environmental Sanitation, World Health Organization, United Nations; consultant (visited Chile summer 1954), Pan American Sanitary Bureau; elected honorary fellow, Royal Sanitary Institute (London), July 13, 1954; elected member, Board of Directors, United States Section, Inter-American Association of Sanitary Engineering, 1955; elected member, Council of the Engineering Section, American Public Health Association, 1955; and was visiting professor, School of Tropical Medicine, University of Puerto Rico, March, 1956.

Ruth E. Boynton served as member, Minnesota State Board of Health; member, Council, member, Editorial Committee, and president, North Central Section, American College Health Association. She was elected honorary member, British Student Health Officers' Association.

Edward A. Boyden was named president-elect, American Association of Anatomists, 1955.

Paul D. Boyer was appointed to the Louis W. and Maud Hill Family Foundation Professorship in Enzymology, 1955; was recipient of a Guggenheim Fellowship for work in the Nobel Medical Institute and Wenner-Gren Institute, Stockholm, Sweden, 1955; received the Paul Lewis Award in Enzyme Chemistry, 1955; served as editor, *Archives of Biochemistry*, 1955-56, *Proceedings of the Society of Experimental Biology and Medicine*, 1956, and *Biochemical Preparations*; and received research grants from Atomic Energy Commission, National Science Foundation, and U. S. Public Health Service.

John P. Brantner was member, Sub-Committee on Research, and member, Minneapolis Mayor's Committee on Employment of the Handicapped, 1954-56.

Byron W. Brown, Jr., was elected to Sigma Xi; and served as member, Education Committee, Minnesota Section, American Society for Quality Control.

Ernest B. Brown, Jr., served as chairman, University Branch YMCA; and received two special research grants from the U. S. Air Force.

Joel G. Brunson was recipient of research grant from the American Heart Association, 1954-56, and the Minnesota Heart Association, 1954-56; and was awarded the American Cancer Society Fellowship, 1954-55.

Virginia L. Burris served as president, Minnesota Society of Medical Technologists, 1954-55.

Berry Campbell was elected president, Minnesota Chapter Archeological Institute of America, 1954; and was awarded research grants (with William E. Petersen) from American Dairy Association, 1955, National Academy of Sciences, 1955-56, and U. S. Air Force.

Charles W. Carr received the Lalor Foundation Fellowship for work at National Institutes of Health, 1956; and was awarded research grants, U. S. Public Health Service.

H. Mead Cavert was appointed an established investigator, American Heart Association, 1954; and received research grants from the American Heart Association and the Minnesota Heart Association.

Kathleen J. Clayson was recipient of Hilkowitz Award for scientific paper read at the national convention, American Society of Medical Technologists, 1955.

Morley Cohen was recipient of the Lasker Award for 1955.

Katharine J. Densford served as member, Standing Committee on Nursing in International Affairs, American Nurses' Association, 1954-56; member, Nursing Advisory Committee, American-Korean Foundation, 1954-56; member, Committee on Legislation, 1955-56, member, Committee on Personnel Policies, Educators, Administrators, Consultants, and Teachers Section, 1955-56, and member, Committee on Careers in Nursing, 1955-56, Minnesota Nurses' Association; and member, Committee on Careers in Nursing, Third District Minnesota Nurses' Association, 1955-56.

Harold S. Diehl served as member, United States Delegation to the World Health Assembly, Geneva, 1954, and to Mexico City, 1955; chairman, Council on National Defense, American Medical Association, 1955-56; honorary civilian consultant to the Surgeon General, U. S. Navy, 1955-56; and was elected vice president, Association of American Medical Colleges, 1955-56.

Elaine C. Duerr was awarded a scholarship in Cancer Cytology, American Cancer Society, 1954.

Gerald T. Evans served as head, Department of Clinical Investigation, U. S. Naval Medical Research Unit No. 3, Cairo, Egypt, 1954-56; and consultant, Clinical Chemistry, Veterans Administration Hospital, Minneapolis.

Robert L. Evans was awarded a Rockefeller Foundation grant for service as mathematical physiologist.

Abraham Falk was appointed chairman, Consultation Committee, Minnesota Trudeau Sanatorium, 1954.

William J. Felts was awarded a research grant from the Minnesota Division, National Cancer Society, 1955.

William R. Fifer was elected member, Minnesota Trudeau Society, and member and senior fellow, American Trudeau Society, 1955-56.

Edmund B. Flink was elected to membership in the American Society for Clinical Investigation, 1955.

Ivan D. Frantz holds the George S. Clark Professorship for the study of high blood pressure and related conditions.

Esther F. Freier served as associate editor, *American Journal of Medical Technology*, 1954-56.

Ernst Gellhorn was member, National Advisory Committee, Oklahoma Medical Research Institute; and co-editor, *Acta Neurovegetativa*. He was awarded a research grant from the Louis W. and Maud Hill Family Foundation.

David Glick served as chairman, Panel on Cytochemistry, Committee on Growth, National Research Council, 1955-56; editor, *Methods of Biochemical Analyses* and associate editor, *Journal of Histochemistry and Cytochemistry*; and received research grants from U. S. Public Health Service, Minnesota Heart Association, Eli Lilly and Co., and Louis W. and Maud Hill Family Foundation.

Gertrude M. Gilman was elected fellow, American College of Hospital Administrators, 1954.

Frederick C. Goetz received a research grant from the U. S. Public Health Service, 1955-56; and was elected director, Twin Cities Diabetes Association, 1956.

Lorraine Gonyea was awarded a Fulbright Scholarship for study in hematology at the University of Oslo, Norway, 1955-56; and was elected member, Sigma Xi, 1955.

Robert A. Good was elected fellow, American Association for the Advancement of Science; member, American Pediatric Society; member, Scientific Council Basic Science Section, American Heart Association; fellow, New York Academy of Science; member, American Society for Clinical Investigation and American Society for Experimental Pathologists. He delivered the Sigma Xi Lecture, Portland, Oregon, November, 1954; and the Katherine Baird Memorial Lecture, Milwaukee, Wisconsin, February, 1955. He was recipient of the

E. Mead Johnson First Award for "Outstanding Research Contributions to Pediatrics," 1955; and of the Theobald Smith Award for "Outstanding Research Contributions to Medical Sciences," 1955. He was awarded research grants from: Helen Hay Whitney Foundation; Minnesota Heart Association; American Heart Association; National Heart Institute, U. S. Public Health Service; American Cancer Society; Minnesota Cancer Society; and National Microbiological Institute, U. S. Public Health Service.

Margaret F. Grainger served as president, Minnesota League for Nursing, 1954-56.

Eugene D. Grim received a three-year Lederle Medical Faculty Award, 1954; and research grants from the Minnesota Heart Association and the U. S. Public Health Service.

Paul S. Hagen was awarded a research grant from Eli Lilly & Co.; and was elected to membership in the Central Society for Clinical Research, 1955.

Franz Halberg served as consultant, Cambridge State School and Hospital for Epileptics; member, Committee on Nomenclature, International Society for the Study of Biologic Rhythms; and received research grants from the U. S. Public Health Service, the State of Minnesota and the U. S. Air Force.

Wendell H. Hall served as chairman, Bacteriology Committee and Committee on the Chemotherapy of Tuberculosis, Veterans Administration-Armed Forces; member, Laboratory Committee, American Trudeau Society; member, Editorial Board, *The Journal of Laboratory and Clinical Medicine*; and member, Sanatorium Consultation Committee, Minnesota Trudeau Society. He received a research grant from Eli Lilly & Co.

Ben E. Hallaway was recipient of the Board of Registry Award for scientific paper read at the national convention, American Society of Medical Technologists, 1955.

Erling W. Hansen was a member, 1954-56, and chairman, Executive Committee, 1956, and chairman, Section on Ophthalmology, 1954-55, American Medical Association; member, Council, 1954-56, member, Board of Editors, 1954-56, and president-elect, 1955-56, American Academy of Ophthalmology and Otolaryngology; and member, Board of Governors, 1954-56, American College of Surgeons.

M. Isabel Harris served as secretary-treasurer, Minnesota Board of Nursing, 1955-56.

J. Francis Hartmann was awarded four research grants from the U. S. Public Health Service, 1955-56.

Donald W. Hastings served as chairman, Medical Policy Committee, State Department of Public Welfare, 1954-56; member, Scientific Advisory Board, U. S. Air Force, 1954-55; and member, Advisory Panel on Medical Sciences, Department of Defense, 1954-56.

Starke R. Hathaway served as a member, Training Committee, National Institute of Mental Health, 1956.

Robert Hebbel was recipient of institutional research grant, American Cancer Society.

Ruth I. Heinemann served as member, Board of Directors, and chairman, Civil Service-Armed Services Committee, American Society of Medical Technologists, 1955-56.

Elmer M. Hill served as area consultant in dermatology, Veterans Administration; consultant in dermatology, State Hospitals at Faribault and Cambridge; secretary-treasurer, 1954-55, and president, 1956, Minnesota Dermatological Society.

Frederick W. Hoffbauer was a member, Subcommittee on Liver, and Advisory Committee on Metabolism, Office of the Surgeon General; and was elected president, Minnesota Pathological Society, 1955-56. He was recipient of research grants, Office of the Surgeon General, and Robert H. Knowles, Jr., Memorial Fund for Medical Research.

Ruth F. Hovde served as member, Board of Directors, 1954-56, and president, 1954-55, American Society of Medical Technologists; member, Board of Registry of Medical Technologists, American Society of Clinical Pathologists, 1954-56; member and vice chairman, National Committee for Careers in Medical Technology, 1954-56. She was elected member, Sigma Xi, 1955.

Robert B. Howard served as member, Board of Editors, *Minnesota Medicine*, 1954-56; member, Editorial Board, *Journal-Lancet*, 1954-56; member, Committee on Continuation Education, Association of American Medical Colleges, 1954-56; and member, Research Allocations Committee, Minnesota Heart Association, 1956.

Oleg Jardetzky was awarded a research fellowship, American Heart Association, 1954-56.

Reynold A. Jensen served as member, Committee on Medical Education, American Psychiatric Association, 1955-56; member, Legislative Committee, American Orthopsychiatric Association, 1955-56; board member, Council on Special Education, 1954-56; chairman, *ad hoc* committee of the Medical Policy Committee, to study the need for a state psychiatric hospital for children, Minnesota Department of Public Welfare, 1954-56; member, Board of Sponsors, Minneapolis Association for Retarded Children and the Minnesota Association for Retarded Children, 1954-56; member, General Advisory Board, Sheltering Arms, Minneapolis, 1955-56; member, Health Committee, Governor's Conference on Children and Youth, 1956; member, Research Advisory Committee, National Association for Retarded Children, 1955-56; president, Minnesota Society for Neurology and Psychiatry, 1954-55; member, Medical Advisory Board, American Federation of Child Guidance, 1954-56; member, Planning Commission for Program, American Association for Research in Nervous and Mental Diseases, 1954-55; member, *ad hoc* Advisory Committee, to determine the use of Sheltering Arms Committee for Mentally Retarded Children, Central Council of Social Agencies, 1954-55.

Karl R. Johansson was invited speaker at the First International Congress sponsored by the National Academy of Sciences, National Research Council, 1955; and was awarded research grants by U. S. Public Health Service and Wyeth Laboratory.

Eugene A. Johnson was elected to Sigma Xi.

Ruth V. Johnston served as representative of the Minnesota League of Nursing on Committee on Careers, Minnesota Nurses' Association, 1954-56; member, Committee on Careers, Third District Minnesota Nurses' Association, 1954-56; member, Board of Directors, 1954-55, and member, Evaluation and Guidance Committee, 1954-56, Education Division, Minnesota League for Nursing; vice chairman, Steering Committee, Department of Baccalaureate and Higher Degree Programs, National League for Nursing, 1954-56.

Byrl J. Kennedy served as consultant, Council on Pharmacy and Chemistry, American Medical Association, 1954-56. He was awarded research grants by U. S. Public Health Service, 1954-56; Minnesota Division, American Cancer Society, 1954-55; and the Damon Runyon Fund, 1954-55.

Phillip D. Kernan served as member, District Health and Safety Committee, Boy Scouts of America.

Ancel Keys was elected honorary fellow, New York Diabetes Association, 1954; and was recipient of an award recognizing his pioneering research in the field of human nutrition, Minneapolis Chamber of Commerce, 1955.

Helen Kretchmer was named vice chairman, 1954-55, and chairman, 1955-56, American Association of Medical Social Workers; and member, Executive Committee, Southern Minnesota Chapter, National Association of Social Workers.

Carl W. Laymon was chairman, Research Aid Committee, American Dermatological Association.

Arnold Lazarow delivered the Terry Lecture at the St. Louis Medical Society, 1955; served as vice chairman of Committee on Diabetes Detection, 1954-56; and president, 1955-56, Twin Cities Diabetes Association; member, Council, Histochemical Society, 1954-56; and was awarded research grants from the U. S. Public Health Service, Eli Lilly Foundation, National Science Foundation, and Minnesota Heart Association, 1954-56.

Herman C. Lichstein served as member, Advisory Board, "Methods of Biochemical Analysis"; president, North Central Branch, Society of American Bacteriologists, 1954-55; and secretary, Minnesota Chapter, Society for Experimental Biology and Medicine, 1954-56. He was awarded research grants by the Office of Naval Research, Ely Lilly & Co., and National Vitamin Foundation.

C. Walton Lillehei received the Albert Lasker award for outstanding achievement in heart surgery, American Public Health Association, 1955.

Victor Lorber was career investigator, American Heart Association; and received research grants from the American Heart Association, the Minnesota Heart Association, and the Life Insurance Medical Research Fund.

Thomas Lowry served as member, Glen Lake Sanatorium Commission; member, Board of Ethics, and member, Board of Censors, Hennepin County Medical Society.

Francis W. Lynch was a member, Mayor's Committee on Planning for Ancker Hospital; and member, Public Health Council, St. Paul area. He was re-elected as director, American Board of Dermatology, Inc.

Richard M. Magraw served as psychiatric consultant, Winona County dependency project, Winona County Welfare Board, 1955-56.

William F. Mazzitello received a research grant from the Otto Bremer Foundation.

Malcolm A. McCannell was awarded Silver Medal for outstanding exhibit, convention, Minnesota State Medical Association, 1955.

James S. McCartney was re-elected secretary-treasurer, Minnesota Pathological Society, 1955-56; and reappointed president, Minnesota State Board of Examiners in the Basic Sciences, 1955.

George S. Michaelsen was president, Board of Trustees, Augsburg College and Theological Seminary, Minneapolis; secretary, Board of Trustees, Lutheran Deaconess Hospital, Minneapolis; member, Minnesota Hospital Service Association (Blue Cross); member, Board of Trustees, Trinity Lutheran Congregation, Minneapolis; member, Executive Board, Seward School Parent-Teacher Association, Minneapolis; and was awarded research grant from National Institutes of Health, U. S. Public Health Service.

Henry E. Michelson was recipient of a research grant from the Edmond Hughes Fund, Bismarck, North Dakota; and delivered the first O'Leary Memorial Lecture, Mayo Clinic, September, 1956, Minnesota State Dermatologic Society.

John Morris served as editor, College and University Safety Newsletter; and member, Executive Committee, Campus Safety Committee, National Safety Council.

Marion I. Murphy served as chairman, Public Health Nursing Section, American Public Health Association; chairman, Interorganization Committee, American Public Health Association and National League for Nursing; chairman, Accrediting Service, Collegiate Board of Review, and chairman, Subcommittee on Public Health Nursing Education, National League for Nursing; member, Program Planning Committee, National Conference on Social Work; member, Committee on Public Health Nursing Education, Minnesota League for Nursing; consultant, South Dakota Legislative Research Council; and member, Board (advisory capacity), Visiting Nurse Association, Minneapolis.

Murray John Murray was elected a fellow, Royal Society of Medicine, London.

Gabriel G. Nahas was elected to membership in the New York Academy of Science; and received a research grant from the U. S. Air Force.

Charles M. Nice, Jr., was awarded second prize in the field of clinical investigation for an exhibit at the meeting of the Radiological Society of North America, December, 1954; and was counselor for the State of Minnesota, Radiological Society of North America, 1955.

Sibyl G. Norris served as chairman, Division of Nursing Education, Minnesota League for Nursing, 1954-55.

Richard B. Raile was appointed member, Hennepin County Prenatal Mortality Committee, 1954-56; and member, Hennepin County Poliomyelitis Surveillance Committee, 1955.

Verna Rausch served as president, Minnesota Society of Medical Technologists, 1955-56; and member, Advisory Council, American Society of Medical Technologists, 1954-56.

Leo G. Rigler served as member, National Advisory Cancer Council, 1955-56; and was director, Postgraduate Medical Education, City of Hope Medical Center, Duarte, California, 1955-56.

Burtrum C. Schiele served as member, Advisory Committee, Minnesota State Medical Society, 1954-56; council member, Hennepin County League of Planned Parenthood, 1954-56; and member, Nominating Committee, Minnesota Psychiatric Society, 1956.

Edwin L. Schmidt was appointed member, Editorial Board, *Applied Microbiology*, 1956; and was awarded research grants by U. S. Army Quartermaster and U. S. Public Health Service.

William Schofield was elected executive secretary, Minnesota Psychological Association, 1956; and appointed member, Sub-committee on Evaluation and Measurement, Committee on Research and Educational Services, Association of American Medical Colleges, 1956.

Leonard M. Schuman served as member, Advisory Committee, Poliomyelitis Vaccine Evaluation Center (University of Michigan); special consultant and lecturer, Communicable Disease Center, and senior surgeon (Reserve), U. S. Public Health Service; adviser, Institute on Veterinary Public Health Practice (University of Michigan); secretary, Council on Research, American College of Preventive Medicine; member, Health Committee, Governor's Conference on Youth (Minnesota); consultant, Minnesota State Department of Health; and member, St. Paul Area Public Health Council (Minnesota). He was elected to the American Epidemiological Society.

Samuel W. Schwartz was recipient of special research grants from Atomic Energy Commission, 1955-56, U. S. Public Health Service, 1955, and American Cancer Society, Institutional Grant, 1955. He served as member of the Board, and chairman, Adult Institute and Alumni Association, Minneapolis Talmud Torah.

Maurice A. Shillington was presented with a special citation by the Montana Physicians' Service.

Ernst Simonson was elected corresponding member, German Physiological Society (Deutsche Physiologische Gesellschaft), 1954.

Ralph E. Smith received a research grant from the National Heart Institute, National Institutes of Health. He was elected to membership in the Central Clinical Research Club, the Minnesota Society of Internal Medicine, and the American Federation for Clinical Research.

Richard T. Smith served as associate editor, *Minnesota Medical Bulletin*, 1955; was chosen senior fellow, Arthritis and Rheumatism Foundation, 1955; elected to membership in American Federation for Clinical Research, Society for Experimental Biology and Medicine, Minnesota Chapter, Society of Sigma Xi, the New York Academy of Science, and the Society for Pediatric Research; served as research fellow, Helen Hay Whitney Foundation, 1954-55; and received research grants from the U. S. Public Health Service, American Heart Association, and the Minnesota Heart Association.

Wesley W. Spink received special research grants from Charles Pfizer Company, Sharp & Dohme, Inc., Lederle Laboratories (Brucellosis Research), E. R. Squibb & Sons, Brucellosis Research Center of World Health Organization, and Smith, Kline & French Foundation. He was re-elected as governor, American College of Physicians, 1956. He gave the Thirteenth Annual F. Robert Zeit Memorial Lecture, Northwestern University Medical School, Chicago, April 13, 1956; the annual address of the Minnesota Academy of Science, Minneapolis, May 4, 1956; and the annual Alpha Omega Alpha Lecture, University of Chicago, Chicago, May 16, 1956.

William W. Stead was elected to membership in the American Society for Clinical Investigation, 1956; and secretary-treasurer, American Federation for Clinical Research, 1955. He was awarded a research grant by the American Trudeau Society, 1955.

Jerome T. Syvertson served as member, Editorial Boards: *Bacteriological Reviews*, *Cancer Research*, and *Proceedings of the Society for Experimental Biology and Medicine*; member, Board of Trustees, American Type Culture Collection, as representative of the American Association of Pathologists and Bacteriologists; member, Board of Directors, Minneapolis War Memorial Blood Bank; member, Board of Governors, The American Academy of Microbiology; official delegate, representing the American Association of Pathologists and Bacteriologists, to the Third International Poliomyelitis Congress, Rome, 1954; member, ECHO Virus Committee, National Foundation for Infantile Paralysis,

Inc.; consultant to the Chief, Section of Virology, The M.D. Anderson Hospital, Texas Medical Center, Houston; and member, The Poliomyelitis Scientific Advisory Committee, Minnesota Department of Health. He delivered the Gordon Cancer Conference Symposium lecture, American Society of Tropical Medicine and Hygiene, and the Annual George M. McCoy Lecture, New Orleans Symposium, Cytopathology, at Galveston. He 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; The American Cancer Society; and Lederle Division of the American Cyanamid Co.

Louis Tobian, Jr., was elected to membership in American Physiological Society, Central Society for Clinical Research, and American Society for the Study of Arteriosclerosis. He received research grants from the American Heart Association, 1954-56, Minnesota Heart Association, 1955-56, and U. S. Public Health Service, 1954-56. He is the holder of an "Established Investigator" senior fellowship, American Heart Association, 1954-56.

Alan E. Treloar was chairman, Study Section on Public Health Nursing, and principal investigator, training grant "Biostatistical Aids to Research," National Institutes of Health.

Frederick H. Van Bergen was elected president, Minnesota Society of Anesthesiologists, 1956; and elected to membership in the Association of University Anesthetists, the Minnesota Academy of Medicine, and the Academy of Anesthesiology. He was awarded first prize for the scientific exhibit, 1955 meeting, American Society of Anesthesiologists; and received a special research grant, U. S. Public Health Service, 1954-56.

Richard L. Varco was recipient of the Albert Lasker Award, American Public Health Association, 1955.

Robert Vernier was elected a member, New York Academy of Sciences, 1956, and was awarded a U. S. Public Health Service post-doctoral research fellowship, 1955-56.

Maurice B. Visscher served as secretary, International Union of Physiological Sciences; chairman, Board of Publication Trustees, American Physiological Society; member, Board of Directors, Annual Reviews; was recipient of Distinguished Service Award, American Cancer Society, 1955; elected a member, National Academy of Sciences; president, Second General Assembly Council of International Organizations in the Medical Sciences; member, Board of Directors, Federation of American Scientists; special scientific adviser to the American Telegraph and Telephone Company in the production of a TV film on the heart and circulation; and president, University Retirement Investment Association.

Owen H. Wangenstein was named on the list of American leaders in medicine, *Modern Medicine*, 1955. He was awarded the Honorary Doctor of Science Degree by the University of Chicago, June 8, 1956.

Herbert E. Warden was recipient of the Albert Lasker Award, American Public Health Association, 1955.

Cecil J. Watson delivered the first E. T. Bell Lecture, Minnesota Pathological Society, October 18, 1955; the George R. Minot Lecture, Section on Pharmacology and Experimental Medicine, American Medical Association, Chicago, June 13, 1956; and the Plummer-Judd Memorial Lecture, Mayo Clinic and Foundation, October 15, 1954. He was appointed to serve on the Middle East Medical Mission for the State Department and the American University, Beirut, Lebanon, April, 1955; and served as president, Minnesota Chapter, Arthritis and Rheumatism Foundation; councilor, Association of American Physicians; member, Advisory Committee on Metabolism, Office of the Surgeon General, U. S. Army; member, Committee on Medicine and Surgery, National Research Council, 1956; and member, Theobald Smith Award Judging Committee, American Association for the Advancement of Science, 1956.

Dennis W. Watson was member, Subcommittee on Problems of the Student, Teaching Institute, Pathology, Microbiology, Immunology, Genetics, Association of American Medical Colleges, 1954; associate member, Commission on Immunization, Armed Forces Epidemiological Board, Office of Surgeon General; member, The Poliomyelitis Scientific Advisory Committee, Minnesota

Department of Health; member, Microbiology and Immunology Study Section, Department of Health, Education and Welfare, U. S. Public Health Service, Institutes of Health; and was awarded research grants by National Institutes of Health, Medical Research and Development Board, and Armed Forces Epidemiological Board.

Lee W. Wattenberg was recipient, American Cancer Society Fellowship, 1955-56; and Lederle Medical Faculty Award, 1956. He was elected a member, Histochemical Society, 1956.

Lemen J. Wells was awarded research grants by the U. S. Public Health Service, 1954 and 1955; and by the University of Minnesota Cancer Committee in support of work at the Ludwig Maximilian University in Munich, West Germany, April, 1956. He was recipient of a Fulbright Lectureship at the Ludwig Maximilian University in Munich, West Germany, beginning in April, 1956.

W. Lane Williams was awarded research grants by the U. S. Public Health Service, 1954-56; Minnesota Division, American Cancer Society, 1954-56; and Minnesota Heart Association, 1954-56.

Harold N. Wright was elected to the Minnesota Academy for the Investigation of Cardiovascular Diseases.

Newell R. Ziegler was awarded a research grant by the Minnesota Heart Association.

Horace H. Zinneman was named fellow, American College of Physicians, 1954; and senior member, American Federation for Clinical Research, 1955.

School of Dentistry—Donna S. Aker was elected president, Minnesota State Dental Hygienists Association, 1956.

William F. Braasch was elected to the Faculty, American College of Dentists, 1956; and vice president, American Interprofessional Institute, 1955-56.

William Branstad was named member, Council of the American Academy of Restorative Dentistry, 1955.

William H. Crawford served as special consultant and member, Dental Study Section, National Institutes of Health, U. S. Public Health Service; councilor, Minnesota Section, International Association for Dental Research, 1956; and vice president, American Association of Dental Schools, 1956. He was appointed director, Department of Health, Education, and Welfare, April, 1956.

Forrest L. Erlandson was elected to the American Association for the Advancement of Science, 1955.

Robert J. Gorlin was elected member, Minnesota Pathological Society, 1956.

Ambert B. Hall served as trustee, Minnesota State Dental Association, 1955-56; member, University Relations Committee, Minnesota State Dental Association, 1955-56; and member, National Committee on Dental Education, American College of Dentists, 1955-56.

Walter G. Iverson was secretary, Minnesota Unit, American Society of Dentistry for Children, 1955-56.

Ione M. Jackson served as member, Necrology Committee, American Dental Hygienists Association, 1956.

James R. Jensen was president, Minnesota Section, International Association for Dental Research, 1955-56.

David F. Mitchell was elected fellow, American Association for the Advancement of Science, July, 1954.

Robert E. Sausen was elected secretary-treasurer, Minnesota Chapter, Xi Psi Phi, 1955-56; and secretary-treasurer, Minnesota Section, International Association for Dental Research.

Thomas D. Speidel was named president-elect, Central Section, American Association of Orthodontists, 1956.

Sherwood R. Steadman was elected to the Board of Directors, Minnesota Dental Foundation, 1955-56; treasurer, Minnesota Dental Foundation, 1955-56; member, University Relations Committee, Minnesota State Dental Association, 1955-56; and was appointed trustee, Joseph Johnson Trust Fund, 1955-56, St. Paul District Dental Society.

Robert W. Wiethoff is president-elect, Minnesota Academy of Restorative Dentistry, 1956.

Harold C. Wittich was named member, University Relations Committee, Minnesota State Dental Association, 1955-56.

Law School—Kenneth M. Anderson served as chairman, Minnesota Advisory Commission on Compulsory Sickness and Liability Insurance, 1954; and executive secretary, Minnesota Governor's Tax Study Committee, 1955-56.

Edward S. Bade served as member, Committee for the Revision of State Trusts Laws, Minnesota State Bar Association.

Kenneth C. Davis was appointed Charles Inglis Thompson Guest Professor, University of Colorado, 1955.

John R. Ellingston served as adviser, Committee on Juvenile Delinquency, American Bar Association, 1954; chairman, Sub-committee on Hennepin County Juvenile Court and Juvenile Probation Services, Committee on Juvenile Delinquency, Community Welfare Council; director, Forum on Development of the Juvenile Court and a Family Court in Minnesota, Minnesota Probate Judge's Association, 1955; director, Conference on Juvenile Delinquency, University of Missouri Law School, 1955; executive secretary, Minnesota Legislative Interim Commission on Juvenile Delinquency, Adult Crime and Corrections, 1955; consultant, Workshop on Statistics and Administrative Reporting, National Parole Conference, 1955; and initiator, South Central Youth Project, Community Welfare Council, 1955.

Stanley V. Kinyon served as member and chairman, Sub-committee on the Problem of the Criminal Alcoholic, Minnesota Interim Commission on Alcoholism, 1955-56; and member, Commercial Law Committee, Minnesota State Bar Association.

Leon M. Liddell served as member, Joint Committee on Cooperation between the American Association of Law Schools and the American Association of Law Libraries; representative of American Association of Law Libraries on Board of Bibliography, American Library Association.

William B. Lockhart served as member, Committee on Racial Discrimination in Law Schools, Association of American Law Schools, 1954-56; chairman, Adjustment Panel for City of Brainerd under Minnesota Statutes, 1955; and was appointed arbitrator, Federal Mediation and Conciliation Service, American Arbitration Association.

David W. Louisell served as secretary, Judicial Council, State of Minnesota, 1954-56; director, Religious Education Association of the United States and Canada, 1956; member, Industry Committee for Puerto Rico, U. S. Department of Labor, 1955; and was delegate and delivered an address to the International Congress of Comparative Law, Paris, France, August, 1954.

Robert C. McClure served as member, Mayor's Council on Human Relations, Minneapolis; member, Governor's Human Rights Commission, Minnesota; member Trust Law Committee, and member, Non-profit Corporation Committee, Minnesota State Bar Association.

Monrad G. Paulsen served as vice president, member, Executive Committee, and chairman, Public Safety Committee, Greater Minneapolis Citizens' League; member, Executive Committee, Minnesota, National Association for the Advancement of Colored People; and member, Editorial Board, *Journal of Legal Education*.

Maynard E. Pirsig served as member, Advisory Committee on Rules of Civil Procedure, U. S. Supreme Court; Minnesota commissioner of uniform laws; chairman, Committee on Arbitration, National Conference of Commissioners of Uniform Laws; member, Industry Committee for Puerto Rico, U. S. Department of Labor; and chairman, Advisory Commission, Minnesota Division of Employment and Security.

College of Pharmacy—Frank E. DiGangi was named chairman, Committee on U. S. Pharmacopoeia and National Formulary Revisions, Minnesota State Pharmaceutical Association.

Earl B. Fisher was responsible for the preparation and revision of monographs on vegetable drugs, including standards of purity and potency, and for reading of proof, U. S. Pharmacopoeia XV.

Willard J. Hadley was re-elected secretary, Minnesota State Pharmaceutical Association, 1954-56.

Robert H. Miller served as member, Committee on Pharmaceutical Practice, and chairman, Research Committee, Minnesota State Pharmaceutical Association.

Charles H. Rogers was named chairman, Committee on Status of Pharmacists in Government Service, American Association of Colleges of Pharmacy.

Summer Session—E. William Ziebarth served as member, National Executive Council, and chairman, Radio-Television Committee, Speech Association of America; educational consultant, Columbia Broadcasting System, Midwest Radio-TV Corporation; member, Board of Directors, Hennepin County Tuberculosis Association, member, Radio-Television Committee, Minneapolis Board of Education; consultant in Radio-TV, St. Paul Board of Education; member, Board of Directors, Radio-Television Council; member, Board of Judges, American Council for Democracy; consulting member, Opportunities Unlimited, Minnesota State Penitentiary; member, Education Committee, Chamber of Commerce, Minneapolis; chairman, Speakers' Bureau, Hennepin County Tuberculosis Association; member, Speakers' Bureau, 1956 Community Chest; chairman, Resolution Committee, National Association of Summer Session Deans and Directors; and consultant editor, *Central States Speech Journal*. He received the following awards: Best Commentator Award, American Federation of Radio and Television Artists; and Best Diction Award, American Academy of Speech.

Graduate School—Theodore C. Blegen was awarded the honorary LL.D. degree by Augustana College, Rock Island, Illinois, 1956; and was elected to the Board of Trustees, Hamline University, 1956.

John G. Darley served as editor, *Journal of Applied Psychology*; chairman, Committee on Relations with Psychiatrists, American Psychological Association; member, Mayor's Council on Human Relations, 1954-56; and consultant, Carnegie Corporation project on Diversification of Higher Education.

Mayo Foundation of Medical Education and Research—Howard A. Anderson was editor, Pulmonary Page, *Minnesota Medicine*.

Edgar V. Allen served as member, House of Delegates, Section of Experimental Medicine and Therapeutics, American Medical Association; president-elect, American Heart Association; editor, "Clinical Conferences," and associate editor, *Circulation*, and member, Board of Directors, Minnesota Heart Association.

Alexander Albert was member, Executive Council, program chairman, and member, Van Meter Prize Committee, American Goiter Association; member, Executive Council, The Endocrine Society; member, Editorial Board, *Endocrinology*; and member, Editorial Board, *American Journal of Physiology*. He was recipient of the Award of Merit, American Goiter Association; and delivered the Laurentian Hormone Conference Lecture.

Mark J. Anderson was named chairman, Committee on Interprofessional Relations, and delegate, Minnesota State Medical Association.

Milton W. Anderson was elected fellow, American College of Physicians, 1956; and was member, Editorial Board, *Diseases of the Chest*.

Archie H. Baggenstoss was member, Board of Censors, American Society of Clinical Pathologists.

George S. Baker served as member, Examining Board and Credentials Committee, American Board of Neurological Surgery; and member, Membership Committee, The Harvey Cushing Society.

Edward J. Baldes served as member, Advisory Committee on Electroencephalography, Council on Physical Medicine and Rehabilitation, American Medical Association; member, Executive Council, member, Scientific Program Committee, 1956, and member, Awards Committee, Aero Medical Association; member, Editorial Board, *American Journal of Physiology* and the *Journal of Applied Physiology*, American Physiological Society; consultant, Panel on Aero Medicine, Scientific Advisory Board, U. S. Air Force—When Actually Employed; consultant to Air Research and Development Command and Office of Scientific Research, Baltimore; vice president, councilor, and chairman, Fairs Committee, Minnesota Academy of Science.

Donald G. Balfour was awarded the American Medical Association's distinguished service award on June 7, 1955.

William M. Balfour continued as president, Minnesota Community Concerts, Inc., Rochester; and was member, Board, Symphony at Rochester, Inc.

Edward A. Banner was elected secretary-treasurer, Minnesota Obstetrician and Gynecological Society; and was awarded an Honorary Life Membership, North Dakota Society of Obstetrics and Gynecology.

Jacob A. Barga served as delegate from the Minnesota State Medical Association, American Medical Association; member, Editorial Board, *Gastroenterology*, and chairman, Memorial Lectureship Committee, American Gastroenterological Association; member, Public Policy Committee, and member, Council, Minnesota State Medical Association; member, Minnesota State Board of Medical Examiners; and member, Advisory Board, Sears-Roebuck Foundation. He was awarded a Bronze Plaque for the outstanding lecture, Hollywood Academy of Medicine, 1955.

Nelson W. Barker served as member, Board of Directors, American Society for the Study of Arteriosclerosis; and as delegate, Minnesota State Medical Association.

Warren A. Bennett was counselor, Minnesota Society of Clinical Pathologists.

Joseph R. Berkson served as member, Committee on Statistical Research, American Cancer Society; member, Council, Institute of Mathematical Statistics; member, Committee on Epidemiology, National Research Council; and consultant, School of Aviation Medicine, Medical Department, U. S. Army Air Force. He was awarded the Legion of Merit, U. S. Army; and was named fellow in the following organizations: American Association for the Advancement of Science, Institute of Mathematical Statistics, American Statistical Association, American Public Health Association, and Royal Statistical Society of London.

William H. Bickel was regional chairman, Committee on Trauma, member, National Committee on Trauma, and member, Advisory Council on Orthopedic Surgery, American College of Surgeons; sectional chairman, Membership Committee, American Academy of Orthopaedic Surgeons; and chairman, Membership Committee, Clinical Orthopaedic Society.

Reginald G. Bickford served as American delegate to the International Federation of Electroencephalography; and was president, American Electroencephalography Society.

B. Marden Black was member, Executive Committee, and Motion Picture Committee, American College of Surgeons.

Jesse L. Bollman served as member, Editorial Board, *Gastroenterology*; member, Policy Committee, State Department of Public Welfare—Medical; and was recipient of research grants, Physiology Study Section, National Institutes of Health.

David A. Boyd, Jr., served as ex-officio member, Graduate Residency Review Committee for Psychiatry and Neurology; a collaborative committee of the American Medical Association and the American Board of Psychiatry and Neurology, Inc.; director, and secretary-treasurer, American Board of Psychiatry and Neurology, Inc.; and member, Special Medical Advisory Group to the Administrator of Veterans Affairs.

Ezra V. Bridge served as member, Committee on Non-surgical Therapy, American College of Chest Physicians; member, Committee on Tuberculosis, Minnesota State Medical Association; member, Executive Committee and Nominating Committee, Minnesota Trudeau Society; and trustee, representing Minnesota Upper Mid-West Hospital Conference.

Alex E. Brown was a member, Board of Editors, *Minnesota Medicine*.

Joe R. Brown served as member, Committee on Research, and member, Committee on Special Study Courses, American Academy of Neurology; member, Committee on Public Relations, American Neurological Association; member, Advisory Board, National Multiple Sclerosis Society; area consultant in neurology, Veterans Administration; and member, Committee on Nervous and Mental Disease, Minnesota State Medical Society.

Louis A. Brunsting was a member, Editorial Board, *Archives of Dermatology*, and representative, Residency Review Committee for Dermatology and

Syphilology, American Medical Association; member, Committee on Education, American Academy of Dermatology and Syphilology; director of Symposium, Internal Medicine in Relation to Dermatology, Committee on Foreign Forum; member, Program Committee, Society of Investigative Dermatology; president, Chicago Dermatological Society, 1956; member, Nominating Committee and member, Committee on Syphilis and Social Diseases, American Dermatological Association; honorary member, Austrian Dermatological Association, and Yugoslav Society of Dermatology and Venearology; corresponding member, Swedish Dermatological Society, Dutch Dermatological Society, and French Society of Dermatology and Syphilology; and was Sommer Memorial Lecturer, University of Oregon Medical School, 1956.

Howard B. Burchell was elected to membership, American Board of Preventive Medicine (Aviation Medicine), 1954; served as chairman, Research Committee, and delegate of Scientific Council to Assembly, American Heart Association; and was member, Advisory Committee to Chief of Staff, U. S. Air Force.

Edmund C. Burke was awarded a gold medal for the "best paper," "Migraine in Childhood," presented at Southern Minnesota Medical Association meeting, September, 1955.

Hugh R. Butt served as member, Executive Committee, Section on Experimental Medicine and Therapeutics, and member (representing American Board of Internal Medicine), Residency Review Committee, American Medical Association; chairman, Admissions Committee, American Gastroenterological Association; and member, Editorial Board, *Archives of Internal Medicine*.

James C. Cain was certified in the subspecialty of Gastroenterology, American Board of Internal Medicine and Gastroenterology, 1954.

David T. Carr served as member, Council, American Trudeau Society; member, Television Committee and Local Entertainment Committee for 1956 Annual Meeting, Minnesota State Medical Association; and was named honorary member, Sociedad Peruana de Tisiologia, Lima, Peru.

Hadden M. Carryer served for the Minnesota State Medical Association as member of the following: Membership Sub-committee, Committee on Medical Economics; Executive Sub-committee, Committee on Public Health Education; chairman, Speakers' Bureau Sub-committee, Committee on Public Health Education; State-Wide Congressional Committee, First District; and Special Committee on Constitution and By-Laws.

Donald S. Childs, Jr., was awarded a special certification in nuclear medicine, American Board of Radiology, 1955; was member, Commission on Education, American College of Radiology; and member, Program Committee, Radiological Society of North America.

Norman A. Christenson was awarded an Associate Fellowship in the American College of Physiology; served as chairman, Banquet Committee, 1956 meeting, Minnesota State Medical Association; member, Rochester Board of Public Health and Welfare; and member, Committee on Tuberculosis, Olmsted-Houston-Fillmore-Dodge County Medical Society.

O. Theron Clagett served as member, Advisory Membership Committee, American Surgical Association; chairman, Memberships Committee, American Association for Thoracic Surgery; member, Credentials Committee, and member, Examination Committee, Board of Thoracic Surgeons; area consultant in Thoracic Surgery, Veterans Administration; member, Cancer Committee, and member, Judiciary Committee for the State of Minnesota, American College of Surgeons; honorary member, Royal Australian College of Surgeons; and honorary member, Mexican National Academy of Surgeons.

Edward C. Clark was sub-examiner, American Board of Psychiatry and Neurology, 1955.

Charles F. Code was a member, Editorial Board, *Physiological Reviews*; and Editorial adviser, *Gastroenterology* and *Annals of Allergy*.

Mandred W. Comfort served as second vice president, American Gastroenterological Association, 1955; special consultant, National Cancer Institute; and member, Gastrointestinal Cancer Committee, National Research Council.

Kendall B. Corbin served as representative of American Medical Association on Residency Review Committee for Psychiatry and Neurology; associate

examiner, American Board of Psychiatry and Neurology; and member, *ad hoc* Committee on Basic Sciences, National Multiple Sclerosis Society.

Virgil S. Counseller was member, Cancer Committee, American Association of Obstetrics and Gynecology.

Mark B. Coventry served as member, and chairman, 1956, Program Committee, American Academy of Orthopedic Surgeons; chairman, Publicity Committee, Orthopaedic Research Society; member, Committee on Medical Testimony, and member, Medical Advisory Committee (sub-committee to Committee on Medical Economics), Minnesota State Medical Association.

Winchell McK. Craig served as member, Specialty Advisory Board, *Post-graduate Medicine*; chairman, Editorial Board, *Journal of Neurosurgery*; member, Committee on Naval Medical Research, National Research Council; chairman, Reserve Consultants Board, Bureau of Medicine and Surgery, Department of the Navy; neurosurgical consultant, Area 8, Veterans Administration; and was awarded life membership and medal by the Association of Military Surgeons as retiring president. He is member, Board of Trustees, Ohio Wesleyan University.

Guy W. Daugherty served as member, Board of Directors, Minnesota Heart Association.

Claude F. Dixen served as civilian consultant, Armed Forces Institute of Pathology; co-chairman and member, Tumor Seminar Committee, Minnesota Society of Clinical Pathologists; and is honorary member, Nova Scotia Medical Society.

Henry W. Dodge was elected to the American Board of Neurological Surgery, 1955.

Bruce E. Douglass served as chairman, Tuberculosis Committee, Olmsted-Houston-Fillmore-Dodge County Medical Society; member, Legislative Committee, Minnesota Trudeau Society; and chairman, Committee on Local Arrangements, 1956 Reunion, Mayo Foundation Alumni.

Thomas J. Dry was member, Program Committee, and member, Nominating Committee, American Heart Association.

James W. Dushane served as chairman, Committee on Rheumatic Fever and Cardiac Disease, American Academy of Pediatrics.

L. McKendree Eaton was counselor, Central Neuropsychiatric Association; and member, Medical Advisory Board, Myasthenia Gravis Foundation, Inc.

Gesse E. Edwards served as president, International Academy of Pathology, 1955-56; chairman, Advisory Committee to Registry of Cardiovascular Pathology, American Heart Association; member, Editorial Board, *Journal of Laboratory Investigation*; and civilian consultant to the Surgeon General, U. S. Army.

Earl C. Elkins served as chairman, Residency Review Committee in Physical Medicine and Rehabilitation, American Medical Association; secretary-treasurer, and member, Credentials Committee, American Board of Physical Medicine and Rehabilitation; chairman, American Registry of Physical Therapists; chairman, Editorial Board, *Archives of Physical Medicine and Rehabilitation*; member, Committee on Constitution and By-laws, and member, Nominating Committee, American Congress of Physical Medicine and Rehabilitation; chairman, Committee on By-laws, American Academy of Physical Medicine and Rehabilitation; consultant, Office of the Surgeon General, Department of the Army; member, Medical and Scientific Committee, Minnesota Arthritis and Rheumatism Foundation; and member, State Advisory Council on Hospital Construction. He was recipient of Gold Key Award, American Congress of Physical Medicine and Rehabilitation.

Donald J. Erickson served as fifth vice president, and member, Gold Key Award Committee, American Congress of Physical Medicine and Rehabilitation; area consultant, Physical Medicine and Rehabilitation, Veterans Administration; and member, Publicity Committee, Minnesota Rehabilitation Association.

Hiram E. Essex served as member, Board of Publication Trustees, American Physiological Society; chairman, Committee on Care and Use of Animals, American Physiological Society; chairman, Travel Awards Committee, and chairman, Committee on Loyalty Matters, Federation of American Societies

for Experimental Biology; and member, Legislative Committee, Minnesota Academy of Science.

John E. Faber was member, Maternal Mortality Committee, and member, State Maternal Welfare Committee, Minnesota State Medical Association.

Albert Faulconer, Jr., served as director, American Board of Anesthesiology, 1955-56; member, Board of Directors, American Society of Anesthesiologists; and member, Sub-committee on Anesthesia, National Research Council.

William H. Feldman was member, Medical Advisory Board, Leonard Wood Memorial (American Leprosy Foundation), 1954-56; member, Medical Advisory Board, Colorado Tuberculosis Foundation, 1954-56; member, Council, American Association of Pathology and Bacteriology, 1954-56; official representative on the Council, American Association for the Advancement of Science; member, Scientific Advisory Board, Armed Forces Institute of Pathology; consultant in tuberculosis, Department of Medicine and Surgery, Veterans Administration; and member, Executive Committee, Minnesota Trudeau Society. He was awarded the Trudeau Medal for 1955 by the American Trudeau Society and the National Tuberculosis Association.

Deward O. Ferris was member, Committee on Applicants for District Number 2 of Minnesota, American College of Surgeons; and director, Minnesota Surgical Society.

Frederick A. Figi served as chairman, Committee on Training Facilities and Post-graduate Education, chairman, Residency Review Committee, and vice chairman, 1956, American Board of Plastic Surgery; chairman, Tripartite Residency Review Committee, American Board of Plastic Surgery, American Medical Association, and American College of Surgeons; member, Editorial Board, *Journal of Plastic and Reconstructive Surgery*; president, chairman, Executive Committee, and chairman, Board of Trustees, American Society of Plastic and Reconstructive Surgery. He was awarded the honorary Doctor of Science degree at the University of Nebraska; and delivered the Jonte Equen Memorial Lecture under the auspices of the Fulton County Medical Society. The President of Cuba made Dr. Figi an officer of the "Orden Nacional De Merito Carlos J. Finlay."

Eunice V. Flock was a member, Women's Service Committee, American Clinical Society.

Ward S. Fowler served as member, Editorial Committee, American Society for Clinical Investigation; and member, Program Advisory Committee, American Physiological Society.

Robert E. Fricke served as secretary, 1954-55, and secretary, Executive Committee, 1954-55, American Radium Society.

Ralph K. Ghormley was member, Joint Committee on Residency Evaluation, Council on Medical Education and Hospitals, American Medical Association.

Ray W. Gifford, Jr., was elected to membership in the American Board of Internal Medicine, 1954; and was member, Advisory Board, Section on Circulation, American Heart Association.

Clarence A. Good served as chairman, Scientific Exhibits Committee, and member, Executive Council, American Roentgen Ray Society; and chairman, Committee on Hospital and Professional Relations, Minnesota State Medical Association.

John H. Grindlay was representative to a joint commission for study of surgical materials, American Medical Association; and chairman, Committee on the Use of Synthetic Materials in Surgery, American College of Surgeons.

Harold C. Habein was president, 1954-55, and chairman, Executive Committee, 1956, Minnesota Society of Internal Medicine.

Malcolm M. Hargraves served as commissioner, Minnesota Water Pollution Control Commission, State of Minnesota.

Lloyd E. Harris was member, Committee on Immunizations, Minnesota State Medical Association.

LeRoy D. Hedgecock served as member, Committee on Clinical Standards in Hearing, and member, Examining Board in Hearing, American Speech and Hearing Association; and consultant, Committee on Conservation of Hearing, Minnesota State Medical Association.

Fordyce R. Heilman was member, Editorial Board, *Journal of Antibiotics and Chemotherapy*, and member, Editorial Board, *Journal of Antibiotic Medicine*.

Philip S. Hench was named regent, American College of Physicians; member, Medical and Scientific Committee, and member, Advisory Council (Minnesota Chapter), Arthritis and Rheumatism Foundation; chairman, American Committee on the International League, American Rheumatism Association; member, Expert Advisory Panel on Chronic Degenerative Diseases, World Health Organization; member, Advisory Committee, National Research Council; civilian consultant to the Surgeon General, U. S. Army; honorary member, Associaçao Portuguesa de Reumatologia; and corresponding member, Sociedad Cubana de Salubridad Publica. He received a Special Citation, Sigma Alpha Epsilon Fraternity, Lafayette College.

John Henderson was contributing editor, *Survey of Ophthalmology*.

Julia F. Herrick served as editor, *Transactions on Medical Electronics*, chairman, Professional Group on Ultrasonics Engineering, member, Administrative Committee, Professional Group on Medical Electronics, and member, Technical Program Committee, Medical Electronics Institute, 1956 national convention, Institute of Radio Engineers; member, Joint Executive Committee on Medicine and Biology, which represents the American Institute of Electrical Engineers, the Institute of Radio Engineers, and the Instrument Society of America; and chairman, Physical Science Section, Minnesota Academy of Science.

Richard M. Hewitt was chairman, Educational Committee, 1954-55, and president, 1955, American Medical Writers' Association; member, Editorial Board, Audio-Digest Foundation; member, Phi Beta Kappa Associates; member, National Advisory Council, Conference on Scientific Editorial Problems (sponsored by American Association for the Advancement of Science); and chairman, Subcommittee on Form and Style, Publications Committee, American Institute of Biological Sciences.

John R. Hill served as editor for papers to be presented at this year's meeting, American Proctologic Society.

Edgar A. Hines was named vice chairman, 1955-56, and chairman, 1956, Section on Circulation, American Heart Association; and was member, Editorial Board, *Circulation*.

Corrin H. Hodgson served as member, Tuberculosis Committee, member, Executive Committee of the Committee on Medical Economics, and chairman, Insurance Liaison Committee, Minnesota State Medical Association; and member, Medical Advisory Committee, Division of Vocational Rehabilitation, State Board for Vocational Education.

John R. Hodgson served as member, Refresher Course Committee, 1956, and member, Publicity and Education Committee, 1955, Radiological Society of North America.

Robert W. Hollenhorst was named assistant editor, *Archives of Ophthalmology*; and first vice president, Minnesota Academy of Ophthalmology and Otolaryngology.

William H. Hollinshead served as consultant to the Editorial Board, *Archives of Physical Medicine and Rehabilitation*.

Arthur B. Hunt was president-elect, Central Association of Obstetricians and Gynecologists; member, Program Committee representing specialties, House of Delegates, Minnesota State Medical Association; and director, Childrens Home Society, St. Paul, Minnesota.

John C. Ivins served as Commander, 71st General Hospital, Rochester, Minnesota; and member, Fracture Committee, Minnesota State Medical Association.

Raymond J. Jackman served as chairman, Advisory Committee, Olmsted-Houston-Fillmore-Dodge County Medical Society; member, Executive Committee, and program chairman, American Proctologic Society; and member, House of Delegates, Minnesota State Medical Association.

Einer W. Johnson, Jr., served as chairman, Art and Hobby Show, 1956 Meeting, Minnesota State Medical Association.

Victor Johnson was member, Board of Directors, American Medical Education Foundation; member, Committee on Extension and Policy, Alpha

Omega Alpha; member, Board of Directors, U. S. Committee of World Medical Association; and member, Board of Directors, National Society for Medical Research. He was awarded the honorary degree, Doctor of Science, Rockford College, Rockford, Illinois.

Edward S. Judd is honorary member, Minnesota Surgical Society; and honorary member, Kansas City Surgical Society.

Alfred G. Karlson served as secretary-treasurer, Conference of Research Workers in Animal Diseases; editor, Section on Veterinary Science, *Biological Abstracts*; member, Research Council, American Veterinary Medical Association; member, Advisory Committee, Louis W. and Maud Hill Family Foundation project for the study of reproduction in dairy cattle; and consultant, Radiobiological Laboratory, University of Texas and the U. S. Air Force.

F. Raymond Keating was a member, Editorial Committee, American Society of Clinical Investigation.

Haddon M. Keith was official examiner, American Board of Pediatrics.

Roger L. J. Kennedy was member, Editorial Board, *American Journal of Diseases of Children*; and chairman, Committee on Malignant Diseases in Children, American Academy of Pediatrics.

James W. Kernohan served as member, Board of Governors, College of American Pathologists; member, Committee for the U. S., Second International Congress of Neuropathology; chairman, Scientific Advisory Board of Consultants, and civilian consultant, Armed Forces Institute of Pathology; member, Editorial Board, *American Journal of Clinical Pathology*; and member, Editorial Board, *Journal of Neuropathology and Experimental Neurology*.

Robert R. Kierland served as member, Advisory Committee to the Council on Pharmacy and Chemistry of the American Medical Association, Academy of Dermatology and Syphilology; delegate from Section of Dermatology and Syphilology, and secretary-treasurer, Association Section and Service Delegates, American Medical Association; member, Editorial Board, *Journal for Investigative Dermatology*; assistant secretary-treasurer, and member, Board of Directors, American Academy of Dermatology and Syphilology; special consultant, U. S. Public Health Service; honorary member, Association of Military Dermatology; and corresponding member, Brazilian Dermatologic Association.

Giles A. Koelsche served as member, Scientific and Educational Council, American Foundation for Allergic Diseases; chairman, Committee on Certification, and member, Board of Regents, American College of Allergists.

Frank H. Krusen served as chairman, Council on Medical Physics, delegate from the Section of Physical Medicine, and member, Committee on Scientific Councils, American Medical Association; president, International Federation of Physical Medicine; treasurer, American Congress of Physical Medicine and Rehabilitation; counselor, National Society for Crippled Children and Adults; chief consultant on Physical Medicine to the Surgeon General of the Army; president, Minnesota State Board of Health; chairman, Governor's (Minnesota) Committee on Vocational Rehabilitation; member, Executive Committee, Minnesota Society for Crippled Children and Adults; member, Medical Advisory Committee, Minnesota State Division of Vocational Rehabilitation; member, Board, Minnesota Rehabilitation Association; honorary member of the following: Section of Physical Medicine, Royal Society of Medicine of England, Danish Society of Physical Medicine, British Association of Physical Medicine, Liga Argentina contra el reumatismo; and corresponding member, Sociedad Argentina de Medicina Fisica. He was recipient of the Pennsylvania Ambassador Award for development of Physical Medicine and Rehabilitation, 1954 and recipient of the *Modern Medicine* Distinguished Achievement Award, 1956.

Edward H. Lambert served as vice president and chairman, Committee on Instrumentation and Technique, American Association of Electro-myography and Electrodiagnosis.

Paul R. Lipscomb served as chairman, Scientific Committee, American Academy of Orthopaedic Surgeons; and member, Membership Committee, Orthopedic Research Society.

George B. Logan served as member, Board of Pediatric Allergy, 1955-56, and chairman, Committee on School Health, 1954-56, American Academy of

Pediatrics; chairman, Committee on Child Health, Minnesota State Medical Association; chairman, Committee on Health, 1956, and member, Governor's Advisory Council on Children and Youth; secretary-treasurer, Alumni Association, the Mayo Foundation; and member, Liaison Committee, Olmsted-Houston-Fillmore-Dodge County Medical Society, and Board of Public Health and Welfare.

Stanley A. Lovstedt was member, Grants and Aids Committee, Minnesota State Dental Foundation.

John S. Lundy served as chairman, Section on Anesthesiology, American Medical Association; completed 17 years as director, American Board of Anesthesiology, 1956; acting secretary, Academy of Anesthesiology; adviser in Anesthesiology, Shriners Hospitals for Crippled Children; member, Advisory Committee, Olmsted Community Hospital; commissioner, Board, Mineral Springs Sanatorium, Cannon Falls, Minnesota; consultant to the Surgeon General, Fifth 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; editor, Section on Pain, *Journal-Lancet*; honorary fellow, International College of Surgeons; corresponding fellow, Association of Anesthetists of Great Britain and Ireland; and member, Cuban National Society of Anesthesiology, Societe Francaise d' Anesthesie et d' Analgesia, and corresponding member, Sociedad de Estnidios de la Habana.

Colin S. MacCarty was elected vice regent, Minnesota, International College of Surgeons; vice president, 1955, and chairman, Membership Committee, 1955, Neuro Surgery Society of America.

Thomas B. Magath was the American representative, International Association for the Study of Hytadid Disease; member, Cancer Committee, Minnesota State Medical Association; and was awarded the Gold Medal and Certificate of Special Merit, American Society of Clinical Pathologists.

Gordon M. Martin was elected president, American Congress of Physical Medicine and Rehabilitation.

Harold L. Mason served as assistant editor, *Chemical Abstracts*; and member, Editorial Board, *Journal of Clinical Endocrinology and Metabolism*.

Don R. Mathieson served as contributing editor, *Quarterly Review of Allergy and Applied Immunology*; contributing editor, *American Society of Clinical Pathologists*; chairman, Committee Laboratory Reports, American Society of Clinical Pathologists; and member, Program Committee for Annual Meetings, American Association of Blood Banks.

Charles W. Mayo served as member, Advisory Medical Board in America, American Hospital of Paris; honorary patron, Aligarh Hospital Trust, Aligarh City, India; member, U. S. Committee, International Society for Welfare of Cripples; overseas representative in Minnesota, The Postgraduate Committee in Medicine, University of Sydney (Australia); trustee, University of Pennsylvania; honorary civilian consultant to Surgeon General of the U. S. Navy, 1955; chief delegate to World Health Assembly, Mexico City, May, 1955; alternate U. S. representative, Executive Board, and one of the vice presidents, Policy Committee, World Health Organization; assistant chief medical adviser, Rehabilitation Medical Advisory Board, American Legion; member, Advisory Committee (for meeting in Rochester, 1956), Minnesota State Medical Association; honorary chairman, Mental Health Week, 1956; member, Board of Directors, Minnesota Tuberculosis and Health Association; medical adviser, Northwest Airlines; member, Board of Regents, University of Minnesota; member, Board of Trustees, Carleton College; member, Aviation Committee, Chamber of Commerce, Rochester; member, Board of Trustees, Judd-Plummer Memorial Fund, Alumni Association of Mayo Foundation; honorary fellow, American College of Hospital Administrators; president, Interstate Postgraduate Medical Association, 1955; president, 1954-56, and member, Board of Directors and Executive Committee, American Association for United Nations; editor-in-chief, *Postgraduate Medicine*; member, Committee on Publications, *Surgery*; member, Editorial Board, *The American Surgeon*; member, Policy Committee, National Citizen's Committee for World Health Organization; chairman, Board of Judges, C. C. Criss Award; and member, Editorial Board, *The Elsevier Press*. He received the First Annual Award, Pittsburgh Surgical

Society, May, 1955; the American Pharmaceutical Manufacturers' Association Award, December, 1955; and the Medal from Masonic Grand Lodge of Chile (for work for humanity), November, 1955. He delivered the Jerome Cochran Lecture, Montgomery, Alabama, April 22, 1955.

John R. McDonald served as consultant in cytology, College of American Pathologists; councilor, American Association of Clinical Pathologists; member, Executive Committee, Inter-Society Cytology Council; president, Minnesota Society of Clinical Pathologists; and member, Research Committee, Minnesota Division, American Cancer Society. He was recipient of the American Cancer Society Medal for Minnesota, 1956.

Wallace A. Merritt was member, Editorial Committee, Sub-committee to Committee on Medical Economics, Minnesota State Medical Association; member, Foundation Committee, and First District chairman, American Medical Education.

Roland D. Miller was elected member, American Board of Pulmonary Diseases, 1955; he was member, Committee on Physiologic Therapy, American College of Chest Physicians; and member, Editorial Board, *Minnesota Medicine*, 1956.

Clark H. Millikan was named chairman National Committee for Cooperative Clinical Study of Cerebrovascular Disease, National Institute of Neurological Diseases and Blindness.

Herman J. Moersch served as president, and member, Board of Regents, American College of Chest Physicians; member, Council on Endoscopy, American Gastroenterological Association; member, council, International Bronchoesophagological Society; associate editor, *Gastroenterology*; member, Executive Committee, and chairman, Medical Contact Committee, Minnesota Tuberculosis and Health Association.

Hamilton Montgomery was named chairman, Committee on Pathology, American Academy of Dermatology and Syphilology.

Donald M. Mulder was member, Committee on Nomenclature and Terminology, American Academy of Neurology.

Kenneth N. Ogle served for the American Medical Association as chairman, Subcommittee on screening test for color vision, chairman, Subcommittee on terminology in optics and visual physiology, chairman, Subcommittee on visual acuity testing, member, Committee on Optics and Visual Physiology, and member, Advisory Committee on Ophthalmic Devices of the Council on Physical Medicine and Rehabilitation; member, Advisory Committee on Optical Aids for Sub-normal Vision, American Foundation for the Blind, Inc.; member, Research Executive Committee, National Society for Prevention of Blindness; member, U. S. National Committee, International Committee on Optics; instructor, American Academy of Ophthalmology and Otolaryngology; member, Committee on Standardization of Tests for Stereoscopic Vision, Pan-American Association of Ophthalmology; and associate editor, *Journal of the Optical Society of America*.

Arthur M. Olson served as chairman, Committee on Bronchoesophagology, member, Board of Regents, Council on Research, and Membership Committee, American College of Chest Physicians; member, Council, International Bronchoesophagological Society; and member, Executive Committee, Minnesota Trudeau Society. He was awarded the Billings Gold Medal for an exhibit at the American Medical Association meeting, June, 1955.

Charles A. Owen, Jr., was editor, *American Journal of Clinical Pathology*; and member, Ethics Committee, Minnesota Society of Clinical Pathologists.

Harry L. Parker served as overseas member, British Association of Neurologists; fellow, Royal College of Physicians in Ireland; senior member, American Neurology Association; and corresponding member, Central Neuro-psychiatric Association.

Robert L. Parker was named vice president, and member, Executive Committee, Minnesota Heart Association.

Edith M. Parkhill was recipient of the Award of Merit, American Academy of Ophthalmology and Otolaryngology, 1955.

Robert T. Patrick was elected member, American Board of Anesthesiology, 1954; and secretary-treasurer, Minnesota Society of Anesthesiologists.

Howard F. Polley was member, Executive Committee, American Rheumatism Association.

Marachelle H. Power served as president, American Board of Clinical Chemistry, 1955; and member, Board of Editors, *Clinical Chemistry*.

Joseph H. Pratt was named honorary member, Oregon Society of Obstetricians and Gynecologists, 1956; honorary member, Arkansas Obstetrical and Gynecological Society, 1955; and served as member, Committee on Applicants, American College of Surgeons.

James T. Priestley served as member, Board of Regents, American College of Surgeons; and was associate editor, *Surgery, Gynecology and Obstetrics*.

Raymond D. Pruitt was member and secretary, Sub-specialty Board in Cardiovascular Disease, American Board of Internal Medicine; associate editor of the section, "Clinical Conferences," *Circulation*; and member, Board of Trustees, Minnesota Medical Foundation, 1955. He was awarded the honorary degree, Doctor of Science, June 4, 1956, Baker University, Baldwin, Kansas.

Donald E. Ralston was elected member, American Board of Internal Medicine, 1956.

Lawrence M. Randall served as director, and assistant secretary, American Board of Obstetrics and Gynecology; member, Editorial Board, *American Journal of Obstetrics and Gynecology*; president, American Association of Obstetricians and Gynecologists; and member, Committee on Maternal Welfare, Minnesota State Medical Association.

Raymond V. Randall was elected to the American Board of Internal Medicine, 1954.

Howard P. Rome served as member, Council, National Institute of Mental Health; consultant, Advisory Board, Psychiatry and Neurology, Veterans Administration; consultant, Surgeon General, Department of the Army; member, Advisory Board, Olmsted Board of Health; member, Board of Directors, Citizens' Mental Health Association; and chairman, Mental Health Medical Policy Committee, Department of Public Welfare, State of Minnesota.

Grace M. Roth was secretary, Section on Circulation, and member, National Committee on Volunteer Activities, American Heart Association; and member, Membership committee, Minnesota Heart Association.

Robert Q. Royer was alternate, House of Delegates, American Dental Association; member, Special Committee on Anesthesia, American Society of Oral Surgeons; and member, Program Committee, Minnesota State Dental Association.

C. Wilbur Rucker delivered the Gifford Memorial Lecture in Chicago, February 10, 1956.

Edward H. Rynearson was member, Committee on Diabetes, Minnesota State Medical Association.

William G. Sauer was certified as subspecialist in Gastroenterology, American Board of Internal Medicine, April, 1955; and was elected active member, American Gastroenterological Association, June, 1955.

George P. Sayre was named fellow, College of American Pathologists, 1955. Charles H. Scheifley was program chairman, Minnesota Society for the Study of Diseases of the Heart and Circulatory System.

Carl F. Schlotthauer was member, Executive Board, Animal Care Panel. Herbert W. Schmidt served as member, Editorial Committee, Committee on Public Health Education; and member, Sanatorium Consultation Committee, Minnesota State Medical Association; and was president-elect, Minnesota Trudeau Society. He received the Billings Gold Medal for an exhibit presented at the June, 1955, meeting, American Medical Association.

Harold H. Scudamore was elected to the American Board of Internal Medicine, 1955.

Thomas H. Seldon served as member, Board of Trustees, International Anesthesia Research Society; editor, *Current Researches in Anesthesia and Analgesia*; and chairman, Committee on Anesthesiology, Minnesota State Medical Association.

Kensley M. Simonton was a member, Residency Review Committee for Otolaryngology, American Medical Association; member, Committee on Conservation of Hearing, American Academy of Otolaryngology and Ophthalmology; chairman, Committee on Conservation of Hearing, Minnesota State

Medical Association; and member, Medical Advisory Committee to Division of Vocational Rehabilitation, Department of Education, State of Minnesota.

Charles H. Slocumb was past-president, American Rheumatism Association, member, Executive Committee, and Chairman, Nominating Committee, American Rheumatism Association.

Randall G. Sprague served for the American Diabetes Association as member of the following: Council, Editorial Board of *Diabetes*, Committee on Scientific Program, Committee on Constitution, Committee on Professional Education, and Committee on Policies; he was advisory editor, *Journal of Clinical Endocrinology and Metabolism*; member of Board, and editor, *Journal of Laboratory and Clinical Medicine*; president, Central Society for Clinical Research; and president, Central Interurban Clinical Club.

Edward C. Stafne served as member, Committee on Specialty Certification, and member, Committee on Fellowships, American Academy of Oral Roentgenology; and member, Committee on Dental Hospital Service, Minnesota State Dental Association.

James M. Stickney was councilor, first District, Minnesota State Medical Association.

George K. Stillwell was chairman, Special Committee on Sections, and member, Program Committee, National Rehabilitation Association meeting; and member, Membership Committee, Minnesota Rehabilitation Association.

Charles F. Stroebel was chairman, Olmsted-Houston-Fillmore-Dodge County Medical Society; member, Committee for American Medical Education Foundation; and first vice president, Southern Minnesota Medical Association.

Hendrik J. Svien served as member, Medical Economics Committee, and chairman, Liaison Committee, Neurosurgical Society of America; member, Steering Committee, Congress of Neurological Surgeons; delegate of Harvey Cushing Society to International Congress of Neurosurgery; and treasurer, Harvey Cushing Society.

Gersham J. Thompson served as regent for Minnesota, International College of Surgeons, 1954-56.

Jan H. Tillisch served as member, Joint Residency Review Committee, Council on Medical Education and Hospital, American Medical Association, 1956; member, Medical Committee, International Air Transport Association, 1956; member, Executive Board, American Board of Preventive Medicine, 1956; member, Executive Council, chairman, Committee on Aviation Medical Training and Education, and president, 1956, Aero Medical Association; and consultant to the Surgeon General, U. S. Air Force, 1956.

Alfred Uihlein was member, Graduate Training Committee, American College of Surgeons; and member, Board of Trustees, Shattuck School, Fari-bault, Minnesota.

Martin Van Herik was member, Publication Committee, American Radium Society.

Khalil G. Wakim served as chairman, Steering Committee of the Circulation Section, American Physiological Society; member, Editorial Board, *American Journal of Physical Medicine*, and was re-elected, civilian consultant on Basic Medical Education to the Armed Forces, Walter Reed Army Medical Center and to the Office of the Surgeon General. He was awarded a Bronze Medal for scientific exhibit by the American Congress of Physical Medicine and Rehabilitation.

Waltman Walters served as chief editor, *Archives of Surgery*; and chairman, Section of Surgery General and Abdominal, American Medical Association; honorary member: Los Angeles Surgical Society, Seattle Surgical Society, Spokane Surgical Society and St. Paul Surgical Society; member, Advisory Panel on Medical Sciences, Research, and Development, U. S. Department of Defense, 1954; chief editor, Lewis Walters, *Practice of Surgery*; and chief editor, *Archives of Surgery*. He was Moynihan lecturer at the University of Leeds, England; was awarded a Gold Medal by the Mississippi Valley Medical Society, 1954, and the Certificate of Merit for exhibit "Cushing's Syndrome," American Medical Association, 1955.

Louis E. Ward served for the American Rheumatism Association as member of the following: Membership Committee, Committee on Public Relations, and Committee on Evaluation of New Therapeutic Agents.

Charles H. Watkins served as president, Central Hematology Club; member, Editorial Review Board, *Cancer Yearbook*; member, Medical Advisory Board, National Blood Research Foundation, Inc.; and member, Medical Advisory Board, National Leukemia Foundation.

John M. Waugh was representative member, Surgical Section, American Medical Association on the American Board of Surgery; member, Editorial Board, *Cancer*; member, Editorial Board, *Surgical Abstracts*; governor, American College of Surgeons, representing American Surgical Association; and chairman, Nominating Committee, Board of Governors, American College of Surgeons.

Harry M. Weber served as president, 1954, and director, Section on Instruction, American Roentgen Ray Society; and member, House of Delegates, Minnesota State Medical Association.

Lyle A. Weed was advisory editor, *American Journal of Clinical Pathology*. James F. Weir was elected second vice president, Alumni Association, Mayo Foundation.

Henry L. Williams served as second vice president, member, Committee on Conservation of Hearing, chairman, Committee on Publications, and associate editor (ENT), *Transactions*, American Academy of Ophthalmology and Otolaryngology; editor-librarian, *Transactions*, American Otolological Society, Inc.; and editor (ENT), *Annals of Allergy*, American College of Allergists.

Marvin M. D. Williams served as member, Physics Credentials Committee, member Examining Board, and unofficial member, Committee on Certification in Nuclear Medicine, American Board of Radiology; member, Sub-committee 6, Handling of Radioactive Isotopes and Fission Products, National Committee on Radiation Protection; member, Committee on Education of Physicists, American College of Radiology; and research associate and member, Council of Participating Institutions, Argonne National Laboratories.

Robert B. Wilson was member, Awards Committee, American Society for the Study of Sterility.

Viktor O. Wilson was member, Advisory Committee on the Hospital Survey and Construction Program, and member, State Poliomyelitis Planning Committee, Minnesota Department of Health.

Eric E. Wollaeger served as member, Committee on Hospitals and Medical Education, Minnesota State Medical Association, 1954-56; and member, Sub-specialty Board of Gastroenterology, American Board of Internal Medicine, 1955-56.

Henry W. Woltman was member, Council, American Neurological Association; area consultant, Veterans Administration; member, National Advisory Committee, Multiple Sclerosis Society; and member, Council, Institute of Neurological Disease and Blindness.

Earl H. Wood served as member, Editorial Board, *American Journal of Physiology*, member, Editorial Board, *Journal of Applied Physiology*; and member, Board of Directors, Walter Reed Society.

Lewis B. Woolner was member, Seminar Committee, Minnesota Society of Clinical Pathologists.

Henry H. Young was acting secretary, Section Orthopaedic Surgery, American Medical Association meeting, June, 1956; member, Program Committee, American Academy of Orthopaedic Surgeons; secretary, Joint Committee on Education and Training, American Academy of Orthopaedic Surgeons and American Orthopaedic Association; and member, Membership Committee, American Orthopaedic Association.

School of Business Administration—Francis M. Boddy served as member, Governor's Tax Study Committee, 1955-56; member, Universities-National Bureau Committee, National Bureau of Economic Research, 1954-56; head, Line Department, Naval Officers' School, U. S. Naval Air Station, 1955-56; and was elected state president, Minnesota Department, Reserve Officers' Association, 1956.

Oswald H. Brownlee served as program chairman, 1955 annual meeting, Econometric Society; and as special witness to the Royal Commission on Metropolitan Development of Calgary and Edmonton, Alberta, Canada, 1955.

John A. Buttrick served as staff economist, Institute in Economic Development, Foreign Operations Administration, at Vanderbilt University, 1955.

John S. Chipman served as associate editor, *Econometrica*, 1956; and was recipient of Ford Foundation Faculty Fellowship for individual research, 1956.

Ernestine C. Donaldson served as member, National Qualifications Committee, Institute for Certifying Secretaries, 1954-56; member, Program Committee, Seminar and Area Conference, National Office Management Association, 1955-56; and was regional administrator for Certified Professional Secretary examinations, 1954-56.

Richard K. Gaumnitz served as consultant, Committee for Economic Development, 1954-56; and was invited to serve as delegate to Conference on Dissemination of Management Principles and Techniques sponsored by the European Productivity Agency in Deauville, France, 1956.

Walter W. Heller served as consultant (fiscal economist) to the United Nations, 1954-56; consulting economist, International Program in Taxation, Harvard Law School, 1954-56; staff consultant, 1954-55, and technical adviser, Sub-committee on Definition of the Federal Budget, 1954-56, Committee for Economic Development; consulting editor, Rand McNally series on economics, 1954-56; consultant, Minnesota State Department of Taxation, 1955-56, tax adviser to the Governor, 1954-56, and member, Governor's Tax Study Committee, 1955-56; member, Board of Directors, Minnesota Institute of Governmental Research, 1954-56; member, Committee on Fiscal Research, National Bureau of Economic Research, 1954-56; U. S. tax correspondent, *Canadian Tax Journal*, 1954-56; adviser on tax program for Minneapolis, Minnesota Citizens' League Committee, 1954-55; and member, Screening Committee for Faculty Fellowships in Economics and Business Administration, Ford Foundation, 1955-56. In 1955, he served as expert witness before Sub-committee of the Joint Committee on the Economic Report, State of Minnesota.

Herbert G. Heneman, Jr., served as chairman, Minneapolis Citizens' Committee on Public Education Personnel, 1954-56; chairman, St. Paul Fair Employment Practices Committee, 1956; member, State Re-employment Right Committee, U. S. Department of Labor, 1955-56; and member, Advisory Committee, Educational Project in Occupational Health Nursing, American Journal of Nursing Company and Minnesota League for Nursing, 1955-56.

Stanley C. Hollander served as member, Committee on Teaching of Retailing, American Management Association, 1955-56; and research reviewer, *Journal of Marketing*.

Robert J. Holloway served as member, Education Committee, Chicago Board of Trade, 1954-56; vice president, Minnesota Chapter, American Marketing Association, 1954-56; member, Education and Legislative Committees, Northwest Trade Club; member, Education Committee, Twin City Association of Purchasing Agents, 1954-55; and was member of the faculty of the University of the Philippines to assist in establishing a professional training program in business administration under the Foreign Operations Administration contract of Stanford University, 1955-56.

Leonid Hurwicz served as representative of the Econometric Society, National Research Council, 1954-56; was participant, Center for Advanced Study in the Behavioral Sciences, Stanford University, 1955-56; and received a Ford Foundation award for research, 1956.

Richard L. Kozelka served as chairman, Committee on Relations with Regional Accrediting Agencies, American Association of Collegiate Schools of Business, 1954-56; member, Commission on Standards of Education and Experience for Certified Public Accountants, American Institute of Accountants, 1954-56; member, Board of Directors, National Bureau of Economic Research, 1954-56; member, Board of Directors, Minnesota Institute of Governmental Research; secretary and member, Executive Committee, Minneapolis Y.M.C.A., 1954-56; member, Board of Directors and chairman, Research Advisory Committee, Hennepin County Community Chest and Council, 1954-55; member, special committee to appraise the Joint Council on Economic Education, 1954-55; national president, Beta Gamma Sigma, 1955-56; and member, Governor's Committee of 100 and Governor's Foreign Trade Committee, 1955-56.

Edwin H. Lewis served as national director, American Marketing Association, 1955-56; forum editor, *Journal of Marketing*, 1954-56; and member, Sales and Marketing Committee, Minneapolis Chamber of Commerce, 1954-56.

Thomas A. Mahoney was treasurer, Twin Cities Chapter, Society for the Advancement of Management; and member, Public Employment Committee, Citizens' League of Minneapolis and Hennepin County.

Philip T. Meyers served as membership chairman for Minnesota American Accounting Association, 1954-55; member, Publications Committee, 1954-55, member, Board of Directors, 1956, and chairman, Program Committee, 1956, Twin Cities Chapter, National Association of Cost Accountants.

Carl L. Nelson served as member, Education Committee, 1954-55, and member, Taxation Committee, 1955-56, Minnesota Society of Certified Public Accountants; chairman, Technical Advisory Committee, Minnesota Department of Taxation, 1956; adviser, Civil Service Bureau of St. Paul, 1956; adviser, Civil Service Commission, Minneapolis, 1955; and adviser, Civil Service Department, State of Minnesota, 1956.

John Neter served as member, Educational and Training Committee, Administrative Applications Division, American Society for Quality Control, 1955-56.

Edmund A. Nightingale served as member, National Examination Panel, American Society of Traffic and Transportation, 1954-55; member, Committee on Education and Research, Associated Traffic Clubs of America, 1954-56; member, National Committee on Education for Practice, 1954-56, and member, Executive Committee, Ninth District, 1954-56, Association of Interstate Commerce Commission Practitioners; member, Legislative Committee, Northwest Shippers Advisory Board, 1954-56; consultant on Natural Resource Study, Association of American Railroads and Minnesota Railroads, 1955-56; consultant and expert witness for State of Minnesota on Interstate Commerce Commission Finance Docket No. 19086 at request of the Attorney General; and consultant to Legislative Interim Committee for the Study of the Minnesota Railroad and Warehouse Commission, 1956.

Alek A. Rozental served as consultant to the West Virginia Education Association, 1955; and was research associate, Minnesota Tax Study Committee, 1955-56.

Ira O. Scott was recipient, research fellowship and grant, Merrill Foundation for the Advancement of Financial Knowledge, Inc., 1956.

George Seltzer served as public member and secretary, Minnesota Commission on Tax Withholding, 1955-56.

Ben B. Sutton served as vice president, Minnesota Economic Club, 1954-56; director, student affiliated, American Finance Association, 1955-56; and consultant, Investment Advisory Committee, Minneapolis Teachers' Retirement Fund, 1954-56.

John C. Turnbull served as consultant, 1954-55, and was adviser, Labor Relations Committee, Junior Chamber of Commerce, 1954-55.

Lloyd Ulman collaborated on a special research project with Professor John Dunlop of Harvard University, 1954-55; and he carried on second year of Faculty Fellowship Award, Social Science Research Council, 1955-56.

C. Arthur Williams, Jr., served as member, Advisory Committee, Minnesota Compensation Insurance Board, 1955-56; member, Board of Editors, "The Review of Insurance Studies," and was elected fellow and vice president, American Society for Insurance Research, 1955-56. He was awarded a Ford Foundation Faculty Fellowship for research, 1956.

Dale Yoder served as member, Board of Trustees, Research Council for Economic Security, 1956; member, Governor Freeman's Commission on Problems of the Aging, 1956; chairman, Committee on Coverage, and member, Federal Advisory Council to the Secretary of Labor, 1955-56; and chairman, Labor Market Research Committee, Social Science Research Council.

General College—Frank T. Benson was discussion moderator, Minneapolis Citizens' Committee on Public Education, 1955.

Henry Borow served as member, Program Committee, American College Personnel Association, 1955-56; member, Board of Directors, Twin Cities Vocational Guidance Association, 1954-56; member, Executive Council, St. Paul Chapter, United World Federalists, 1954; convention program chairman, Min-

nesota Psychological Association, 1954; testing consultant, American Association of Nurse Anesthetists, 1954-56; member, Oral Examining Team, American Board of Examiners in Professional Psychology, 1956; guidance workshop consultant, Northfield Public Schools and Cambridge Public Schools, 1956; and consultant, Counseling Psychology Training Program, Veterans Administration, 1956.

Austin B. Caswell was president, Minnesota Chapter, Phi Mu Alpha Symphonia (professional music fraternity).

Evelyn D. Crisp served as secretary-treasurer, Minnesota Vocational Association, 1954-55; vice president and program chairman, 1954-55, and president, 1955-56, Minneapolis Altrusa Club (international woman's service organization); and was delegate from the United States to the International Economic Study Course held in Sweden and sponsored by the International Society for Business Education, August, 1955.

Douglas M. Dearden served as mission aide in charge of young people's groups, North Central States Mission of the Christ, 1954-55, and district councilman, Minnesota District, 1954-55, Church of Jesus Christ Latter Day Saints.

Nina E. Draxten was consultant to St. Croix Falls Public Schools, Wisconsin, 1954-55; member, Council of United World Federalists, 1955; chairman, Workshop Number 16, Conference on College Composition and Communication, New York City, spring 1956; and consultant to English Department, Edina High School, 1956.

Jerome Gates was listed in *Design Quarterly*, published by Walker Art Center, as one of 84 contemporary jewelers of national importance, 1955; and served as member, Sub-committee on Curriculum Revision for Mortuary Education, National Association of Colleges of Mortuary Science.

J. Merle Harris served as chairman, Minneapolis Chapter, United World Federalists, 1955-56; and member, State Conservation Committee, State Department of Education, 1955 and 1956.

Alex Kurak served as member, Arrangements Committee, Disabled American Veterans, 1955-56.

Horace T. Morse served as member, Board of Directors, Minnesota Council for the Gifted, Inc. (founded December, 1955); chairman, Committee on Study and Research, Association of Minnesota Colleges, 1954-56; member, Official Board, Hennepin Avenue Methodist Church, 1954-56; and member, Advisory Board, Viking Council, Boy Scouts of America, 1954-56. He received a citation for outstanding service in general education at the Michigan State College Centennial Symposium on General Education, April, 1955.

Leon Reisman served as chairman, Workshop on "The Terminal Student," Chicago, 1954, and member, National Executive Committee, 1955-56, Conference on College Composition and Communication.

Louis T. Safer exhibited paintings at one-man show, 1954 and 1956, Unitarian Society Gallery; and was named member, Artist Equity (honorary society), 1956.

Dorothy L. Sheldon served as member, Advisory Board, Young Women's Christian Association, 1955-56, and was teacher-adviser, Boys' Residence Hall, Army Dependents School, Munich American High School, Munich, Germany, 1955-56.

Eldon L. Stevens served as member, Educational Guidance Staff, 1955-56, and member, Education Seminar Board, 1956, Air Force Reserve.

Alfred L. Vaughan served as co-ordinator, Workshop for Science Teachers, St. Paul High Schools, 1955.

Duluth Branch—Addison N. Alspach served as judge, Regional Metropolitan Opera Auditions at Minneapolis, 1955 and 1956.

Clarence N. Anderson was named grand vice president, Pi Delta Epsilon, honorary journalism fraternity, 1955-56; and served as chairman, Publicity Division, Duluth Centennial.

Peter C. Apostolakos was awarded a Danforth Foundation teacher study grant for 1956.

Lyda C. Belthuis presented a research paper before the Association of American Geographers, Memphis, April, 1955, at the request of the Office of Intelligence Research, Department of State, Washington, D. C.; was elected

to Board of Directors, Minnesota Council for the Social Studies, 1956; and to Pi Gamma Mu, national honorary social studies fraternity, 1956.

Eleanor P. Bonte served as board member, Duluth Mental Hygiene Clinic, 1954-56; and board member, Children's Home Society of Duluth, 1954-56.

Warren J. Brooker was vice president, Board, Duluth Mental Hygiene Clinic, 1954-56; member, Board of Directors, Duluth Multiple Sclerosis Society, 1956; member, Board of Directors, Duluth Branch, American Cancer Society, 1954-56; member, Internes Committee, 1954-56, program chairman, Medical Staff, 1954-56, and chairman, Library Committee, 1954-56, St. Lukes Hospital, Duluth.

Merle L. Bryant was elected to membership, Pi Lambda Theta, national honor and professional association for women in education, 1955.

Maurice M. Callahan received the Alumni Award of Merit, Bethany College, Lindsborg, Kansas, 1956. He served as guest conductor, 500 piece massed band and 130 piece select band, Minnesota Public School Music League, District 27, Eveleth, Minnesota, 1956; head adjudicator and massed band conductor, Canadian International Band Contest, Moose Jaw, Saskatchewan, Canada, 1956; and guest conductor, Coronado Summer Music Camp, Bethany College, Lindsborg, Kansas, 1956.

John B. Carlson served as chairman, Botany Section, Minnesota Academy of Science, 1955-56.

Thomas W. Chamberlin was elected to membership in Phi Delta Kappa, educational honor fraternity, 1954; served as member, Committee on Conservation Education, National Council of Geography Teachers; member, Executive Committee, Minnesota Council for Social Studies, 1954-55; and member, Review Committee, Duluth City Planning Commission, 1956.

Huai Chang Chiang served as section secretary, Omaha meeting, North Central States Branch, Entomological Society of America, 1955; and received a research grant from the American Association for the Advancement of Science, 1956.

Raymond W. Darland served as a member of the Council, Minnesota Academy of Science, 1954-56; member, Duluth Advisory Committee, Salvation Army, 1954-56; vice president and member, Scholarship Committee, Marshall H. and Nellie Alworth Memorial Fund, 1954-56; member, Board of Directors, Duluth Chamber of Commerce, 1955-56; and chairman, Duluth Brotherhood Week, 1956. He represented the University of Minnesota on the Navy ROTC Midshipman Cruise to Scotland, 1955.

Emmett Davidson served as member, Duluth Charter Commission, 1954-56; and as chairman of its sub-committees as follows: to study and recommend new plan of municipal government for Duluth; to study and recommend change in financial provisions in the Charter; and to redraft the city Charter.

John A. Dettman was elected chairman, Program Planning Committee, Minnesota Business Education Association, 1956.

Anna Marie Duval was secretary, Lake Superior Section, American Chemical Society, 1956; member, Board of Directors, Duluth League for Nursing, 1956; charter member, Duluth Branch Club of Sigma Xi, 1955; and member, National Finance Committee, Iota Sigma Pi, national honorary chemistry sorority, 1956.

Henry J. Ehlers was elected Fellow, Philosophy of Education Society, 1954; and was charter member, Comparative Education Association, 1956.

Robert J. Falk served as member, Camp Miller Boy Scout Committee of Management, 1954-56.

Ellen A. Frogner was chairman, Committee on the Junior High School Book List, National Council of Teachers of English; ex officio member, Board of Directors, National Council of Teachers of English, 1954-56; member, National Educator's Award Committee, Delta Kappa Gamma Society; consultant to committee preparing "A Basic Book Collection for Junior High Schools," American Library Association.

Orazio Fumagalli was awarded a "Commission for Relief in Belgium" fellowship by the Belgian American Educational Foundation Inc. in cooperation with the Belgian Ministry of Education.

Elizabeth Graybeal served as member, Legislative Committee, American Association for Health, Physical Education and Recreation, 1954-56; member,

Duluth Roster Committee, 1955-56; member, Subcommittee on Education, Minnesota Cancer Society, 1956; and chairman, Women Teachers of Physical Education in state supported schools in Minnesota, 1954-55.

Ruth E. Green was the Minnesota recipient of Delta Kappa Gamma Silver Anniversary Scholarship, 1954; and was awarded the Frances Horwich Fellowship at Teachers College, Columbia University, 1955.

Frank W. Hansen was general chairman, Duluth Mayor's Town Meeting on Children and Youth, 1956; member, Planning Committee, Section on Community Organization, Governor's Youth Conference, 1956.

Howard G. Hanson served as scientific adviser, Radiological Section, Duluth Office of Civil Defense.

Harriet J. Harrison was first vice president and membership chairman, Duluth Branch, American Association of University Women, 1954-55; president, Minnesota Association of Deans and Counselors of Women, 1955-56; and member, Board of Trustees and Personnel Committee, St. Lukes Hospital, Duluth, 1954-56.

Pershing B. Hofslund was re-elected editor, *The Flicker*; member, Duluth Zoo Advisory Committee, 1954-56; and member, Fairmont Park Zoo Board, 1956.

Robert W. House was elected member, Music Education Research Council, Music Educators National Conference, 1956.

Donald H. Jackson was member, Duluth City Planning Commission, 1954-56; member, Commission appointed by District Court to arbitrate dispute between City of Duluth and Proctor, Minnesota.

Myrtle H. Johnson served as president, Duluth Matinee Musical, 1954-56; member, Special Committee, Minneapolis Women's Symphony Board, 1956; and member, Women's Committee, Duluth Symphony Board, 1956.

J. Dorrance Kiser was elected to Board of Directors, Duluth Art Institute Association, 1956.

Blanchard O. Krogstad was awarded a grant-in-aid at Itasca Park Biological Station, National Science Foundation, 1954; and served as secretary-treasurer, Minnesota Academy of Science, 1954-56.

Henry Lepp was chairman, Earth Science Section, Minnesota Academy of Science, 1955-56.

Maude L. Lindquist was member, Publications Committee, Minnesota State Historical Society, 1954; re-elected to Executive Board, St. Louis County Historical Society, 1954; and elected president, Duluth Zonta International, 1954.

Hubert M. Loy was elected chairman, Section on Research, Tri State Area, Association for Student Teaching, 1956; member, Board of Directors, Wesley Foundation of Duluth.

William R. McEwen was elected to Sigma Xi, 1956.

Ivan Nylander served as member, Public Affairs Committee, International Institute at Duluth, 1954-56.

Theron O. Odlaug was member, Duluth Zoo Advisory Committee, 1954-56.

Donald E. Olson was awarded a National Science Foundation fellowship to the Institute of Physics for Teachers of Physics in Colleges, University of Wyoming, 1956.

Ruth Palmer was chairman, Central Regional Conference, Home Economics Education, Division of Vocational Education, Chicago, 1955; member, Committee on Family Life, Governor's Advisory Council on Children and Youth, 1956; chairman, Professional Education, Minnesota Dietetic Association, 1954-56; Minnesota delegate, American Dietetics Association, 1955-56; and member, Advisory Committee and chairman, College and University Section, Minnesota Home Economics Association, 1954-56.

Moses Passer served as counselor, 1954-56, and as chairman, 1955-56, Lake Superior Section, American Chemical Society; head, Duluth Branch group, peat research program, State of Minnesota Iron Range Resources and Rehabilitation Commission, 1954-56; consultant, rubber research program, University of Akron, U. S. Government Laboratories, 1954-55; abstractor, *Chemical Abstracts*, 1956; and book reviewer, *The Chemical Bulletin*, 1956.

Robert F. Pierce was elected president, Board of Directors, Duluth Mental Hygiene Clinic; and president, Minnesota Speech and Hearing Association.

Valworth R. Plumb served as president, Section on Higher Education and Professional Education, Minnesota Education Association.

Ruth H. Richards was elected secretary, 1955, and was member, Board of Directors, Central Association for Physical Education of College Women; member, Minnesota Committee for Improvement of Instruction in Health, Physical Education, Recreation and Safety, 1955-56; elected to membership, Delta Kappa Gamma, 1954; elected to membership, Pi Lambda Theta, 1954; secretary, Arrowhead Board of Women Officials, 1954-56; chairman, Nominating Committee, Duluth Section, Minnesota Association of Health, Physical Education and Recreation; recorder, National Workshop, National Association for Physical Education of College Women, June, 1956.

Hildegard Schumacher was representative from Duluth area, State Committee on Nursing in National Defense, 1955, chairman, Committee on Nursing in Civil Defense, 1955, and secretary, 1954-56, Second District, Minnesota Nurses' Association; member, Medical, Nurses and Nurses' Aid Division, Duluth Civil Defense Agency, 1956; board member and secretary, Medical and Nursing Service Bureau, Duluth, 1954-56; recorder, Nurses' Committee, American College Health Association, 1956; member, Duluth Committee, American Cancer Society, 1954-55; and member, Membership Committee, Duluth International Institute, 1955-56.

Richard O. Sielaff served as director of research, Port Authority of Duluth, an agency of the State of Minnesota, 1954-56; and member, Governor's Committee on Foreign Trade, 1955-56.

Arthur E. Smith was re-elected president, Minnesota Art Education Association, 1956.

Flora M. Staple was elected to membership in Kappa Delta Pi, 1954.

James Van Buskirk was awarded the National Science Foundation scholarship, Institute for Teachers of Collegiate Mathematics, 1956.

William P. Van Evera served as member, Duluth Job Discrimination Commission, 1954-56; member, Executive Committee, Duluth Welfare Council, 1955-56; member, Executive Committee, Duluth International Institute, 1955-56; chapter chairman, South St. Louis County Chapter, National Foundation for Infantile Paralysis, 1954-56; chairman, Education Subcommittee, Legislation and Taxation Committee, Duluth Chamber of Commerce, 1955.

John E. Verrill was member, National Association for Research in Science Teaching; and member, Forestry and Conservation Committee, Duluth Chamber of Commerce.

Elliot H. Weinberg was elected vice president, Minnesota Area Association of Physics Teachers, 1956; vice president, Sigma Xi of Duluth; and completed project on jet aircraft, Duluth Air Base, U. S. Air Force, 1956.

Edwin B. Wenzel served as a member, Board of Directors, Duluth Mental Hygiene Clinic; and member, Board of Directors, Lake Superior Chapter, American Society of Training Directors.

Leonard B. Wheat was chairman, Duluth Blood Bank Committee, 1955-56; president, Duluth Methodist Union; and president, Wesley Foundation of Duluth, 1955-56.

Julius F. Wolff, Jr., served as chairman, St. Louis County Forestry Advisory Committee, 1954-56; chairman, Wage Panel for City of Duluth, City Employees Union Salary Controversy, 1956; member, Conservation Curriculum Committee, Minnesota Department of Education, 1954-56; member, Interview and Examining Board for Iron Range Resources Commission Director, Minnesota Department of Civil Service, 1955; member, Board of Directors, Friends of Wilderness Society, 1954-56; member, Board of Governors, St. Louis County Historical Society, 1956; member, Board of Advisers, Duluth Chapter, National Conference of Christians and Jews, 1956; member, Citizens Committee, Duluth Community Fund, 1955; and member, Pi Gamma Mu, social studies national honorary society, 1956.

General Extension Division—Frederick E. Berger served as member, Board of Directors, Citizens Club Neighborhood House, 1954-56; member, Executive Committee, Group Work and Recreation Division, 1954-56, and chairman, Indian Committee, 1955-56, Community Welfare Council; member, Board of Directors, American Youth Hostels, 1954-56; member, Executive Committee, and treasurer, National Council on Family Relations, 1955-56; and member,

Executive Committee, Division of Short Courses and Conferences, National University Extension Association, 1954-56.

Albert M. Fulton served as vice president, Missouri Valley Adult Education Association, 1956; and member, Terminal Programs Committee, National University Extension Association, 1956.

Huntington Miller served as chairman, Committee on Reports and Business Practices, National University Extension Association, 1955-56; member, Board of Governors, Minnesota Council for Adult Education, 1955-56; and received research grant from Educational Testing Service, 1955.

Julius M. Nolte served as member, National Committee on the Armed Forces Educational Program, U. S. Department of Defense, 1954-56; member, U. S. National Commission for UNESCO, 1954-56; member, Minnesota Statehood Centennial Commission, 1955-56; member, staff of Minnesota Survival Plan Project Commission, 1956; member, Executive Council, Minnesota Historical Society, 1955-56; trustee, League of Minnesota Municipalities, 1954-56; and member, Minnesota Board of Water and Sewer Examiners, 1954-56. He was elected secretary-treasurer, National University Extension Association, 1956.

William C. Rogers was appointed chairman, Section on International Affairs, Adult Education Association, 1956; chairman, Committee on World Affairs, National University Extension Association, 1954-56; member, Commission on International Understanding and World Peace, Minneapolis Public Schools, 1954-56; and director, Program of Information on World Affairs, *Minneapolis Star*, 1954-56.

Eleanor M. Salisbury served as editor, *The Minnesota Voter*, publication of the League of Women Voters of Minnesota, 1954-56.

Barbara Stuhler was appointed by the Governor as member, Board of Review, Fair Employment Practices Commission, 1955-56; and served as first vice president, League of Women Voters of Minnesota, 1954-55.

Erwin C. Welke served as chairman, Public Relations Committee, Audio-Visual Coordinators Association of Minnesota; member, national committee on selection of outstanding films produced in 1954, *Scholastic Magazine*; and was elected member, Board of Directors, 1955, and vice president, 1956, Educational Film Library Association, New York.

THE WORK OF THE UNIVERSITY

Colleges and Schools

COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS

The biennium, 1954-56, has marked for the College of Science, Literature, and the Arts increased problems occasioned by the rising tide of student enrollment. The college has turned to intensive study of many pressing problems of curriculum, personnel, and student affairs.

The fact of greatest importance in the affairs of the College has been the increase in student enrollment and the increase in teaching done by members of the College staff. For the past four years, the figures are as follows:

	Enrollment in the College	Student credit hours taught
1952-53	5,259	252,950
1953-54	5,227	260,375
1954-55	5,428	293,698
1955-56	6,298	345,460

Over the four-year period, the teaching load of the College, as represented by student credit hours, increased by 36 per cent while the student enrollment increased by about 20 per cent. Although the biennium brought increased enrollment, as shown above, the increases were slow and steady and have made possible a more systematic adjustment than may be possible in the years ahead. Thus the past two years have given the College the opportunity to experiment and plan for the increasing enrollment pressures that will be coming to a much greater degree.

To help meet the increased teaching load, the College was able to increase its teaching staff. As compared with 379 staff members in 1952-53 and 383 in 1953-54, the College's staff was 390 in 1954-55 and 413 in 1955-56. The staff increase did not, however, keep up completely with the added teaching responsibilities. As result, the number of student credit hours per instructor increased from 259 in 1952-53 and 254 in 1954-55, to 261 in 1954-55 and 290 in 1955-56. However, the College has been able to absorb part of the increased load.

How has this been accomplished? For one thing, the enrollment increases are now spread more uniformly throughout the four college years rather than concentrated in the first two years, as during the previous biennium. Intermediate and upper division courses have been increased in size without necessarily reaching their maximum limits; and, therefore, there is still room in the College to absorb additional students in many classes without the necessity of increasing sections or establishing new courses. However, students generally do not select courses that have adequate room, and as result the enrollment increase is not always spread evenly over the offerings of the College. For example, enrollment has increased substantially in the social sciences and the natural sciences, while there have been much smaller increases in some of the humanities such as art, music, and speech. Especially high enrollment increases have come in physics and mathematics.

A second way in which the College has been able to absorb the increased enrollment is by experimentally teaching larger numbers of students in existing courses. In several subjects lecture sections have been increased and the students have been offered individual or group guidance from faculty members. Two sections of several courses have been experimentally combined under a more experienced teacher. Other courses have been concentrated in lecture classes with more responsibility placed on the individual students to do special reading or special assignments. In many courses, operated as lecture-discussion or lecture with laboratory section, it has been possible to

teach more students merely by adding a few discussion or laboratory sections.

Finally, the additional enrollment has been handled by various shifts in course offerings. Courses offered formerly once a year have been alternated during the biennium, thus increasing the size of the course when it has been offered. Some courses (usually those not essential to a vocational or pre-professional sequence) have been closed when their enrollment has reached the maximum, and the students have been forced to make elections from other courses.

Curricular changes. In addition to these curricular changes, the College has given extensive study to its program in several other respects. Chief among them has been a study by the Curriculum Committee of the distribution requirements for the bachelor of arts degree and resulting in a new plan adopted by the faculty to become fully effective in the summer of 1957. The College formerly had two plans of distribution requirements, whereas, the new plan consists of one set of requirements. In the social sciences, humanities, and natural sciences, the new requirements make it necessary for the student to elect courses from more than one department, and yet require him to take a fairly intensive program in one subject. In the new plan, foreign language study is required of all students to qualify for the bachelor of arts degree.

A second area of intensive study has been the college's program of general education. The preliminary report of the Committee on General Education represented an extensive review of the College's departmental and interdepartmental offerings in this area. Aside from some changes in specific courses, the report called for continued study and experimentation toward an imaginative program of general education, with emphasis upon both departmental and interdepartmental programs. To strengthen the latter, the Committee recommended that all subject departments participate more actively in the interdepartmental program. New committees were established in the three areas of social science, natural science, and humanities.

During the biennium, all of the departments of the College continued to review their curricular offerings. As a result many changes and improvements have been accomplished, but they are too numerous to list in this report. For example, departments concerned with television revised their courses to provide basic instruction in this new medium.

Research—By most any standard of measurement, research continues to be a major activity of the faculty of the College—in terms of staff time, in terms of graduate courses taught by faculty of the College, and in terms of dollars spent.

One measure of the College's research activities is the amount of money appropriated specifically for research projects from state, federal, gift, and endowment sources:

1952-53, number of grants	44,	total amount	\$1,134,008
1953-54, number of grants	52,	total amount	949,736
1954-55, number of grants	48,	total amount	845,306

However, the above figures principally show the special research projects engaged in by faculty members of the College and do not include the individual research carried on by faculty members in their offices or laboratories; nor do they include the money appropriated from College or departmental budgets for research activities. As in past years, much research activity cutting across departmental lines has taken place both formally and informally.

As an example of the formal type of relation, the Laboratory for Research in Social Relations has continued its broad research program on the reciprocal relations between individual and group behaviors. Involved are both laboratory and field studies aimed at the establishment and ultimate application of generalizations about these reciprocal relations.

Financial support for the Laboratory has come from the following sources: the annual College appropriation; research grants from the Graduate School; the Office of Naval Research; the Hill Foundation; and the Ford Foundation; and the senior staff of the Laboratory continues to be drawn from psychology, sociology, economics, philosophy, political science, and education. Since 1948-49,

a total of 22 graduate students have served as research assistants on regular Laboratory appointments, and many more have appeared on the miscellaneous payroll. To date, seven of these assistants have completed their doctoral degrees.

The Laboratory has published a total of 26 articles in relevant technical journals; one monographic volume has been published by the University of Minnesota Press. Two additional articles have been accepted for publication in the near future, and additional manuscripts and monographs are in preparation on a wide range of individual projects.

In the past two years, several visitors from other research centers have been in residence in the Laboratory for from an academic quarter to an academic year, carrying on research under the general program and participating in all phases of our work. The senior faculty continues to serve in consultant capacity or on special committees of relevant national organizations in the behavioral sciences.

While projects and grants continue to provide substantial support for research in the social sciences and the natural sciences, research in the humanities continues to be the major responsibility of the individual scholar working largely in the library or in the study. Although the summer session research appointments and the single quarter leave arrangements have been useful to those humanists who have received them, the College needs some way of helping the humanities' scholar.

Two exceptions to the individual nature of humanistic research have been the Minnesota Center for the Philosophy of Science and the American Studies program of research on the impact of technology and science upon American civilization and culture. The former, supported in large measure through a grant from the Hill Family Foundation, has now largely completed its studies in the theoretical concepts of psychology and is turning its attention to the philosophy of physics.

The American Studies program, supported largely by a grant from the Carnegie Corporation, has drawn together humanists, social scientists, and natural scientists in a cooperative study of the impact of American technology. Its program will continue over several more years.

While some research is accomplished only by the ingenuity and persistence of one individual, much research these days requires not only equipment but human assistance. As the increased teaching responsibilities demand more time of professors and assistants, their availability for research becomes more limited. The college must ever be mindful of its obligations to both teaching and research.

Student Personnel Program—No major changes were made in the College's student personnel program; however, continued study and strengthening of the program characterized the biennium. The College continued successfully to draw students into college planning and policy discussions. Student membership on all major committees of the College has been continued and the resulting values to both groups are becoming apparent. During the year, students were admitted as observers to the regular faculty meetings. The success of the use of students in the College's planning and study rests with both parties: competent and thoughtful student leadership, and interested and considerate faculty reaction.

The College's counseling program has, of course, been directly affected by the increased enrollment, because the increased load is still predominantly in the first two years when students most need professional and experienced advice. As a result, the number of students handled by each member of the junior college counseling office has increased so greatly that the effectiveness of the program may be diluted. The College has continued to draw into the advising program more of the faculty members in the departments. In this way, it has been possible to absorb more students without apparent serious harm. A special experiment has been undertaken with freshmen of unusually high ability. Such students, chosen for their intelligence test scores and their high ratings in high school, have been assigned to special faculty members who see if their programs and their college experience can be improved. The experiment seems to be working satisfactorily, and a complete evaluation will be made in the future.

School of Social Work—During the biennium 1954-56 the School of Social Work has carried forward noteworthy programs and processes in educational and professional activities. The developments have been a succession to a long history of the School's contributions to social work education generally.

Approximately 85 per cent of the graduate enrollment in the School during the biennium was from Minnesota. As in the past, however, students from other states (approximately 10 per cent of the graduate enrollment) and from other countries (approximately 5 per cent of the graduate enrollment) were included in each class. During the biennium, 58 master of social work degrees and seven doctor of philosophy degrees were conferred, bringing the total of graduate degrees conferred since the beginning of the School to 519.

Among other noteworthy achievements in the 1954-56 biennium the following may be cited:

1. *Completion of significant Research Studies*—In addition to approximately 60 student research projects offered to fulfill requirements for the master of social work degree, several large and important research projects have been completed by faculty and advanced students of the School. Illustrative of these are: (a) a study of community attitudes toward and knowledge about mental health in an American community; (b) preliminary standardization of a parent-child relationship scale; (c) a study of relationships between physicians in private practice and social agencies; (d) predicting chronicity in general relief; and (e) an historical study of the beginning of individualized social service in the United States Army.

2. *Curriculum Study and Improvements*—A major curriculum revision was effectuated during the 1952-54 biennium, but some unfinished work was carried on during 1954-56 resulting in content re-ordering, especially in the sequence dealing with social policy and programs, and the development of several important documents on course and sequence objectives. In addition to the attention given the graduate professional curriculum, continued interest and attention has been given to the undergraduate pre-professional curriculum, a sequence administered jointly with the Department of Sociology.

3. *Korea Social Work Education Project*—The Director of the School spent three months in Korea at the beginning of this biennium under governmental and foundation auspices to prepare a plan for social work education for that country. Under a plan he developed, three leading Korean social workers were brought to this School for two years of graduate study to prepare them for responsibilities involving the establishment of a professional school of social work in Korea.

4. *Public and Professional Service*—Members of the School's faculty have served in leadership positions in a number of the various national social work professional and educational groups. In addition to the public service, they rendered a continuous service to the community through technical consultation to social agencies on social work problems; conduct of research and consultation on social agency research; conduct of in-service training institutes; consultative services to civil service and merit system agencies; and service on agency and organization boards and committees. The faculty also has played a prominent part in state, regional, and national conferences in the social work field and in some other adjoining professional fields such as psychiatry and public health.

A factor of striking significance during the biennium is the continued great demand by social agency employers for the graduates of this School. On the average, every graduate at the point of receiving his degree has had 10 job offers. The shortage of professionally qualified social workers is acute. Minnesota public and private social welfare programs, such as public assistance, child welfare, hospitals, clinics, settlement houses, family service, probation services, and institutional services secure the professional services of most of the graduates of this School; but, of course, some of the graduates go to social work positions in other states and foreign countries as well as to national and international level positions. 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 leadership positions in local, state, and national social welfare agencies.

Public Administration Center—Forty-one students were enrolled in the Graduate Training Program in Public Administration during the biennium, bringing the total who have been enrolled since the inception of the program in 1936 to 259. The 1955-56 class of 25 was the largest in the 20-year history of the program, although several were on a part-time basis. Five students from foreign countries are included in the total for the biennium.

Graduates of the program continue to be in active demand for administrative positions at all levels of government. Careers in the field of city management are particularly attractive to a considerable number of the students enrolled. Alumni groups in Washington and the Twin Cities held one or more meetings each year. The former Public Administration Alumni Student Aid and Loan Fund was changed, with the approval of the original alumni donors, in 1954 to the Public Administration Fellowship Fund and several additional gifts were received through the Greater University Fund.

Enrollment in evening courses in public administration has been gratifying. The General Extension Division has awarded the first certificates in Public Administration in a program set up in 1953 to encourage governmental employees in the Twin City area to better prepare themselves for administrative work.

The research program of the Center during the biennium was concentrated upon three in the series of administrative histories of state departments and agencies in Minnesota. The history of the Department of Taxation was published by the University Press in 1955, the history of the Railroad and Warehouse Commission is in manuscript, and the history of the Department of Welfare is nearing completion.

Members of the staff of the Center have been called upon for service in overseas educational projects in public administration. Other staff members also have served on various governmental commissions and committees in national, state, and local governments in the United States, and on committees of the American Society for Public Administration.

Personnel representatives of government agencies have made increased use of the facilities of the Center in recruiting university students. Cooperation with the U. S. Civil Service Commission and with the Minnesota Civil Service Department has been especially close and rewarding.

The University of Minnesota was one of the first universities in the United States to undertake a graduate program of education in the field of public administration. The program has achieved nation-wide recognition, but in recent years the lack of fellowships has constituted a serious obstacle in the recruitment of students.

School of Journalism—Revision of its curricula to meet changing needs in the fields of mass communications, expansion of the work of its Research Division, and the strengthening of its service program to professional groups were among the School of Journalism's particular accomplishments in the biennium.

Curricular changes include extension of offerings in the field of advertising and in television news and public affairs, and increasing attention to theory of communications and research in journalism. The School's curriculum committee, planning for increasing enrollment in the decade ahead, has laid special emphasis on continuing improvement in teaching to support the Minnesota concept that preparation for journalistic careers is based on a good liberal education backed by sound knowledge of professional techniques and practices and an understanding of the social responsibilities of the journalist.

President Morrill received formal notification, following the visit to the University and the School of Journalism in 1956 by representatives of the American Council on Education for Journalism, of the reaccrediting of the department by the Council.

A yearly analysis of the Journalism curriculum is a basic departmental policy. In the past two years the faculty has strengthened both the graduate and undergraduate programs, modifying and reshaping them in several instances to meet changing developments in mass communications, to implement

more deeply into course content the findings of research, and overall, to meet the needs of the present-day student personnel.

Curricular planning strengthened the advertising sequence with new courses in advertising media and advertising research. The work in television was extended, with a greater opportunity for workshop and laboratory training. The addition of an instructor with wide experience as a picture editor on metropolitan dailies enabled the curriculum committee to plan a re-orientation of instruction in pictorial journalism.

The master and doctor degree programs retained the seven fields of concentration in which candidates for advanced degrees in Journalism specialize, with developments in both communication theory and specialized research methodology.

In 1954, the Research Division of the School entered a second decade of activity. Among journalism departments, Minnesota pioneered in setting up the first organized research bureau. The Division provides a research facility for conducting relatively large-scale basic and applied studies of mass communication problems. Its major activities have been in content analysis research, audience studies, studies of mass communication personnel and basic research on the effects of mass media on information levels of audiences.

Much of the Division's work reflects a strong methodological interest. This has been accompanied, however, by application of research techniques and methods to diverse problems of the communication agencies in state and region, with other such sponsors as the Office of Naval Research, the International Press Institute, the Carnegie Endowment for International Peace, and other national organizations.

A total of more than 150 separate studies has been completed by the Division since its founding.

The service function of the School of Journalism is essential to its educational philosophy. During the biennium, the staff has maintained an extensive and diverse program of educational and professional activities. Such service to the public, to the several media of communication, and to the organized professional societies in journalism has won wide recognition for the school. The department's close liaison with the various branches of journalism recognizes that staff members have a responsibility to contribute to upgrading the mass media and to an improvement of their public service both within and without the state of Minnesota.

In the biennium the following professional institutes were held: Thirty-seventh and thirty-eighth annual editors' short course for community newspapermen (in cooperation with the Institute of Agriculture); ninth and tenth annual radio-TV news forum; fifth and sixth annual industrial editors' conference; sixth and seventh annual institute for daily newspaper editorial and news executives; four meetings of the Minnesota High School Press Association; and the annual convention of the National Scholastic Press Association.

In 1954-56 a number of distinctions came to staff members. These included the award of a Guggenheim Fellowship to one faculty man and a Fulbright Fellowship to another. A third won the national Sigma Delta Chi prize for research in journalism. A staff member served on the national Ben Franklin Awards jury. Staff members continued to serve on the American Council for Education in Journalism and the National Council on Communications Research. A citation was awarded to still another professor by the Minnesota Editorial Association for contributions to the state press.

In 1954 a memorial scholarship was established in the School to honor the name of the late Thomas F. Barnhart, who served for 24 years on the faculty. The biennium marked the grant of a \$1,000 scholarship by Eric Sevareid; a gift of \$1,000 by the *Reader's Digest* to aid students specializing in magazine writing; a \$300 award by the Borden Company Foundation, Inc; and a \$200 gift by Stephen Wells for student achievement.

Library School—During the biennium the Library School inaugurated a program of evening classes, was revisited and recommended for accreditation by the American Library Association, started a round table for public librarians, held a public library materials institute, published a brochure on the library profession, engaged in thorough examination of the curriculum and made some important revisions, and, with the cooperation of the University

Library, established a work-study program to encourage enrollment to meet the severe shortage of librarians.

Evening classes, started in the fall of 1955, attracted 6 students in the fall term, 13 in the winter, and 16 in the spring.

The work-study plan, creating half-time graduate library assistant positions in the University Library, will permit a student to earn \$1500 per year while completing his Master's degree. The normal duration of this program will be from 18 to 24 months for a student without previous study of library science. There are obvious educational merits in this plan, and it has proved very successful in other library schools. With the financial help of Howard Haycraft and the H. W. Wilson Company in New York, announcements of this opportunity were published and widely circulated throughout Minnesota and surrounding states.

There were three meetings during 1955-56 of a newly created round-table for public librarians with over 30 librarians attending. In April a public library materials institute was attended by 135 midwestern librarians.

In April, 1956, a team of visitors from the Board of Education for Librarianship inspected the library school and recommended accreditation of the library school under the standards of 1951.

As in most library schools, when the undergraduate major in library science and the fifth year bachelor's degree were eliminated, enrollment decreased. With an estimated demand for 10,000 new librarians this year, and only about 1300 new graduates from the 34 accredited library schools in North America, the wisdom of the decision to disestablish the undergraduate major in library science is questionable. Recruitment is a problem: the high school senior can hardly be expected to look with enthusiasm upon a vocation which requires five years of study as a minimum, but offers starting positions which average about \$4,000. On the other hand, the shortage has helped to increase the librarians' salaries, and the Master's degree standards are helping to produce stronger and better prepared librarians. The following table shows what has happened to library school enrollment at the University of Minnesota. Graduate School standards unquestionably deter some students who might apply for admission to a fifth year bachelor's degree program, and some decrease in the number of graduates should be expected with the present policy of eliminating those who cannot demonstrate their ability by satisfactory completion of the five courses prerequisite to graduate study.

Enrollment statistics

Individual students taking library courses

Fall 1951—115

Fall 1952—136

Fall 1953— 93

Fall 1954—109

Fall 1955— 96

Summer 1953—148 enrolled in one 8-week session

Summer 1954—182 enrolled in first term; 100 in second term

Summer 1955—164 enrolled in first term; 96 in second term

Summer 1956—141 enrolled in first term; 100 in second term

In 1955 the library school at the University of Minnesota had the third largest summer school enrollment of accredited schools. This was due chiefly to the new legal requirement of 23 credits of library science for school librarians. This state requirement became effective in September, 1955. It probably helped to swell summer enrollments in 1954 and 1955. The library school ranked 19th of 36 schools in fall enrollment of full-time students.

In 1954 there were 2559 students enrolled in 36 accredited library schools, but only 1569 graduates joined the profession in that year. What really counts is the number of graduates who can fill the great demand for librarians. At the University of Minnesota we received over 700 requests for librarians in the spring of 1956. The 43 graduates of the fiscal year 1955-56 do not go very far to meet this demand.

Center for International Relations and Area Studies—The principal activities of the Center during the biennium have been the following:

Programs in International Relations and Area Studies, especially area studies, preparation for the Foreign Service, and intelligence research, which are administered by the Interdepartmental Committee on International Relations and Area Studies.

The director of the Center has acted as director (administrative officer) of the Committee, the research fellow as its secretary in performing services of (a) furnishing information to students entering these programs, (b) maintaining records of students majoring in these programs, (c) preparing minutes of meetings and other Committee records.

The Interdepartmental Committee has long felt a need for interdisciplinary survey courses and seminars especially adapted to the requirements of its curricula. Some consideration has been given to the possibility that additional staff members required for such courses might more appropriately be attached to the Center than to any department representing a particular discipline. However, no real effort to decide this question has been made because the budgetary situation does not yet permit such staff additions.

During the biennium a survey has been completed of all training and research programs, University services, and student activities at the University of Minnesota concerned with international relations. This was undertaken at the request of the Carnegie Endowment for International Peace, which has initiated similar inquiries in many other colleges and universities and will prepare a comprehensive study based upon their findings. The final report of the local survey is being drafted and will be distributed.

The Center has undertaken a survey of employment opportunities for graduates trained in international relations and area studies. With the assistance of a grant-in-aid for research of \$485 from the Graduate School it has been possible to solicit information from hundreds of government and international agencies; industrial, commercial, and financial establishments; communications media; and private organizations conducting appropriate programs. The data obtained are now being prepared for issuance in mimeographed form and will be made available to students.

Papers read at a conference organized by the Center and held on May 11-13, 1955 have been edited and issued in a mimeographed booklet of 105 pages, under the title *How Strong Is the U.S.S.R.?* Copies have been placed for sale in the University's Nicholson Hall Bookstore.

A series of meetings and conferences concerned with problems of international relations has been arranged for interested students, staff members, and the public. These have tended to fall into three groups: (a) occasional meetings upon topics of current interest; (b) meetings designed to acquaint students with vocational opportunities; and (c) institutes or conferences, often dealing with basic problems of theory and method in the study of international relations.

The Center continues to provide a collection of useful periodicals for students of international relations. A continuing effort has been made to obtain gratuitously documentary and pamphlet materials distributed by agencies of the United States, the United Nations, specialized international agencies, and information agencies of foreign governments. Many useful items have been obtained in this way, although care must be taken to excise ephemeral and propagandistic matter. Use of the library has steadily increased, but the lack of an adequate reading room is a serious limitation. Stack space is also virtually filled, and so periodical files must be removed to a storeroom.

The Center has reached a stage of development in which demonstrated usefulness and experience gained in an operation of modest scope seem to justify expansion.

University Art Gallery—During the biennium 1954-56 the University Gallery conducted 68 exhibitions of all kinds ranging from smaller exhibitions of student drawings and works to such successful exhibitions as "Fish Forms in Art" and "Selections of Contemporary American Sculpture." Many of these exhibitions were introduced by teas and many of the exhibitions such as the Sixth and Seventh Music and Art Exhibitions were arranged specifically for

school children from public, parochial and private schools in both cities and the surrounding area.

A large part of the exhibitions were study exhibitions arranged to fill a specific request from instructors in Art, Humanities, English, Architecture, and other departments. For many of the exhibitions, Gallery tours were arranged; however, the limited gallery staff made extensive tours difficult. Contract exhibitions were obtained from such institutions as the Smithsonian Institution, the Museum of Modern Art, the Weyhe Gallery and others, but the Gallery continues to depend upon individuals, friends and institutions for loan of materials for many exhibitions. In addition, the Gallery itself loans items. During the biennium, the original objects loaned for exhibition to other museums numbered 303 and included such museums as the Tweed Gallery, Red Wing, Rochester and traveling shows outside of the state. A feature of the period was the circulating exhibition of works of Marsden Hartley which ended June, 1954, and was shown in 14 cities.

During the biennium 1,359 items of original works were loaned to museums, campus offices and miscellaneous sources. During the same period 7,642 reproductions were loaned including photographs, study prints, casts and materials from the rental collection. Other activities included films on Mexican Popular Art and Pre-Columbian Mexican Art shown in connection with the Decorative Mexican Popular Art Exhibit; two lecture-demonstrations by David Kwok, a Chinese painter, in 1955; and the usual number of Gallery exhibitions open to the audiences during the concert season.

During the year 1954-55, 118 items were added to the collections at a cost of \$523. In 1955-56, 783 items were added at a cost of \$1899 making total acquisitions of 901 items. The largest single group was a purchase of photographs and small color prints which added to these sections of the collection. Valuable gifts from donors or original works included gifts from Mr. Earl Balch, Louis W. Hill and many other friends of the Gallery. As of the end of the biennium, the total collections included 4,692 originals in the University Gallery collection, the extended loan from Hudson Walker, the Tweed Gallery, and the St. Paul Campus collection, and 67,066 reproductions making a total of 71,758 items in the collection.

A Look Ahead—The 1952-54 biennial report of this College called attention to the careful study of activities and programs which had been carried on in each department of the College as a part of the University's self-survey. The needs and wishes of the departments of the Arts College were long and impressive and represented estimates by the departments of the added strength they would need to accomplish their goals more effectively.

While a review of the '54-56 biennium would show many specific accomplishments along the lines recommended by the departments, even the biennial goals for '54-56 have fallen short of realization. To list the specific items requested and needed and to indicate those which have been provided would require a document too long for this report. A study of both lists, however, would reveal certain general conclusions that may be indicative of the progress of the College during the two years:

1. If the University is to continue to attract and hold the ablest scholars in the subject fields in which it offers instruction and carries on research, further improvement in the salary schedule must be made.

2. More staff members are needed to meet the increased enrollment. Increased enrollment has outstripped increases in staff, and there is a very pressing need during the next few years for additional funds for added staff members just to provide for the increased number of students coming to the College.

3. The College in the years to come must have additional office, laboratory and classroom space in addition to making more effective utilization of the space now occupied.

4. The College should enter new areas of knowledge in order to serve the state of Minnesota effectively.

The problems of the next few years appear, therefore, very clear. First, to seek all possible support for the activities in the College so that they may

be done in the finest tradition of scholarship at a great university. Second, to review very carefully the activities being carried on in teaching, in research, and in service to the end that if funds are not adequate for all, certain hard choices must be made of those to receive continuing support. Third, the College must continue to devote its best thought and study to improved methods of handling additional student enrollment and doing the finest possible educational job for the State of Minnesota, with the resources the State is willing to provide to it for this purpose.—E. W. McDIARMID, dean

INSTITUTE OF TECHNOLOGY

The Institute of Technology is now well organized for the education of students in basic and applied physical science. The three fundamental disciplines of chemistry, mathematics and physics offer strong undergraduate and graduate work, as do the departments in nine engineering specialties based on one or more of these fundamental fields. Architecture is taking increasingly greater advantage of the related schools and colleges in the Institute. With the addition of physics, the Institute complex now consists of the College of Engineering and the four Schools—Architecture, Chemistry, Mines and Metallurgy, and Physics. Each of these colleges or schools has a faculty with autonomy over its own internal curricula and scholastic matters except in so far as these relate to the Institute as a whole and to the University at large.

The steady increase of undergraduate enrollment in the last six years is shown in the following figures and presents a real challenge in the Institute:

1951-52	1936
1952-53	2227
1953-54	2358
1954-55	2638
1955-56	3240
1956-57	3820

Because the problem of increased enrollment is greatest in the freshman and sophomore years, an anticipatory move designed to alleviate the situation was made in the fall of 1952 when a common first two years without professional specialization was introduced. This plan when introduced had two objectives: one, to make it easier for students to transfer from liberal arts and junior colleges and, two, to delay the decision on the choice of specialization until the student has greater maturity.

The two-year program has been operating long enough now to provide certain indications of its merits. Whereas 20 per cent of the new students entered the Institute of Technology with advanced standing in 1952, over 30 per cent entered at the corresponding date in 1956. More and more junior colleges and liberal arts colleges are cooperating in the pre-engineering program to extend their offerings for more students to meet our full two-year requirements.

The faculty, although pleased with these indications of success, is conscious of the problem of uniform standards that is presented and is studying ways of suitably selecting advanced standing students which will take account of local variations in the quality of education in the first two college years. This must be done if proper selection is to be attained just as it must be done in the case of entering freshmen because of unevenness in high schools. To provide for the latter, entrance examinations in mathematics were given to all freshmen this year. These will be studied in relationship to the performance of the freshmen, and if the results justify it, examinations of this kind will form part of our entrance requirements in the future.

In the whole problem of increasing enrollment in professional schools, perhaps the most difficult is how to meet the increased demands in the areas fundamental to the professional fields. Pressures often outside of the University lead to expansion in professional and applied areas without regard to the additional teaching burden in the basic subjects without which the professional training is valueless. Critical examples of this are chemistry and physics, the

departments which provide the required basic courses for a wide variety of curricula all over the University. With increase of enrollment these are priority areas for greatly increased support.

The pressing situation in chemistry in undergraduate laboratory space is such that laboratory work will have to be curtailed, or even eliminated, in certain courses if facilities are not provided in the very near future.

Education in modern engineering science demands more physics and our staffing and physical facilities are still lagging in spite of the encouraging increased support from University sources and from the Institute of Technology in the last budget. The needs of Physics were so great that adjustments made from Institute funds represented in fact a retrenchment in allocations to the rest of the Institute. It should be emphasized that this diversion of funds was for much needed new positions to carry the load and did not in any way contribute to salary increases which are needed here as well as in all other areas of physical science to meet the fiercest industrial competition for competent engineers and scientists that universities have ever experienced.

The activities of greatly strengthened curriculum committees in the Institute are also directed toward educationally sound means of meeting increased enrollment, toward eliminating duplication of offerings in different departments by the use of over-all committees in functional areas such as, for example, in fluid mechanics (which is fundamental in at least four of the engineering specialties). Curriculum revision is also directed toward a commonness of interest in basic subjects with emphasis on engineering science and its underlying principles throughout. Furthermore, moves are being made to drop highly specialized degree sequences where these are not considered warranted. The industrial engineering degree has been eliminated and is now an option in mechanical engineering and electrical engineering, just as petroleum engineering is now an option in geological and mining engineering.

With a realization of the dual job which has to be performed in undergraduate teaching in engineering, there have been developments toward a bifurcated curriculum. The five-year program of the Institute (which operates in all departments except chemistry) provides the necessary flexibility to accomplish both ends. One branch aims at rounding out the professional competence of the student who intends to terminate his studies with a bachelor's degree after five years. The other branch of the program provides for the needs of the student who intends to go on into graduate work and recognizes the obligations to the exceptionally gifted student. Here a degree is awarded without designation of a specialty after four years. The latter program encourages the most promising students to go into graduate work. Special opportunities are being tried in two departments to enable third-year students of demonstrated high performance to enter honors sections in which expanded material challenges their superior abilities.

Among the many new areas of competence in research abilities and teaching facilities in the Institute, four may be mentioned as examples. The heat transfer laboratory in the Mechanical Engineering Department is a new and outstanding addition and probably unique in the United States. The computing facilities have grown from a small beginning to an important part of our training and research work. A very sound beginning has been made in the essential area of servomechanisms. And most recently a nuclear irradiation facility, a sound curriculum in nuclear engineering, and plans for extension of teaching and research laboratories in nuclear engineering have been initiated. It is worth while to note that in every one of these cases the development has been facilitated by outside funds supplementing special University support—in heat transfer, by the strong support of the basic work from federal agencies, and in the laboratory facilities for computing, servomechanisms and nuclear engineering, by substantial gifts from Minnesotan industries. The beginnings in these areas, made possible by the friendly partnership with our industries, is most encouraging; yet in all, with the exception of heat transfer, we lag far behind the leading institutions in the country.

In speculating how to best use limited resources for education in the rapidly expanding fields of physical science and technology, the conclusion may be reached that there are two priority areas: first, as has been emphasized, priority support for the basic sciences and, secondly, priority support for the

development of the newest applications, potential outgrowths and results of cross-fertilization of the established sciences. This last type of interaction does not just happen but must be planned and encouraged.

The Institute is bristling with new ideas, changes of program, and proposals for new lines of endeavor of which the following are just a few:

Aeronautics will develop aerodynamics and aeroelasticity with emphasis on high altitudes and ultrasonic speeds. In agricultural engineering, a faculty report recommends a rather complete overhauling of the curriculum, with a view toward increasing the content of common basics, drawing closer to other fields of engineering and to strengthening and upgrading those fields of knowledge peculiar to the agricultural specialization in engineering. The addition of a faculty member whose competence lies in biochemical engineering will lead to an option in chemical engineering. Nuclear engineering has proceeded to the point where a master's degree with emphasis in this area can be taken either in mechanical or chemical engineering. Chemistry is placing more emphasis on teaching the understanding of modern instruments. In civil engineering, modern trends are toward greater emphasis on the theory of structures, soils and mechanics. An addition to and expansion of the fluid and hydromechanics laboratory is long overdue. Electrical engineering is attempting to revitalize the field of electric machinery and power generation. A major revision of the curriculum simplifies and consolidates it, emphasizing the fundamental phenomena upon which the operation of devices, and, therefore, their design, depends. It provides also an experimental honors curriculum for exceptional students. Mathematics, consciously meeting the greatly increased demand for mathematicians in industry, is building up its training of students in computing machines and programming for machine calculation. It is intending to respond to the increased use of probability in modern technology by an expansion of offerings in this area.

Architecture is improving correlation between its program and relevant fields of engineering, will emphasize more city and regional planning, and is beginning to offer graduate instruction. Mechanical engineering is continually reviewing its offerings with increasing attention to the basic engineering sciences fundamental to mechanical engineering. Metallurgy is undergoing an extensive change to emphasize the newer atomistic and thermodynamic approach. In the general trend of engineering science, mining engineering will emphasize new areas such as rock mechanics, operational analysis, and statistical analysis of ore grades. Mechanics and materials is developing its curriculum to serve best the field departments of engineering in areas of common interest such as experimental mechanics and the theory of elasticity and of vibrations.

New areas of plasticity, instability and non-linear vibrations are being initiated. Engineering drawing, or graphics, is turning away from the development of mechanical skill in drawing and toward teaching the future engineer to "talk with a pencil," less emphasis on traditional techniques and more on the simple methods of graphical presentation of information. Physics is paying great attention to improving its important services to the teaching of undergraduates, with an associate chairman of that department devoting himself to this job. At the upper end of their work they are developing broadness in their program by introducing high research competence in non-nuclear physics such as microspectroscopy and the properties of materials at extremely low temperatures.

Korean Project—During this biennium the Institute has played a large part in the cooperative project with Seoul National University. The objective of the engineering portion was to have at least one of our faculty visit Seoul in each of their engineering areas and have as many of their faculty as circumstances and qualifications warranted visit the Institute. In engineering, by the end of the contract period (fall 1957) this objective will have been substantially accomplished. Eight of our faculty members will have visited Korea to cover all fields except chemical and aeronautical engineering. Forty-five Korean faculty members will have visited the University of Minnesota. During the whole period of the contract we have had two over-all coordinators of engineering resident in Seoul, the first for over a year and the second for a year

and a half. About half a million dollars worth of equipment has been selected in consultation with the Koreans and is either in Korea or on its way. A final large shipment of equipment will be on its way before the end of the contract period. A representative of the Institute to assist in the proper installation and utilization of this equipment will be sent shortly. I believe that the contract obligation in engineering will have been fully met.

The experience of this contract is rewarding in the sense of the relationship established between the Koreans and ourselves, between the two universities and hence as a contribution to relations between our two countries. There is, however, lack of appreciation in the federal agencies concerned of the immense amount of special attention both the individuals and the associated services (equipment lists, etc.) on these programs require if a first-class job is to be done. In times when we are hard put to meet our regular commitments in teaching and research, contracts of this nature, unless they provide fully for additional staff to carry out their terms, operate to dilute efforts on our main program.

Research—More than 95 per cent of the funds designated for research in the Institute come from sources outside of the state support, and it would be virtually impossible to carry the load of graduate instruction without this support.

Nevertheless, such research, if not carefully selected with due consideration to the contribution it can make to upgrading faculty and to graduate and undergraduate teaching, can also be a diluent and have the adverse effect of diverting faculty effort away from its primary responsibility.

A policy of complete integration of teaching and research, of the proper selection of projects to avoid an excess of testing and hardware jobs, of the direction of research by members of the regular faculty, and of reducing as much as possible classified work, circumvents these pitfalls. With some exceptions, this policy is followed in the Institute and sponsored research is a truly valuable contribution and an important permanent part of our teaching program, with most extensive participation by the regular faculty, graduate and undergraduate students.

It is our belief that sponsored research, properly governed by such policies, supported by the federal government and by industry has become a continuing and permanent part of national planning and that a university does not take a risk in budgeting and planning ahead for it. More flexible attitudes toward the replacement of that portion of senior staff time devoted to such research will be most helpful in the future.—ATHELSTAN F. SPILHAUS, *dean*

INSTITUTE OF AGRICULTURE

Agricultural Experiment Station—The Agricultural Experiment Station continues to serve the state. The demands for scientific knowledge regarding agricultural pursuits far exceed our ability to provide answers. Requests for additional research come not only from farmers and farm organizations, but from industry and industrial groups who are dependent on farm products and also from industry seemingly remotely associated with agriculture.

The expanding activities of the Experiment Station necessitated the appointment of an Assistant Director, effective April 1, 1956.

Public Law 352-84th Congress, August 11, 1955, consolidated the Hatch Act of 1887, the Adams Act of 1906, the Purnell Act of 1925, the Bankhead-Jones Act of 1935 and title I, Section 9, of the Act as added in the Act of August 14, 1946. This consolidation simplifies the administration of grant-in-aid funds from the federal government, and reduces Experiment Station appropriated research funds to four categories: Hatch, General Agricultural Research, Regional Research Funds (9b-3), and Rosemount. Hatch funds are now considered a stable source, permitting the appointment of regular research staff on these funds.

The shortage of skilled and well-trained scientific personnel is becoming more and more apparent when vacancies are to be filled, and some departments are encountering serious difficulty in replacing staff members and filling

newly created positions. This seems to be particularly acute in those professions where industry is utilizing scientific personnel. Some departments are partially solving the problem by filling positions at the Research Fellow and Research Associate level with men from other colleges in the United States and foreign countries who wish to pursue post-doctoral studies or who are on sabbatic leaves. This practice offers excellent experience for the personnel who come to the Experiment Station and contributes greatly to the research program. There are approximately 300 people on the regular payroll of the Station and approximately 200 on the miscellaneous payroll.

Eighteen members of the Experiment Station staff traveled to one or more foreign countries on specific assignments during the biennium. Of particular significance is the cooperation with the College of Agriculture, Seoul National University, Republic of Korea. Professor Arthur E. Schneider is stationed in Korea to coordinate and administer the cooperative project in the Republic of Korea, and five other members of staff have been or are in Korea to give advice and counsel on the program of rehabilitating the agricultural research program in that country. At the same time, 17 agricultural scientists from the Republic of Korea have been or are at this Experiment Station to study and to learn how to do agricultural research. They work right along with our staff, thus learning and contributing to our research program at the same time.

The trend in research is toward more basic and fundamental investigations. In many areas, the simple questions have been answered and the immediate results have been acquired, but it is becoming more necessary to dig into the questions of how and why things occur. Practical answers to fundamental problems are not forthcoming because of a lack of information which would come only from basic research. Many problems are being approached with the combined efforts of several departments and personnel with widely divergent professional training.

Investigations on weed control, for example, are directed by a committee representing at least four departments and the Bureau of Plant Industry of the State Department of Agriculture. These men are specialists in their respective crop areas as well as specialists in botany and plant physiology.

A new project under the general heading of "Atoms for Agriculture," was initiated with funds supplied by electric power companies in the upper mid-west. This project entails extensive use of radio-isotopes in tracing the absorption, translocation, and disposition of fertilizers, fungicides, herbicides, and insecticides in plants. It utilizes the special knowledge of soil chemists and physicists, plant physiologists, biochemists, agricultural engineers, agronomists, entomologists, and botanists.

Radio-isotopes are being used extensively in certain investigations in the Departments of Agricultural Engineering, Dairy, Soils, Plant Pathology and Botany, Agronomy and Plant Genetics, Horticulture, and the School of Veterinary Medicine. These investigations are generally concerned with the utilization and translocation of plant foods; animal foods, secretions, and disease control; and genetic processes in animals, plants, and microorganisms.

The Experiment Station has over 300 active research projects. A few were closed and some new ones were added. New projects are often cooperative, usually between two or more departments, in line with the trend of approaching the researches on the problem basis rather than the individual or departmental basis.

Regional research has expanded greatly in the last few years. In this way, agricultural problems are approached on a geographical, regional basis involving two or more states, and in some instances, the 13 North Central States and Alaska cooperate on a single project. The Experiment Station is actively cooperating in 31 regional projects and has representatives on 49 Technical Committees involving as many projects. It is also represented in an interregional project on stone fruit virus diseases with the Northeastern and Western regions, and on an interregional project on potato introduction.

The Experiment Station cooperates closely with many sections of the Agricultural Research Service of the United States Department of Agriculture. The research program of the latter was expanded considerably in the last

biennium, and that agency has located several of its personnel at the Minnesota Station. This is especially true in the areas of farm crops, soils, plant pathology and forestry research.

Investigations and testing programs of the branch stations are better coordinated with the central station at St. Paul. The station at Rosemount, although officially a branch station, serves as an annex to the central station. Because of expanded research and the encroachment of urban life on the St. Paul Campus, more and more activities are being transferred to Rosemount each year. Many of the experimental plots in the departments dealing with crops are located at Rosemount and personnel from the St. Paul Campus supervise and work actively on them. Much of the research in Animal Husbandry, Dairy, and Poultry, in which relatively large numbers of animals are required, is done at Rosemount.

All of the varieties of cereals and forages and many vegetables are tested at most of the branch stations before recommendation to the farmers of Minnesota. These tests are planned by project leaders in St. Paul, but the tests are made cooperatively with branch station personnel. Recently there has been considerable expansion in the testing of new species and varieties of horticultural crops, trees, and shrubs at branch stations.

Each branch station also has projects of its own. They also have projects that are in cooperation with the central station and one or more of the other branch stations, but in each case they are coordinated with researches in the central station.

The Advisory Council of the Institute of Agriculture continues to give help to the Experiment Station. The Council is comprised of people of vision who appreciate the problems and needs of research. They are aware of the need for a long range point of view necessary for research and particularly fundamental research. They give valuable help in presenting the problems of research to those who are in a position to obtain financial aid for personnel, buildings, equipment, and other facilities required for research.

Significant improvements in buildings are on the way. The new power and heating plant, although not a research building, should eliminate the dangers of heat and power failure during cold winter days. This is a very significant consideration because some of the most valuable plant materials are grown in greenhouses which are extremely vulnerable to sudden and dangerous drops in temperature. The new Soils Building, the additions to the Dairy and Veterinary buildings, will provide additional facilities for research in those areas.

At Rosemount, improvements have been made in buildings on several of the installations. Most of those buildings are the minimum needed for operation. For example, a machine, tool, and storage shed on the Plant Pathology farm, a farrowing barn on the Animal Husbandry farm, and additional barn and feed storage space on the Dairy farm have been constructed.

Some remodeling and improvements of machine sheds, barns, storage buildings and heating plant at the station at Grand Rapids will facilitate research. New living quarters for at least two families at the Grand Rapids Station will enable herdsman and caretakers of livestock to live close to their herds, thus alleviating some of the dangers of losses when valuable research animals are sick or in need of immediate care.

At Morris there has been expansion in the Home Economics Building and in greenhouse facilities; and at Waseca, seed storage space and equipment were improved.

The research programs have expanded somewhat due to increases in research funds. The General Agricultural Research Fund was increased slightly by the 1955 legislature, but the increase was barely enough to cover increased costs of operation. There have been substantial increases, however, in federal grant-in-aid research, and contract funds. They have been sufficient to initiate approximately 30 new research projects that will be outlined briefly.

Agricultural Economics started studies to get information on techniques of farm planning and an economic analysis of demand expansion policies and programs for food in the United States. Agricultural Engineering is starting research on new and efficient uses of electricity on the farm. Radio-isotope studies by Agricultural Engineering and Agronomy have been mentioned. In

addition, Agronomy initiated new research on grass silage, a relatively new product on Minnesota farms. Animal Husbandry started work on the nutrition and management of suckling lambs. Biochemistry initiated studies on factors affecting the utilization of feed by ruminants and biochemical studies of factors affecting the growth and metabolism of plants. Both of these studies are basic. An investigation of the factors affecting the market quality of cottage cheese was initiated by Dairy. Entomology was able to start more fundamental research on the migration of potato leaf hoppers and its cause.

New studies were started by Forestry on forest tree breeding for Northern Minnesota, and on adaptability and growth of tree species on Southern Minnesota farm lands. Horticulture started work on the breeding of hardy ornamental shrubs and trees for Minnesota. Home Economics began to study the energy metabolism of population groups 40 years of age or older, and initiated a project on comparing rural and urban home economics students in regard to parental guidance, affection, and leadership.

New studies by Plant Pathology using radio-isotopes as a tool have been mentioned. In addition, a new project was developed on the physiology of host-parasite relationships in regard to plant diseases. In addition to radio-isotope work in Soils, they have been able to start some fundamental work on physical, chemical, and morphological characteristics of organic soils in Minnesota.

Animal disease situations sometimes change rapidly and the School of Veterinary Medicine, therefore, must adapt its program to nature's way of changing diseases. Investigations were initiated on the edema disease of pigs, psittacosis of poultry, bloat of ruminants, bovine lead poisoning, bruises in hams, adrenal glands of ruminants, and bovine vibriosis.

With changes in the economical and sociological aspects of rural life, Rural Sociology initiated studies on rural living in the cutover area of Northern Minnesota.

It is anticipated that these new areas of research will contribute greatly to the improved agriculture of Minnesota and the nation. But the old projects continue to produce results that have changed farming practices and will continue to do so. A fairly complete resume of these activities appears in the biennial report for 1952-54.

The results of these investigations are disseminated to all interested citizens in many ways. The Agricultural Extension Service is responsible for getting the results of research to the grass roots level, but the Experiment Station staff participates extensively in these activities by giving public addresses at meetings, short courses, meetings of special groups such as the Clover Festival at Roseau, Minnesota; the Southwest Crop Improvement Association, and others. Personnel from the Experiment Station are called on for radio and television interviews, and they take part in special farmers' programs at the branch stations, such as crops and soils days, corn and soybean days, horticultural crops days, special livestock days, and others.

Many staff members are obligated to spend significant amounts of time on the telephone, answering questions frequently from the urban population of the Twin Cities. In addition, they are deluged with daily requests from the public to diagnose plant disease and insect problems, animal disease problems, questions regarding homemaking and cooking, food preservation, and hundreds of other problems. These contacts are getting the results of research to the public.

Publication, of course, is the standard method of reporting the results of research. In addition to the regular bulletins, reports pamphlets, and journal series of the Experiment Station (Table 1), some staff members write popular articles for farm magazines or contribute to articles written by agricultural editors and writers of farm magazines.

In the area of publication, a new medium was originated. It is a series of "Research Project Reports" that is prepared for release to the local press or farm magazines. Each report presents the staff and research projects currently active in the respective departments of the Experiment Station. These reports serve as a quick source of information on the activities of each department.

PUBLICATIONS OF THE EXPERIMENT STATION 1954-55 AND 1955-56

Experiment Station Publications		Number Issued	Number of Pages	Number of Copies
General Series Bulletins	1954-55	5	133	29,500
	1955-56	4	88	38,500
Technical Series Bulletin	1954-55	3	71	11,000
	1955-56	7	308	23,000
Minnesota Farm and Home Science	1954-55	3	56	49,700
	1955-56	3	60	49,700
Miscellaneous and Technical Report Series	1954-55	3	64	25,000
	1955-56	3	50	25,000
Journal Series	1954-55	227	1222	
	1955-56	172	1124	

Agricultural Extension Service—In several respects, the past biennium has been a testing period for the Agricultural Extension Service. The Agricultural Extension Act of 1953, passed by the Minnesota Legislature, provided for an Extension Committee composed of nine local men and women in each county, to be appointed by the county board of commissioners. Previously, the county extension services had a co-operative relationship with the county farm bureaus. Most of the members of the county extension committees were Farm Bureau members who had long periods of contact with the Extension Service and were quite familiar with the organization, its objectives and programs. Under the new legislation, a substantial number of persons were appointed to extension committees who were much less familiar with the Agricultural Extension Service than members of the preceding committees.

In general, the new committees have fully accepted their responsibilities and are contributing materially to the Extension Service program. More than two years' experience with the law has made it clear that some modifications are needed to make it more effective. Appropriate amendments will be recommended to the 1957 Legislature. Funds which formerly were provided by county farm bureaus for extension work have been more than replaced by county appropriations during the past two years. The transition from operations under the old to the amended law has been made with little friction and with no pause in the extension program.

It was pointed out in the last biennial report that in 1953 Congress passed legislation in which the successive acts pertaining to the Agricultural Extension Service were consolidated in the form of an amendment to the Smith-Lever Act, and a provision made whereby Congress may appropriate in one sum as much as may be deemed necessary or desirable each year for the support of extension work. During each of the past two years Congress has provided substantial increases over the previous years for extension work. These increases were made with the understanding that approximately 85 per cent of the new funds would be used for additional county personnel, mainly for the purpose of giving more individual help to farm people. As a result of these additional funds 43 county positions have been added, enabling county extension agents to devote a considerable amount of time to the farm and home development program with individual farm families.

An important phase of administration is the supervision of county staffs, programs and finances. Until these new funds were provided the state had been divided into three supervisory districts, with one county agricultural agent supervisor, one home agent supervisor and one 4-H district supervisor assigned to each district. For several years it had been recognized that additional supervisors were needed to handle more effectively the growing load of work. The increased federal funds not allocated to county work provided the means to employ one additional county agent supervisor, one home agent supervisor and one 4-H club district leader. The state was, therefore, re-districted into four in place of the previous three supervisory districts and assignments of the supervisory staff made to the newly formed districts. This realignment has enabled the supervisors to devote relatively more of their time to assisting the agents with their work programs and proportionately less

to the other supervisory duties. The 4-H district supervisors had some changes made in their duties and are now designated as 4-H district leaders.

A major change occurred in the administrative staff with the resignation in September 1954 of the late Paul E. Miller, who had been director of Agricultural Extension since 1938. Skuli Rutford, assistant director, was appointed to succeed Mr. Miller, and Roland Abraham, district county agent supervisor, was appointed to the position of assistant director. The men and women supervisors who were necessary for the newly created positions and for replacements were promoted from county positions.

Three new specialist positions have been created during the biennium, one in dairy products, one in family life, and one in farm management. The latter is an addition to the two previous farm management positions, partly in response to the need arising out of the farm and home development program and in part to the increasing specific requests from farmers for sound farm management information.

During the biennium, there were increases in appropriations from all three sources of extension funds. The total increase in federal funds from July 1, 1954, through June 30, 1956, amounted to \$324,763.25 or somewhat more than 38 per cent over the year ending June 30, 1954.

The State Legislature appropriated an additional \$35,200 for the regular extension program for 1955-56. This is equivalent to just a trifle more than 10 per cent. It also provided \$14,000 additional funds, approximately 19 per cent, for the soil conservation program carried on through soil conservation agents. Combining the two appropriations the state appropriations were increased by a total of \$49,200 or 11.6 per cent.

During the same two-year period, county appropriations were increased by \$115,731 equivalent to 20.5 per cent. The appropriations from federal and county sources were increased on a percentage basis substantially more than from the state. One of the important needs of the Agricultural Extension Service is additional funds for salaries. The latest available data (October, 1955) show that average salaries for Minnesota agents in all categories, except assistant agents, are substantially below the national average. With Minnesota ranking fifth among the states in value of agricultural products sold, it would appear logical that the state could profitably appropriate sufficient funds to help maintain a highly competent extension personnel with a salary scale at least as high as the national average. At the close of the biennium, there were 409 full-time workers employed on the academic and civil service staffs in the state and county offices, 316 of whom were employed in the counties and 93 in the state office.

Personnel turnover continues to be a problem, more serious in the counties from the standpoint of numbers, but serious also in the state office because of the difficulty in finding and keeping adequately trained people at present salary levels. In the counties, home agents cause the most concern. There is a very limited number of home economics graduates each year, many of whom are not interested in positions in the Extension Service. Others will accept teaching positions at salaries as high or higher than offered for home agents, making it difficult to keep home agent positions filled. Although there is quite a turnover in agricultural agents, there is less difficulty in finding competent replacements than in the case of home agents. In spite of these handicaps it has been possible to maintain a reasonably strong staff and to carry on an effective extension program.

During 1955, county extension agents (home agents, 4-H club and agricultural agents) made 83,512 farm visits, had 210,422 office calls and 150,503 telephone calls, all of which showed an increase over the previous year. County workers also prepared 25,199 news stories, made 5,549 radio broadcasts, participated in 157 television shows and distributed 501,022 bulletins. In 1955, a total of 47,764 boys and girls were enrolled in 2,063 4-H clubs with more than 8,100 adult leaders, and 7,900 junior leaders assisting in carrying on the program. During the same year there were 3,377 organized clubs for home demonstration work with an enrollment of 49,357 women. A total of 12,094 men assisted the agents in connection with some phase of agricultural extension work.

Each biennium shows some change in the particular phases of the extension program that are emphasized. During the past biennium, there was much

stress on soils and soil management, use of fertilizers, crop varieties and the place of grass silage in the farm organization. One outstanding example of effective extension teaching was provided by state extension specialists in soils, agronomy, and the information service, co-operating with a county agent and a soil conservation agent, through the conduct of a demonstration called "Corn Yesterday and Today." Basically the demonstration was designed to show local farmers the advances made in corn production (and of other crops) during the past 30-year period through the adoption of extension-taught practices. Corn was grown on one plot using 1925 methods and on an adjacent plot using 1955 methods. The direct results were gratifying. "Corn Today" yielded 123 bushels per acre as against 59 bushels for "Yesterday's Corn." Nearly 500 people visited the plots, and it is estimated that at least 6,000,000 people had indirect contact with the demonstration through the medium of radio, farm press, trade journals, television, and visual aids prepared for use at meetings.

Farm and home management received added impetus due in part to the emphasis that was placed on farm and home development. Extension agents have always assisted farmers and homemakers with their individual problems, but often not in relation to the over-all problems of farm and home. The need for individual help has been recognized nationally by farm leaders as well as by local people in the counties and increased financial support has been received by the Agricultural Extension Service for this purpose. Additional personnel has been employed to make more of this work possible and regular agents, including agricultural agents, home agents, and 4-H agents are gradually devoting more time to it. To acquaint state and county staff members more fully with procedures for handling this program a series of conferences was held in the fall and winter of 1954-55. Following these conferences a majority of the counties started farm and home development work. It is now quite well established and is being carried on with success in most of the counties.

During this two-year period, considerable emphasis has also been placed on county "program projection." As contrasted with the usual year-to-year basis followed in planning extension programs, "program projection" calls for planning for a longer period with particular attention to underlying long-time problems. About 20 per cent of the counties are now engaged in this long-time planning, and it is contemplated that in five or six years all counties in the state will have been reached.

The core of the home program continues to be in the fields of nutrition, clothing, health and home management. Without neglecting any of these fields, additional emphasis has been given to the use of dairy products in the field of nutrition, the family life program and consumer information.

Although many activities have been added to enrich and broaden the 4-H club experience, the basic core of 4-H club work continues to lie in the project work itself. For the girls, the projects dealing with foods, clothing, and home-making attracted the most interest. The boys participated most freely in livestock, poultry, and crops projects. Noteworthy additions to the program included expansion of participation in the International Farm Youth Exchange (IFYE), the conduct of the land appreciation contest, and the holding of district training schools for leaders in the fields of conservation and rural electrification projects in club work.

The biennium has been characterized by significant developments in extension work. Extension personnel on both state and county levels have been alert to these developments and have moved with considerable success to meet the challenges. It is anticipated that, as in the past, the Extension Service will, in the future, continue to meet the needs of farmers, homemakers, and rural youth for information and assistance in fields that are of interest and concern to rural people.

College of Agriculture, Forestry, and Home Economics—Some of the more significant developments in the College of Agriculture, Forestry, and Home Economics during the biennium include: (1) an upturn in enrollment for the first time since the post-World War II bulge, (2) Regents' action authorizing construction of new dormitories for college men and women, and a new Student Center on the St. Paul Campus, (3) expansion of the scholarship program, (4) publication and distribution of brochures, "opportunities" leaflets, and other

career information for use of counselors and prospective students, (5) extension of counseling service of the Office of Dean of Students to St. Paul Campus dormitories occupied by college students, (6) appointment of new college committees to study special problems, and (7) introduction of a new publication, "St. Paul Campus News Notes."

Enrollment in the College of Agriculture, Forestry, and Home Economics increased considerably during the biennium. The increase was from a post-World War II low of 1324 during the academic year 1953-54, to 1435 in 1954-55, and 1733 in 1955-56. Thus, the increase over the preceding year was eight per cent during the first year of the biennium, and about 21 per cent during the next year.

Enrollment in 1955-56 was 81 per cent of the post-World War II peak reached in 1948-49, and 95 per cent of the enrollment in 1940-41, the last full academic year before World War II. In the three areas of Agriculture, Forestry, and Home Economics, the 1955-56 enrollments were 82, 65, and 89 per cent respectively of the 1948-49 figures, and 117, 127, and 68 per cent respectively of the 1940-41 figures. Although enrollment in Home Economics increased 12 per cent during the biennium, it remained relatively low compared with the enrollment in this area before World War II.

Rising enrollments call for an expansion of living facilities. The University is attacking this problem on a wide front. The construction of two dormitory units—one for 150 college men and one for 150 college women—and the construction of a new Student Center on the St. Paul Campus were authorized by the Board of Regents during 1955-56. Building committees have been appointed, architects have been employed, and construction of these buildings will begin during the next fiscal year.

The resident staff of the Institute of Agriculture has recommended that a central dining facility be given first priority in future building requests for the St. Paul Campus. The proposed building will meet the expanding needs of students, staff, short course groups, visitors, and others. Plans call for the location of this building in such a way as to supplement and complement the new dormitories and Student Center.

Scholarships for students in the College of Agriculture, Forestry, and Home Economics increased considerably during the biennium. New scholarships for entering freshmen include: (1) The Augustus L. Searle Student Loan and Scholarship Fund—15 scholarships in the amount of \$300 each for women students only, (2) Minnesota Dairy Industry Scholarships—10 scholarships of \$300 each for students majoring in Dairy Industry, (3) Smith-Douglass Co., Inc., Scholarship Fund—two scholarships of \$1,000 each, and four scholarships of \$300 each for students with majors in Soils, (4) Chapman Foundation Scholarship Fund—two scholarships of \$300 each for students majoring in Forestry, and (5) Twin City Homemakers Section of Minnesota and American Home Economics Association Scholarship Fund—one scholarship of \$150 for a student in Home Economics.

New scholarships for students other than entering freshmen include: (1) Northwest Feed Manufacturers Association Scholarship Fund—six scholarships of \$300 each for students majoring in Animal Husbandry, Dairy Husbandry, and Poultry Husbandry, with emphasis on nutrition, (2) Thomas Murdock Partridge Memorial Fund—initial gift of \$5,000: income to be used for scholarships for undergraduate students in Forestry, (3) Homelite Forestry Scholarship Funds—two scholarships of \$250 each for students in Forestry, (4) Fribourg Foundation Scholarship Fund—two scholarships of \$500 each for juniors or seniors in this and other colleges of the University of Minnesota pursuing study in areas pertinent to the grain industry, (5) Ralston Purina Company Scholarship Fund—one scholarship of \$500 for an incoming senior in Agriculture who is majoring in a field closely associated with the feed industry, (6) Henry Schmitz Student Leadership Fund—one scholarship of \$100 for a student in Forestry, (7) Stanley Buckman Fund—gift of \$4,000, the income from which is to be used to provide Henry Schmitz Student Leadership Scholarships for students in Forestry, (8) Twin Cities Hoo Hoo Club Endowment Fund—gift of \$4,500, income to be used for scholarships for students in Forestry.

Twenty thousand copies of a four-page brochure on agriculture and 20,000 copies of a four-page brochure on forestry were printed during the biennium. The demand for the four-page brochure on home economics, which was printed

previously, was so great that an additional supply was printed for use during this biennium. "Opportunities" leaflets covering 24 areas of study were prepared by the various departments. Eight thousand copies of a 32-page brochure "Careers Ahead" were purchased for distribution in Minnesota. This brochure was developed by the Resident Instruction Section, Division of Agriculture, American Association of Land-Grant Colleges and State Universities in cooperation with the National Project on Agricultural Communications. These materials have been placed in the hands of high school counselors, county agents, 4-H club leaders, vocational agriculture and home economics instructors, and other counselors of prospective college students. They have also been used at high school career days and at Future Farmers of America and 4-H club meetings.

The exhibit space regularly used by the University of Minnesota in the Education Building on the State Fair grounds was assigned to the Institute of Agriculture during the 1954 Minnesota State Fair. The exhibit was planned and the booth staffed with a view to explaining the resident teaching functions of the Institute.

The primary objectives of the exhibit were: (1) to interpret more fully to the public the instructional offerings of the Institute of Agriculture, (2) to point out career opportunities in agriculture, forestry, home economics, and veterinary medicine, and (3) to establish contacts with graduates, former students, and friends of the University.

The booth was manned by 40 different staff members during the 10 days of the fair. It was apparent to those who manned the booth that most high school counselors are not adequately informed about the offerings of the College of Agriculture, Forestry, and Home Economics and of the School of Veterinary Medicine, or of the many career opportunities for those who major in these areas. Closer contact with high school counselors appears to be highly desirable.

Staff and faculty of the College of Agriculture, Forestry, and Home Economics have utilized personal contact and appearances in encouraging Minnesota's rural youth to consider post-high school educational programs and to interpret more fully to high school graduates the many and varied career opportunities in agriculture, forestry, home economics, and veterinary medicine. Representation upon invitation at high school career days has increased in frequency. Faculty members from many different departments have cooperated in this work. During the past biennium increased interest in post-high school educational opportunities for rural youth by county extension personnel has resulted in increased youth group visitations to the campus and participation by college personnel in 4-H club, junior leader, rural youth, and adult leader conferences in county, district, and statewide programs.

On May 17, 1956, the second annual "Minnesota Dairy Industry Career Day" was held on the St. Paul Campus. Sponsored by the Dairy Industry staff and the Minnesota Dairy Industry Committee, this program was designed to illustrate career opportunities in the Dairy Industry. Approximately 350 young men and women, together with parents, high school advisers, and men of the industry, were present. The success of this program after but two years of operation has suggested its continuance as an annual event. In a somewhat similar sense, the annual Home Economics Career Workshops for high school girls, sponsored by the Minnesota Dietetic and Home Economics Associations serve to introduce students to the many facets of home economics.

In a Graduate Day program on February 18, 1956, attended by 72 students holding or approaching the Bachelor of Science degree in Home Economics in 14 Minnesota or adjacent state college-level institutions, plus representatives from hospital programs offering dietetic internships, the School of Home Economics emphasized career opportunities for those with advanced specializations in the field.

The Minnesota Royal student-sponsored high school day programs attracted many high school students and rural youth to the campus. In 1956 the state convention and annual judging contests of the Minnesota Association of Future Farmers of America were related to the Minnesota Royal open house program, making it possible to show to the approximately 2,000 farm boys visiting the campus the wide variety of activities undertaken by those professionally trained in agriculture.

Contacts with high school administrators, guidance workers, and teachers make evident the need for more careful and adequate interpretation of the characteristics of professionally trained individuals in those areas served by the College of Agriculture, Forestry, and Home Economics, and of the career opportunities available in these fields.

In the fall of 1954, the counseling services of the Office of the Dean of Students were extended to St. Paul Campus dormitories occupied by college students. Counselors in these dormitories are now supervised in the same manner as dormitory counselors on the Minneapolis Campus. This service will be expanded to include the new dormitories for college men and women which will be built on the St. Paul Campus during the next biennium.

The recommendation of the College Enrollment Committee that a Collegiate Faculty Consultative Committee be established on the St. Paul Campus was approved by the faculties of the College of Agriculture, Forestry, and Home Economics (March 7, 1955), and the School of Veterinary Medicine (April 25, 1955). Procedures called for the election of a committee of 10—representing the areas agriculture, forestry, home economics, and veterinary medicine—by the members of the collegiate faculties of the College of Agriculture, Forestry, and Home Economics, and the School of Veterinary Medicine. The functions of this committee were listed as follows:

1. To serve as a group representing the collegiate teaching faculty in the Institute of Agriculture.
2. To assess trends and identify problems relating to collegiate instruction.
3. To evaluate the degree to which the Institute of Agriculture is meeting its responsibilities relating to collegiate instruction.
4. To recommend appropriate action by the faculty or the administration.
5. To provide a committee with which the administrative officers may consult.

On March 7, 1955, the faculty approved a recommendation of its Curriculum Committee that the faculty of the College of Agriculture, Forestry, and Home Economics undertake a thorough study of its present course offerings and the organization of its various curriculums, and that a committee be appointed to supervise this project. Such a committee named the "Curriculum Self-Survey Committee" was appointed in April 1955.

The Curriculum Self-Survey Committee intends to keep in close touch with the faculty by means of frequent progress reports. The committee has raised a number of basic questions, and has reported its intention to approach these questions through the use of subcommittees. The following subcommittees have been appointed: (1) Subcommittee on Special Problems of Admission, (2) Subcommittee on Farm Experience Requirement, (3) Subcommittee on the Humanities and Social Sciences in Professional Curriculums on the St. Paul Campus, (4) Subcommittee on Use of Faculty and Student Time, and (5) Subcommittee on New Curriculums in General Agriculture.

As the various subcommittees complete their assignments, the Curriculum Self-Survey Committee will report recommendations to the faculty for study and discussion. Increased departmental participation in the curriculum self-survey will follow the development of basic ideas and suggestions.

Increased enrollment will call for more efficient use of existing classroom space. This will mean more even distribution of classes throughout the hours of each day and each day of the week. To meet this problem a new standing committee—the Scheduling Committee—was established by the faculty of the college on May 7, 1956.

As a result of campus-wide discussion an experimental issue of "St. Paul Campus News Notes" was issued in May, 1956, by the Information Service at the suggestion of the Collegiate Faculty Consultative Committee. Well over 90 per cent of the staff returning the questionnaire attached to the first issue indicated that they would like to see the publication continued. The purpose of this publication is to keep members of staff of the Institute of Agriculture fully informed of staff and student activities and of significant developments throughout the Institute. Tentative plans call for monthly publication of "St. Paul Campus News Notes" except during the summer. It is being distributed

to all members of staff on the St. Paul Campus and at the outlying schools of agriculture and agricultural experiment stations.

School of Veterinary Medicine—The 1954-56 biennium has brought about continued progress in the teaching, research and service activities of the School. The fifth and sixth classes were graduated (46 in 1955 and 40 in 1956), the majority entering general practice.

The number of students admitted to the freshman class is still limited to a maximum of 50. Little increase in this number can be anticipated without increased staff and completion of the basic facilities for the School. Based upon present costs at other institutions completing entirely new facilities indicates that the primary teaching, research and service facilities for Minnesota are about half completed.

Several organizational changes were made during the biennium. The Department of Veterinary Science was discontinued and the research activities of that department were placed in the various subject-matter divisions of the School. The Division of Veterinary Diagnostic Laboratories was established. The Division of Clinics was combined with medicine into the Division of Veterinary Medicine and Clinics.

Added during the biennium were 16 new instructor positions and one associate professor position. The Inspection Committee of the Council on Education of the American Veterinary Medical Association inspected the school in April 1956. The report of this committee indicated that the school would be removed from public probation. This is one step closer to full accreditation.

Graduate School approval of the six subject-matter categories in the School of Veterinary Medicine was a marked improvement. This change was critically needed in our efforts to recruit highly qualified faculty.

Continued progress in the animal disease research work of the School has of necessity been on a selective basis since facilities for certain isolation procedures are not available.

The general morale of the faculty and staff has improved, a contributing factor being the critically needed salary adjustments made during the biennium.

The Division of Veterinary Anatomy has continued to make progress in its teaching and research program. A new instructor position was created in 1954 in the area of Gross Anatomy. A rearrangement in sequence of the subject-matter material for Gross Anatomy teaching to the freshman veterinary students resulted in a marked improvement of instruction in this basic course. Additional visual aid materials and teaching techniques have been put into operation and have added much to both gross and microscopic anatomy taught in the division. Several new graduate courses have been added.

The research program in this division is basic to many projects and is carried on cooperatively with other divisions of the School of Veterinary Medicine specifically surgery, obstetrics, pathology, and physiology. A cooperative research project with the Department of Animal Husbandry and the Hormel Packing Company determined the cause of bruises in hams, a problem of considerable economic importance to the meat packing industry. The neuroanatomy research has received additional support in the way of special equipment. These investigations are outstanding in the field of veterinary medicine in the United States. Several foreign students of a senior scientist category have spent time in the Division of Veterinary Anatomy adding emphasis to the reputation and importance of the research program in this division.

The Division of Veterinary Bacteriology has made considerable progress in its teaching program. An associate professor position covering the area of Veterinary Public Health, Meat and Food Hygiene was established and filled, effective July 1, 1956. The research program in this division has made marked progress, particularly on the diseases of turkeys. Control programs have been developed for certain diseases of turkeys, and the use of antibiotics and chemotherapeutic agents have been evaluated in relation to some of the more important poultry diseases. Studies have been continued on a more effective vaccination program for bronchitis and Newcastle disease.

The brucellosis program consists of co-operative field studies on various modifications of the milk ring test as well as the serum agglutination test

which have resulted in a major improvement in the efficiency of the ring test in the detection of brucellosis in dairy herds. The studies on the serum agglutination test for the diagnosis of brucellosis in swine have provided the basis of plans for the certification of herds of swine as brucellosis-free.

The Division of Veterinary Pathology and Parasitology has added one new instructor position. The research program has been expanded on leptospirosis by the assignment of personnel from the Agricultural Research Services, United States Department of Agriculture. It is becoming more and more evident that this disease causes more economic loss than originally was believed. Aplastic anemia produced by trichloroethylene-extracted meat scrap and soybean oil meal in cattle is being investigated further with support from the Atomic Energy Commission because of special interest in blood anomalies. Additional veterinarians as research fellows have been added on swine disease research, a program which is making definite headway on some of the important disease conditions. The liver fluke infestation in sheep and cattle (also in deer) in the northern part of the state, has caused economic loss to the packing and livestock industries. Efforts are being made to learn more about the life cycle and how the parasite effectively can be controlled.

The Division of Veterinary Physiology and Pharmacology has continued to develop further its teaching and research program. One staff member returned from military service during the biennium. A research fellow was added to the research program on bloat in cattle. This research is considered the leading work in the United States on this physiological condition. Studies have been continued on various physiological phenomena dealing with the innervation of the bovine stomach which is basic to studies in bloat. Pharmacological studies have been continued on various sulfonamides, and an improved diagnostic test for lead poisoning in cattle was developed. This will be of importance to the diagnostic laboratories throughout the United States.

The Division of Veterinary Medicine and Clinics has two essential functions. The teaching responsibility which involves seven quarters of the students' time is designed to train the junior and senior students in methods of diagnosis and prevention of all diseases in animals. This is a major role of the division. The other responsibility is the operation of the Veterinary Clinic which essentially operates as both a large and small animal hospital in which the Division of Veterinary Medicine participates, as well as the Divisions of Surgery and Radiology and the Division of Veterinary Obstetrics. Many of the cases referred to this clinic, both large and small animal, are problem cases referred by other veterinarians in the state, particularly in the case of large animals. The clinic offers direct services as part of its teaching program in the form of an ambulatory clinic which was expanded July 1, 1956, by establishing a field station. Many of the clinic staff participate in research on disease problems and make field investigations for the State Livestock Sanitary Board as a part of its disease control program.

The research program of the division has continued to grow, and an active project is being developed on bovine mastitis with emphasis on treatment and control of streptococcal mastitis.

The clinic provides services to the livestock and pet owner as well as providing first-hand experience, to the student, in the treatment of animal diseases. The research being carried on and the public services of the division are direct and real contributions to the livestock industry. Two new instructors were added to the division.

The Division of Veterinary Surgery and Radiology has obtained additional new equipment resulting in a marked improvement in handling X-rays and teaching the students the proper use of radiological techniques in the clinic. An additional instructor position was established in this division in the area of radiology. All staff members in this division participate in research projects co-operatively with other divisions of the School of Veterinary Medicine, as well as in projects specifically in the field of surgery and radiology.

The addition of laboratory teaching equipment and an additional instructor to the staff of the Division of Veterinary Obstetrics have improved the teaching program. An arrangement has been worked out with one of the local packing companies to obtain material for teaching junior veterinary students procedures employed in the obstetrical and sterility work. The research program of this division has progressed and recently received an increased grant

from the Hill Foundation for studies of vibriosis in relation to sterility in cattle.

An additional staff member was added to the Division of Veterinary Diagnostic Laboratories supported partly from the small increase in funds from the 1955-57 appropriation and from adjustments within the School of Veterinary Medicine. When this division was established, the former Department of Veterinary Science was dropped. The laboratory continues to be the first line of defense against animal diseases in the state of Minnesota and in making diagnoses of diseases of all the food-producing animals and of rabies in dogs. It is interesting to note that not a single case of canine rabies, contracted from dog to dog, was encountered during the past year. The five positive cases of dog rabies could all be traced to exposure to skunks who apparently are the reservoir of infection for rabies in this area. The *Salmonella pullorum* control program for turkey poults in the turkey hatchery industry has shown that in all of those flocks under this program and the National Turkey Improvement Program there has not been a case in which *Salmonella pullorum* has been isolated from turkey poults over the past two years. This laboratory participates on a cooperative basis with many of the research projects. It is one of the most important activities from which research projects are developed and reveals the need for new research or adjustments in the research projects of the School of Veterinary Medicine.

Schools of Agriculture—During the biennium of 1954-56, the program of post-high school vocational training in the St. Paul School of Agriculture has continued to develop and to become better known throughout the state. There has been acceptance of the post-high school vocational program on the part of vocational agriculture instructors. Most of the students now come to the school through them.

The average enrollment in the School of Agriculture on the St. Paul Campus over the past ten years has fluctuated from around 200 during the war and draft years to well over 300 during years of peace. The enrollment for 1954-55 was 253 and the enrollment for 1955-56 was 255. There has been a slight increase for each year of the past five years.

The outstanding promotion program for the School continues to be the one carried on by the Minnesota Bankers Association. The bankers in 43 counties now provide scholarships for the School of Agriculture on the St. Paul Campus. Since the program was started, 127 students attending the School have received scholarships providing \$200 a year or \$100 per term. At the last meeting of the Minnesota Bankers Association, enthusiastic approval was given to the continuation of this program. Several more counties are now planning to come into the program. This program is part of a national program sponsored by the National Committee on Scholarships of the American Bankers Association.

The course in practical nursing and home management continues to be a useful offering. Upon graduation from the course, these students take state board examinations to qualify as licensed practical nurses. The girls who have completed the work in practical nursing and home management have no difficulty in securing employment in hospitals throughout the state. Since the inception of the course six classes with a total of 59 students have graduated.

The Red Owl Stores furnish five scholarships of \$200 each for the practical nursing and home management course. The Tozer Foundation, Inc. of Stillwater, Minnesota, offers six scholarships of \$200 each.

The new course for training food technicians is growing. During this past year eight students were enrolled. To date, the School has graduated 12 food technicians. The hospitals throughout the state are becoming aware of this program and are eager to employ these girls. The School of Agriculture is the only school in this area giving this type of training, and it has had splendid cooperation from the University Hospitals.

One of the very successful activities in the School of Agriculture is the Swedish Exchange Student program. Young men from Sweden work on farms in Minnesota in the summer and enter the School of Agriculture in the fall. When the present group of students returned to Sweden in the fall of 1956 the School had had 66 young men from Sweden who have worked on farms in Minnesota for six months, have attended the School of Agriculture for six

months; and then, in the case of many, have worked on farms in California for several months before returning to Sweden. Two Minnesota School of Agriculture students are now in Sweden working on farms, and they will attend a school of agriculture in one of the provinces of Sweden during the fall and winter and then return to their farm homes. Applications are pending from six young men who wish to go to Sweden on this program next year.

The outlying Schools of Agriculture at Morris, Crookston, Grand Rapids and Waseca continue to offer a program of training in vocational agriculture and home economics, which is planned for eighth-grade graduates, and those students who may have completed one or two years of high school. In general, the average age of the students is less than that of the students in the School of Agriculture at St. Paul.

The Northwest School at Crookston is the largest in terms of students enrolled. In 1954-55 the total enrollment was 436 and in 1955-56 there were 430 students. During the biennium a much needed remodeling job was completed on the Home Economics Building. New, up-to-date equipment was installed, thus making it possible to offer courses that fit the needs of the present-day students.

With the exception of the girls' dormitory, the remodeled Home Economics Building, the Kiehle Building (offices and auditorium) and the Health Service Building, all of the buildings at the Northwest School are old and have deteriorated badly. A major remodeling and renovation program must be undertaken in the very near future, and the principal classroom building, the Hill Building, must be replaced.

The West Central School of Agriculture at Morris is second in student enrollment. In 1954-55, 371 students attended the school, and in 1955-56 the total enrollment was 358.

During the biennium the faculty of this school has completed a very comprehensive study of the program of the school. This has led to some changes in course offerings; and, in some instances, to changes in teaching methods. It is planned that this self-study will be on a continuing basis.

During the biennium a new and modern Home Economics Building was completed and put into operation at Morris. This provides adequate space for instruction in home economics and related subjects, and with proper planning, will also provide some general classroom space.

Third in student enrollment is the Southern School of Agriculture at Waseca. In 1954-55, 154 students registered, and in 1955-56 there were 168 students enrolled. Up to the present time, school enrollment has been limited by the amount of dormitory space available. The 1955 Legislature provided funds for an addition to the boys' dormitory to accommodate 110 additional students. At the close of the biennium this addition was practically completed, and it is expected that it will be put into service in the fall of 1957.

Larger enrollments at the Southern School of Agriculture emphasize the need for physical education and recreation facilities. They will have to be provided in the future if the Southern School is to be in a position to offer a well-rounded program to the students enrolling there.

The smallest of the four outlying schools is the North Central School at Grand Rapids. In 1954-55, there were 99 students enrolled, and in 1955-56 a total of 96 students. This is just about the capacity for the present dormitory facilities at Grand Rapids.

There has been an improvement noted in the students who have attended this school during the past biennium. This is credited to a more careful selection of applicants and an improved guidance and testing program.

The staff has originated, and will continue, a self-analysis program designed to keep them alert to the changes taking place in the area insofar as it affects agricultural development. During the past two years new courses in geology and general business training have been added.

The Grand Rapids school has made a definite effort to keep its buildings in use during the six summer months when the regular school students are not present. The civil engineers' summer camp occupies the plant during the first summer session. This has been a mutually helpful arrangement with the Institute of Technology. Also 4-H Week, Women's Rest Camp, Future Farmers of America groups, vocational agriculture instructors, short courses, and meet-

ings of agricultural extension groups have utilized the facilities of the school during much of the free time in the summer.

The activities and programs of all of the schools of agriculture are being watched constantly. This is particularly necessary as high schools throughout the state expand their offerings in agriculture and home economics. The time has not yet arrived, but may in the future, when the schools will have served their purpose as they are now operated, and a new and different type of operation may be in order.

Agricultural Short Courses—During the biennium of 1954-56, 97 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 27,731 persons. Comparative attendance figures for recent biennial periods are:

1946-48	16,344
1948-50	24,758
1950-52	25,298
1952-54	24,503
1954-56	27,731
Ten-year total	118,634

It should be understood that, in addition to the list of short courses and conferences, arrangements have been made for many visits and visitors' tours which are not recorded in this schedule. This would include all the foreign groups, since the Director of Short Courses also serves as foreign contact officer for the Institute of Agriculture. It is estimated that the foreign visitor groups alone for the biennium would total several hundred people.

In addition to the short courses, conferences, and foreign groups, the short course office also serves as a liaison office in the arrangement of special classes given by the Institute of Agriculture through the General Extension Division and this includes the Correspondence Study Courses and the Evening Classes. During this biennium, 23 extension classes were held with a total registration of 518. In addition, 11 correspondence courses were conducted with an enrollment of 153. This gives a total of 28,402 persons who received the services of the University through the short course office.

The short course office has come to serve as a clearing house for all short courses given through the Institute of Agriculture, whether they are offered on the St. Paul Campus, or at the outlying schools or stations. Short courses have been given on the Crookston, Waseca, Grand Rapids, and Morris campuses. Insofar as possible, when serving groups primarily in certain areas of the state, short courses using the facilities of one of the outlying schools are arranged.

It becomes more apparent with each year that a short course center on the St. Paul Campus is needed. It is very encouraging to note that this may become a reality within a relatively short time through the funds to be acquired from the Earle Brown properties which were given to the University for the purpose of building such a short course center.

If proper facilities are available for taking care of all farm or related groups, it will be possible to do a much better job for those in attendance and the many groups who would like to come to the campus if facilities were better.

The short course activity is an instructional program, and it also constitutes one of the front lines of good public relations.—HAROLD MACY, *dean*

COLLEGE OF MEDICAL SCIENCES

The Mayo Memorial building, which brings under one roof the basic science and clinical departments of the Medical School, provides excellent facilities for the offices, conference rooms, teaching and research laboratories of the clinical departments and the Department of Bacteriology of the Medical School; for the Rehabilitation Center; for the School of Public Health; and for

the operating rooms, laboratories, X-ray Department and the administrative offices and other basic services of the University Hospitals. In addition, remodeling of the various areas of the University Hospitals and Out-Patient Department has resulted in modernization of some antiquated sections of this institution. The educational facilities of the College of Medical Sciences have been greatly improved also by the construction of the Mayo Memorial Auditorium with seating capacity of 600 persons, and two new adjacent class rooms seating 180 students each. Still other exceedingly valuable additions to these facilities are the underground animal research laboratories and animal hospital for research work by the staff of the departments housed in the Mayo Memorial; and the 300-car underground garage connected with this unit.

These new facilities were completed, occupied, and dedicated in the fall of 1955. The occupation of this unit marks the beginning of a new and a most promising era for the College of Medical Sciences and its constituent units.

Students—The number of students accepted for admission in the Medical School has been continued at 125 to 130 students a year. Up to the present time it has been possible to select this number of well-qualified applicants. However, the Admissions Committee is becoming increasingly concerned over the decrease in the number of applicants. To offset this efforts are being made, with the co-operation of the Minnesota State Medical Association, to call attention of young men and women to the opportunities for careers in medicine and in the related health professions.

The long years and high costs of medical education constitute serious obstacles to many able young men and women who are potentially interested in medicine as a profession. Scholarships to assist such students have long been an urgent need at the University of Minnesota. A total of 29 medical student scholarships were available for the academic year 1955-56. In addition 16 summer research fellowships were awarded to medical students by various agencies in the summer of 1955.

Larger Classes—The increased demand for medical services and the unmet needs for physicians in certain rural areas make consideration of this proposal a serious responsibility. From practical point of view, however, it will be impossible to provide adequate medical education to larger classes until the teaching laboratories of the basic science departments can be remodeled and enlarged. The construction of the Mayo Memorial has provided adequate facilities for the clinical instruction of larger classes. The basic science laboratories, however, except for the Department of Bacteriology which has new quarters in the Mayo Memorial, are essentially the same as constructed more than 40 years ago when Medical School classes numbered between 60 and 70.

Graduates—A recent report by the American Medical Association shows that 1828 physicians were graduated from the University of Minnesota in the 15-year period, 1930 to 1945. Of these, 43 per cent are engaged in general practice, 8 per cent are part-time specialists, 30 per cent are full-time specialists; and 19 per cent are not in private practice. Some of the latter group are in military service. Of all graduates of medical schools in the United States during this same period, 46 per cent of those in active private practice are engaged in general practice. For the University of Minnesota graduates in private practice, the corresponding figure is 54 per cent in general practice. From the proportion of Minnesota graduates who enter general practice was 41 per cent for the five-year period, 1930 to 1934; 40 per cent 1935 to 1939; 48 per cent 1940 to 1944; 46 per cent 1945 to 1949.

These figures indicate that among recent graduates of this Medical School there is no trend away from general practice into specialization. The percentage of Minnesota graduates who enter full-time careers of teaching and research is among the highest of any of the medical schools of this country.

Professorships—During the past biennium the Louis W. and Maud Hill Family Foundation of St. Paul inaugurated a program of support of research professorships in the basic medical sciences. Initial support of these professorships is for a period of 10 years, but support may be extended beyond that time if requested by the University and approved by the Trustees of the Foundation. During the biennium two of these professorships were estab-

lished: one in Physiological Chemistry and the other in Physiology and Surgery jointly. Support of the third of these professorships, this one for the Department of Pharmacology, has been approved by the Trustees of the Foundation effective July 1, 1956. Appointments such as these will greatly strengthen and enrich the basic science departments of our Medical School.

Anesthesiology—After careful consideration and upon the recommendation of a special committee of the medical faculty, the Division of Anesthesiology of the Department of Surgery was converted to an independent department of the Medical School effective July 1, 1955. This change is in recognition of the important role that anesthesiology has come to play in service, in teaching, and in research.

Rehabilitation Center—The University of Minnesota has been one of the leaders in the development of programs to rehabilitate disabled persons. Great impetus was given to this development during the past biennium by the opening of the Rehabilitation Center which occupies two floors of the Mayo Memorial Building. In addition, one nursing station of the University Hospitals has been converted into a semi-self care unit for the housing of some 30 patients who are undergoing rehabilitation treatment. Already the Rehabilitation Center is rendering services to over 100 patients a day. In addition to providing services, this Center is teaching medical students and graduate physicians the possibilities and the techniques of rehabilitation, and is training physical therapists and occupational therapists to render the specialized services upon which rehabilitation programs are based. Currently approximately 14 students per year are being graduated from the four-year program in Physical Therapy, and 19 students from a similar program in Occupational Therapy. This Rehabilitation Center also serves as a demonstration of what can be accomplished in this field, and already several other rehabilitation service centers are being developed in the state.

Graduate Medical Education—The Medical School and its affiliated hospitals continue to carry on one of the largest programs of graduate medical education in this country. During the past biennium an average of 468 individuals were carrying on medical graduate work at the University of Minnesota Medical School. Of these approximately 29 per cent were majoring in the basic medical sciences and 71 per cent in the clinical departments. Practical training in the clinical specialties of medicine is given in the University Hospitals, Minneapolis General Hospital, Minneapolis Veterans Administration Hospital, the Ancker Hospital of St. Paul, as well as in several of the private and specialized public hospitals in the Twin Cities.

Included in the group of graduate medical students were 45 foreign physicians who will take back to their home countries the training and the philosophies of medical education and medical research in the United States. Thus the advanced education and training offered to this large group of carefully selected graduate students represents a major contribution to medical teaching, medical research, and the practice of the medical specialties not only in this country but also abroad.

Fellowships—The recognition of the need for more teachers and investigators in the medical sciences has led to a substantial increase in the number of fellowships and traineeships available for advanced training in teaching, research, and practice. During the past biennium an average of 35 individuals working at the University of Minnesota have held special fellowships and traineeships during each year of the biennium. These are awarded by such agencies as the National Institutes of Health, the American Cancer Society, the American Heart Association, the National Foundation for Infantile Paralysis, etc.

Seoul National University of Korea—Under the University of Minnesota's contract with the United States Foreign Operations Administration (renamed the International Co-operation Administration) the Medical School is attempting to aid in the rehabilitation and development of the Medical School of Seoul National University. As the first step of this program the Director of

the School of Public Health visited the Seoul National University in February, 1954. Subsequently, a list of teaching and research equipment, books and journals, totaling \$270,417 were selected for the College of Medicine, Seoul National University. A group of 23 faculty members of the Korean College of Medicine have spent a year at the University of Minnesota, with the majority of them returning to Korea during the summer of 1956. The remainder stayed for an additional year of training, and others from the faculty in Korea will come when the group currently here returns to their own country. One member of our medical faculty spent the months of April, May, and June, 1956, in Seoul and reported that the President of Seoul National University and the Dean of their College of Medicine are anxious to have additional members of our faculty spend some time with them. We hope that it will be possible to meet this request during the next biennium.

Medical Research—Research continues to be a major interest and activity of the faculty of the University of Minnesota Medical School. The research interests and activities of the medical faculty cover practically every aspect of basic and applied medical sciences. The major areas of investigation, however, have been the basic medical sciences, cancer, heart disease, poliomyelitis, and liver disease. Support of this work has been provided in the form of project grants totaling approximately \$2,000,000 a year from various governmental and private sources, both local and national.

Medical and X-Ray Technology—Modern medical practice has become so dependent upon laboratory and x-ray examinations that qualified technical personnel is now essential in hospitals, clinics, and many physicians' offices. To help meet the need for such personnel, the College of Medical Sciences offers a four-year training program for medical technologists and a 15-month program for the training of x-ray technicians. The number of graduates from these programs, however, is far less than the demand within Minnesota for such personnel. In addition, to help meet the urgent demand for medical technologists and x-ray technicians in Minnesota the College of Medical Sciences has developed a one-year pilot program for laboratory aides and is offering a six-months' basic training program to students in x-ray technology in several hospitals of the state which provide the practical aspects of this training program. Both these courses have considerable enrollment and are serving a real need.

Continuation Medical Education—Medical knowledge, as a result of public and private support of research, is expanding at an almost alarming rate—a rate that is creating a real problem of getting this knowledge to the practitioners of medicine and through them to the public. The Medical School's Department of Continuation Medical Education continues to contribute in this area through its programs for physicians, nurses, and other health workers of the state. During the past biennium 1,297 physicians attended continuation medical courses on the campus of the University, and 251 attended special seminars conducted by this Department in various communities of the state. In addition, this Department co-operated in the organization of courses for nurses, medical technologists, dietitians, hospital administrators, clinical psychologists, and special groups of lay persons, which attracted 467 persons.

The University of Minnesota has long been a pioneer and a leader in these educational programs to help keep the physician and other professional health personnel of the state abreast of new developments in their respective fields.

Nursing—A special report of the School of Nursing for the biennium will be submitted by its director.

Public Health—A special report of this School will be presented by the director.

University Hospitals—The director of the University Hospitals will submit a summary of the activities of this important unit of the College of Medical Sciences.

Urgent Needs for the Immediate Future

Improved Faculty Salaries—The necessity of adequate salaries to attract able young men and women to careers of teaching and research is particularly acute in the Medical School because the salary scale in Minnesota is below that in most other first-ranking medical schools, and also because young physicians who go into practice today either as specialists or general practitioners frequently are assured first year incomes in excess of the pay of distinguished members of the Medical School faculty.

New Positions—In recent years additions to the staff in the College of Medical Sciences have not kept pace with the increases in teaching, research, and service responsibilities. Urgently needed positions must be established if the Medical School is to continue the quality of services expected of it.

New Facilities—An urgent and critical need of the College of Medical Sciences is for the facilities which had to be eliminated from the Mayo Memorial Building because of the increase in building costs following the outbreak of war in Korea. These are for the Medical-Biological Library, and for the Department of Pathology and the Pathological Museum. Tentative plans have been made to house these units in a building to be constructed across Union Street from the University Hospitals. It is estimated that a building for the Medical Library will cost approximately \$1,200,000. The last legislature made an appropriation of \$400,000 toward this Library, and approximately \$100,000 is available from other sources.

It is hoped that the additional funds needed to go forward with the construction of this important unit will be appropriated by the 1957 legislature, if they are not provided earlier from private sources.

A building for the Department of Pathology is planned for the corner of Union and Essex Streets at an estimated cost of \$500,000. Since some of these facilities will be used for research, it may be possible to secure Federal funds for part of the cost.

Remodeling—The remodeling of Millard Hall and Jackson Hall to provide modern and enlarged facilities for teaching and research in the basic medical sciences constitutes another urgent need. For any expansion of medical school classes, in fact, for the proper laboratory instruction of present classes, modernization and enlargement of these teaching laboratories is necessary. The last legislature appropriated \$150,000 for a beginning of this program, the total cost of which as estimated by the Physical Plant Department will be: Millard Hall—general remodeling \$526,000, rebuilding of fourth floor \$360,000; Jackson Hall—\$398,000. It is earnestly hoped that state and Federal funds will be made available within the next year to complete this renovation program.

Expanded Research Facilities—Limitations of funds made it impossible to include in the Mayo Memorial the number and extent of animal research laboratories which it was estimated at that time were needed. Since that time the increased availability of funds for the support of medical research has resulted in a still greater need for these facilities. It is hoped, therefore, that it will be possible to expand and to provide additional underground research laboratories in connection with the proposed building to house the Department of Pathology and the Medical Library. Federal funds are available to match local funds to provide this urgently needed expansion of our research activities.

Hospital Remodeling—Various areas of the old section of the University Hospitals need remodeling to meet the new uses to which the space will be devoted as the result of the moving of various hospital activities into the Mayo Memorial. Other areas need remodeling because they are old and do not meet the requirements of modern medical care. It is estimated that approximately \$675,000 additional funds will be required to complete this work.

Summary—Largely because of improved facilities the College of Medical Sciences has been able to strengthen and expand its teaching, research, and

service programs during the past biennium. However, further modernization and expansion of facilities are urgently needed. It is earnestly hoped that legislative appropriations and Federal funds will make it possible to go forward with the completion of this work in the immediate future.—H. S. DIEHL, dean

School of Nursing

The biennium has witnessed the strengthening of the curricula of the School of Nursing aimed at the preparation of young people for the practice of professional and practical nursing and for supervisory, teaching, and administrative posts in nursing, nursing education, and nursing administration. Continuous study and revision of well established programs and initiation of new features have contributed to the effectiveness of all curricula.

1. Professional Curricula for Graduate Professional Nurses

- a. The master of education program in nursing education is based upon undergraduate study in nursing education and leads to the Master of Education (M.Ed.) degree.
- b. The master of nursing administration program in nursing service administration provides a central group of courses related to nursing service administration with complementary instruction in related fields of administration, and leads to the Master of Nursing Administration (M.N.A.) degree.
- c. The undergraduate curriculum in education for registered professional nurses offers the major in nursing education and minors in nursing administration, child development, and clinical nursing, and leads to the Bachelor of Science degree.
- d. The undergraduate curriculum in nursing administration for registered professional nurses requires the major in nursing administration and a minor in clinical nursing, and leads to the Bachelor of Science degree.

2. Basic Professional Curricula

- a. Undergraduate curriculum in professional nursing* combines general education and basic professional studies (16 quarters—4 years) and leads to the Bachelor of Science degree.
- b. Curriculum in professional nursing for college graduates (10 quarters, 2½ years) leads to the Graduate in Nursing degree.
- c. Curricula for affiliating students from accredited schools of nursing in medical and surgical, out-patient, pediatric, and psychiatric nursing lead to certificates in designated clinical fields.

3. Practical Nursing Curricula

- a. Curriculum in practical nursing (4 quarters) leads to the Practical Nursing** certificate and, when combined with one academic year in the General College, leads to the Associate in Arts degree.
- b. The curriculum in practical nursing** and home management (6 quarters), operated jointly with the School of Agriculture, leads to the Practical Nursing and Home Management certificate.

In addition to the above regular programs the School of Nursing in co-operation with the General Extension Division plans with the Minneapolis General Hospital School of Nursing for a two-quarter sequence of preclinical instruction for their students; offers special courses in extension and summer sessions for registered professional nurses; and on request, gives extramural courses.

* 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.).

Programs 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, 1954 to June 30, 1956, \$29,350.00 for the instructional budget, and \$40,534.00 for traineeships. Available for 1956-1957 will be \$16,246.00 for instruction and \$43,466.00 for traineeships. Federal support of our psychiatric nursing instruction has been approved for the ensuing five years (June 30, 1961), the amount to be determined annually.
2. *Rural Instruction.* During the first year of the biennium a committee representing sending schools and receiving hospitals raised funds for support of the rural nursing instruction. Through the efforts of this committee and upon recommendation of the Minnesota Nurses' Association legislative appropriation was made for support of this instruction. The School of Nursing is gratified at this substantial recognition of the value of the programs in rural nursing which were originally developed by the University. These now involve 11 urban schools which, during the biennium, have sent more than 800 students of basic professional nursing to 1 of 12 rural hospitals and their communities for a six-week experience in rural community nursing. The program is directed and co-ordinated by the University of Minnesota School of Nursing.
3. *Nursing Service Administration.* The W. K. Kellogg Foundation has provided support through the fifth year of its five-year grant of \$98,292.00 for our programs in nursing service administration. The Foundation has approved our utilization of the balance left in the fund to support the programs during a sixth year (July 1, 1956 to June 30, 1957).

Faculty—Faculty members have continued to make signal contribution to meeting the needs of the state through serving in community activities and committees and in local and state professional organizations. They have also served as officers and committee chairmen of national and international professional organizations. The planning, directing, and participation in workshops, institutes, conferences and meetings by faculty members have helped to increase professional competence in this and other states. The professional interests and responsibilities of several of the faculty resulted in their visiting many states as well as Canada, the British Isles, Central America, Europe, the Middle East, and Africa.

For purposes of advanced study three faculty members have had leaves of absence without salary. One of these has completed requirements for a master of arts degree in education in the Graduate School; the other two are completing requirements for the master's degree.

Students—During the biennium 100 basic students earned the bachelor of science degree in professional nursing. In addition 100 graduate nurse students earned the bachelor of science degree in nursing education; 9 the bachelor of science degree in the newly established baccalaureate program in nursing administration; 29 the master of education degree in nursing education; and 9 the master of nursing administration degree in nursing service. In the practical nursing programs, 33 completed successfully the four-quarter, and 26 the six-quarter curriculum. The average of the scores made by graduates of the basic professional program on the Minnesota Board of Nursing examinations has again been the highest in the state for both years of the biennium. These average scores are in comparison with the school averages of 1092 candidates in 1954 and of 1070 candidates in 1955. Also, as has been true in the past, these scores are considerably above the national average scores.

During the biennium the Nursing College Board and Powell Hall Governing Board sponsored such activities as the Powell Hall Carnival, March of Dimes, Red Cross, Campus Carnival and other fund raising projects. They have been active in all-University student affairs and in the local, state, and national student nurses' associations. With funds raised from their projects they have contributed to scholarships; have sent two student representatives to the Minnesota Student Nurses' Association convention in Winona; 20 to the

National Student Nurses' Association meetings in St. Louis and 15 in Chicago; have helped provide and staff a booth at the American Nurses' Association convention in Chicago; and have collected and sent clothing and uniforms to Korea. They have assisted in orientation of high school, College of Science, Literature, and Arts, and new students in the School of Nursing. Representatives from the Nursing College Board serve on all faculty and School of Nursing committees.

Research and Studies—Among the activities of the two-year period have been a follow up study of the graduates of the six-quarter program in practical nursing and home management; surveying of the graduates of the four-quarter program in practical nursing; devising activities report form for graduate nurse students; reviewing studies proposed by students; collecting suggestions and reviewing proposals to be submitted to the U. S. Public Health Service for research grants. One study concerning the effect of role conception on selection of nursing as a vocation, and on the satisfaction and success of nurse students and professional nurses has been granted U.S.P.H.S. funds.

Accreditation—The University of Minnesota School of Nursing, approved by the National Nursing Accreditation Service, is one of only 33 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—Twenty of the basic professional students and 13 of the practical nursing students have received state scholarships provided by the Legislature. The Minnesota Department of Public Welfare has granted eight traineeships to graduate nurses for study in psychiatric nursing. Under the National Mental Health Act, 17 graduate nurses received traineeships for study in psychiatric nursing. The Mount Sinai Hospital auxiliary has aided 18 students during the biennium. Other scholarship assistance has been: Alpha Tau Delta, 3 students; Katharine J. Densford Scholarship, 3 students; Marion L. Vannier Scholarship, 3 students; Tozer Foundation, 1 student; and SPAN, 1 student. The Louise M. Powell Prize has been awarded to 4 students. Thirty-six graduate nurse students have been elected to Pi Lambda Theta (national honor society in education) and 109 to Sigma Theta Tau (national honor society in nursing).

Through funds provided by the Commonwealth Fund, the National League for Nursing has granted substantial awards in 1956 of 20 fellowships for doctoral study and 14 for master's study in nursing. Of these 34 awards three went to members of our faculty—two for doctoral and one for master's study. A fourth award (for master's study) went to a graduate of the School.

One faculty member received an award from the U.S.P.H.S. for study with special emphasis upon research technics.

Seoul National University School of Nursing—Much time has gone into the planning of our part in re-establishing the Seoul School. It is anticipated that members of the faculty from Korea will spend time in our School during the coming biennium and that some of our faculty will go to Korea.

Educational Plans and Needs—Bearing in mind the many factors affecting the mounting need and demand for nurses and keeping in mind also our responsibility for meeting the changing health needs of the state and nation, the School of Nursing looks forward to an increase in the need for educational preparation of teachers, administrators, practicing nurses and, in fact, all categories of nursing personnel.

The programs in nursing service administration, initiated and supported since the fall 1951 under a grant from the W. K. Kellogg Foundation will receive the last support under this grant for the year 1956-1957. The program leading to the master's degree in nursing administration was begun in the fall quarter 1951, that leading to the bachelor's degree in the winter quarter of 1955. The faculty have accomplished a great deal in the five years of this grant in establishing two programs and in providing instruction through courses, institutes, workshops, conferences, in-service education, and consultation services as summarized below:

Regular University Students	Admitted to Program	Graduated
Master's Program	33	17 (now) 25 (after August 17, '56)
Bachelor's Program	47	9 11 (after July 15, '56)
	80	62

Extension Division Students	No. of Extension Classes	Enrollment
On Campus	14	422
Off Campus	10	291
	24	713

Participants in In-Service Programs	No. of Institutes and Workshops	Enrollment
On Campus	19	1580
Off Campus	14	619
	33	2199

The most urgent need of the School of Nursing for the maintenance of its present programs is for instructors in obstetric and gynecologic nursing and in medical nursing, and University assumption of responsibility for instruction in nursing service administration. A need becoming increasingly crucial is that for instruction in rehabilitation nursing. The need, previously described, still exists for a secretarial position on the regular budget of the School of Nursing. The imminent loss of the secretarial position presently provided by the W. K. Kellogg Foundation grant brings this need into sharp focus.

With respect to physical facilities should major changes in space allotment involve the School of Nursing during the next biennium it would require financial and other assistance in formulation of plans for space designed for the special functions and future needs of the School. Long range plans for the School of Nursing may well involve a new building.—KATHARINE J. DENSFORD, director

School of Public Health

The biennium 1954-1956 has been marked by some of the most significant developments that have occurred within the School of Public Health since its establishment. These events have been the occupancy of new quarters, expansion of student load, and establishment of new programs.

New Quarters—In September 1954, the School moved into the new quarters on the eleventh, twelfth, and north half of the thirteenth floor of the Mayo Memorial building. With this move, the School acquired for the first time its own laboratories in sanitation and epidemiology, relinquishing space that has been previously loaned by the State Department of Health in its building. The move brought about a material consolidation of the School which had been scattered in five buildings. The Laboratory of Physiological Hygiene remains in its former cramped quarters under the Stadium, while elevator problems and the location of the Mayo Memorial in a corner of the campus necessitated the breaking up of the statistical laboratory and placing in the Chemistry building that portion of the laboratory devoted to non-medical biostatistics. In spite of the expansion of space achieved by the new quarters, some parts of the School are already showing signs of overcrowding.

Student Load—Throughout the biennium, there has been constant evidence of an ever-increasing teaching load. From the numerical standpoint, this has been particularly heavy in the general courses, in personal and community health for students in the several undergraduate colleges. The professional courses, particularly public health nursing, have likewise shown a

material increase, and there are many evidences that these increases will be even greater in the coming biennium. Though the actual number in these courses is not as large as in the non-professional, the amount of faculty time that is required is far greater. The students for professional courses continue to come from all corners of the globe, attracted to Minnesota as having one of the 10 accredited schools of public health in the United States. During the past biennium, students have come to the School from 37 states and territories and from 24 foreign countries. The attention given to these foreign students is worthwhile as a contribution to international relations.

New Programs—Several new programs have been undertaken by the School. Through the division of biostatistics, the School was granted special funds from the United States Public Health Service for graduate training in statistics as applied to medical research. This training grant has not only provided a limited amount of staff but, even more significantly, it has provided stipends for several fellows. Those who have gone through this training are much in demand and are moving to other universities or to research centers. The School's chief difficulty with this program is the retention of staff to operate it as both students and staff are being enticed away by lucrative offers.

The Public Health Service has likewise provided funds for the development of instruction in the public health aspects of cardiovascular disease. In keeping with this, the Service selected the School of Public Health as the institution to conduct a pilot short course in cardiovascular nursing. This course, occupying only one quarter, was designed to serve a small number of nurses carefully selected because of supervisory or teaching obligations which require more extensive and up-to-date knowledge of these diseases. For the first course in the winter quarter of 1956, the Service loaned one of its senior staff to participate in the teaching. The Service was so pleased with this first course that the School has been requested to repeat it in ensuing years, and many applications have already been received. In the conduct of this course, the School has had the cooperation of the School of Nursing, the University Hospitals and many hospital and nursing agencies in the Twin City area.

Rehabilitation Nursing—Because of the increasing number of problems encountered by public health nursing agencies in dealing with the chronically ill, the School of Public Health, with the financial assistance of the United States Office of Rehabilitation, has twice conducted summer session workshops in rehabilitation nursing.

Research—The School continues to receive generous outside support for its various research programs. Especially notable have been those in the Laboratory of Physiological Hygiene where studies of the relationships between nutrition and cardiovascular disease have carried staff members to distant corners of the globe. These studies have brought to the Laboratory increasing national and international recognition. Research grants have also come to the School for studies on tuberculosis, several different phases of environmental sanitation and hospital administration.

Present Needs—The most urgent need of the School of Public Health is for staff. Each year the accreditation report of the American Public Health Association points out that the School is operating at a lower per student cost and a smaller faculty-student ratio than any other accredited school in the country. The disproportion is actually greater than is shown in these reports as none of the other schools carries a load of general teaching in the undergraduate colleges and only a few do any teaching outside of their own registered student body. This overloading of the staff carries with it severe difficulties in recruiting and retaining of personnel, especially in the face of lucrative offers in other institutions. Special attention should be called to the overloading of the staff in public health nursing. In statistics, while the teaching burden is not excessive, a tremendous amount of time is consumed in advising with colleagues from other parts of the University regarding the latter's research problems. Of major concern is the lack of staff in the field of medical economics. The rapid growth of health and hospital insurances has brought problems of great importance to public health, medicine, business, and the several social sciences. In a University of this size, there is a serious

need for a staff member who has a special interest in and knowledge of this highly important field that is currently neglected in the present program of instruction.

Public Service—In closing this report, I should like to call your attention to the very heavy load of public services that is carried by members of the staff of the School of Public Health. Service in innumerable international, national, state and local committees imposes an added obligation on a staff that is already heavily burdened. Yet this service and the connection and experience derived from it add materially to the quality of instruction that can be offered by these same staff members. That staff members are in heavy demand for committee assignment of major importance within their respective fields constitutes, in my estimate, the best tribute to their high professional standing.—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 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.

Admission—In applying for admission to the Hospitals, it is required that the patient be referred by his family physician or by a physician in his local community. This rule avoids the criticism that the Hospitals or its clinics are taking patients away from private practitioners. This same policy holds true for 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 and, in the case of the Heart Hospital, the Variety Club of the Northwest Fund. No distinction is made between the various classes in the treatment or privileges afforded.

County patients are those who are totally unable to pay. Their expenses are shared equally by their county and the State.

Per Diem patients are those who cannot afford to pay for the services of both a private physician and a private hospital. They are required to pay their clinic or hospital expenses only, no charge being made for the professional services of the staff.

Teaching and Research patients are primarily destitute unmarried obstetrical patients who are unable to avail themselves of county papers.

The *Sixty Fund* is a special grant from the Legislature which is used to hospitalize indigent psychiatric patients for treatment, teaching and research purposes.

The *Child Psychiatric Fund* is a special grant from the Legislature which is used to hospitalize indigent children with psychiatric problems 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.

The *Multiple Sclerosis Diagnostic Fund*, in the sum of \$15,000, was provided for each year of the past biennium to assist in financing the multiple sclerosis clinic.

The Muscular Dystrophy Fund—Funds were provided by the Muscular Dystrophy Association of Minnesota to assist in the diagnosis and treatment of people afflicted with muscular dystrophy.

Private patients, limited in number, are admitted as a convenience to the senior staff. They are referred cases from other physicians in the state.

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.

University Health Service patients are not considered as Hospitals patients even though a Hospitals intern is assigned to that service. The student Health Service has its hospital quarters in 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.

In-Patient Department—The number of patients admitted for the year 1954-55 was 12,571, and for the year 1955-56, the number was 14,028. The total number of days of hospital treatment aggregated 173,393 for 1954-55, and 188,284 for 1955-56, an increase of 14,891 patient days. The average number of days per patient stay in the Hospitals was 13.7 in 1954-55 and 13.4 in 1955-56. Deaths for the year numbered 607. This is a net mortality percentage of 2.5. Post mortems for the year 1954-55 numbered 402, an average of 81.8%, and in 1955-56, the number was 465, an average of 82.4%. The daily average number of patients in 1954-55 was 475.04, and in 1955-56, the number was 514.4. Surgical operations performed during the year 1955-56 aggregated 8,785 as against 8,076 during 1954-55. The cost of operating the In-Patient Department was \$24.47 in 1954-55 and \$28.18 in 1955-56, an increase of \$3.71 per patient day.

Out-Patient Department—The number of new patient visits in 1954-55 was 18,175, and in 1955-56, 19,623. Total patients visits for 1954-55 were 108,944, and for 1955-56, 116,369, an increase of 7,425 visits. The cost of operating the Out-Patient Department was \$5.33 in 1954-55, and \$5.78 in 1955-56, an increase of 45 cents per patient visit.

General—The Psychopathic Department of the Hospitals admitted 525 patients during 1955-56 and 392 in 1954-55.

The X-Ray Department reports 79,564 procedures for the year 1955-56 as against 73,613 for the year 1954-55.

The Department of X-Ray Therapy gave 12,995 deep therapy treatments in 1955-56 as against 11,892 in 1954-55. There were 5,790 treatments given on the Cobalt machine in 1955-56 as against 5,183 in 1954-55. The number of superficial therapy treatments given in 1955-56 was 1,000 as against 960 in 1954-55. There were 210 radium treatments given in 1955-56 as against 232 in 1954-55. The total number of strontium (beta ray) treatments given in 1955-56 was 59 as against 107 in 1954-55. In the isotope laboratory 1,074 tracer studies and treatments were given in 1955-56 as against 952 in 1954-55. There were 10 patients treated with radioactive gold and a total of 1,140 millicuries used in 1955-56. In 1954-55, 10 patients were treated and 810 millicuries used. There were 71 Rihsa Blood Volume Studies in 1955-56 as against 24 in 1954-55. There were 41 Radioactive Chromium Red Cell and Survival Studies in 1955-56 and 9 in 1954-55. This year also shows 27 Co⁶⁰-B¹² Studies, 2 FE⁵⁹ Studies and 496 Conversion Ratio Studies.

The number of Hospital Prescriptions filled was 184,028 in 1955-56 as against 160,646 in 1954-55.

The Hospital Laboratory made 545,907 determinations during the year 1955-56 as against 496,948 the previous year.

In Appreciation—The Administration of the Hospitals wishes to thank the Variety Club for its support to the Variety Club Heart Hospital; the University Faculty Women's Club who have continued their generous efforts in behalf of our patients; the Crippled Child Relief, the Minnesota Society for Crippled Children and Adults, the State Division of Social Welfare and the County Welfare Boards for their assistance; the various Nursing

COMPARATIVE TWELVE-MONTHS' REPORT—IN-PATIENT DEPARTMENT

	1954-55	1955-56
Total patients admitted		
County (A)	4,330	4,089
Pay and per diem (B, D, C)	6,062	7,467
Health Service	1,149	1,393
Psychiatry	213	269
Psychiatry (pay and per diem)	179	256
Child Psychiatry	62	85
Child Psychiatry (pay and per diem)	94	88
Free	241	217
Eustis	169	154
Variety Club Fund	65	9
Rehabilitation	7	1
	12,571	14,028
Total patients treated (discharged)		
County (A)	4,475	4,640
Pay and per diem (B, D, C)	5,867	6,904
Health Service	1,150	1,391
Psychiatry	243	335
Psychiatry (pay and per diem)	147	208
Child Psychiatry	63	98
Child Psychiatry (pay and per diem)	92	83
Free	247	226
Eustis	174	168
Variety Club Fund	59	9
Rehabilitation	6	2
	12,523	14,064
Total days hospital care		
County (A)	78,635	77,944
Pay and per diem (B, D, C)	64,451	78,293
Health Service	3,658	4,695
Psychiatry	12,904	11,944
Psychiatry (pay and per diem—B, D)	5,438	7,065
Child Psychiatry	2,009	2,613
Child Psychiatry (pay and per diem—B, D)	1,279	1,250
Free	1,973	1,582
Eustis	2,046	2,813
Variety Club Fund	869	56
Rehabilitation	131	29
	173,393	188,284
Average days per patient		
County (A)	18.1	19.1
Pay and per diem (B, D, C)	11.	10.5
Health Service	3.1	3.4
Psychiatry	60.5	44.4
Psychiatry (pay and per diem)	30.3	27.6
Child Psychiatry	32.3	30.7
Child Psychiatry (pay and per diem—B, D)	13.6	13.9
Free	8.2	7.3
Eustis	12.1	18.3
Variety Club Fund	13.3	6.2
Rehabilitation	18.7	14.5
Average length of stay per patient	13.7	13.4
Daily average number of patients		
County (A)	215.4	212.9
Pay and per diem (B, D, C)	176.5	213.9
Health Service	10.	12.8
Psychiatry	35.3	32.7
Psychiatry (pay and per diem—B, D)	14.9	19.3
Child Psychiatry	5.5	7.1
Child Psychiatry (pay and per diem—B, D)	13.8	3.4
Free	5.4	4.3
Eustis	5.6	7.7
Variety Club Fund	2.3	.2
Rehabilitation .....	.3	.1
Daily average census for hospitals	475.04	514.4

Homes for their cooperation; the Traffic Club which year after year continues to provide entertainment, gifts and cheer to our patients at Christmas; the Sunshine Society for its contributions; the Camp Fire Girls; the Girl Scouts; the Needlework Guild; the Junior League; the Minneapolis Council of Church Women; the Minneapolis and Hennepin County Chapter of the American Red Cross; the Volunteer Service Bureau and many other organizations and individuals who have contributed to the welfare of our patients. We wish to

COMPARATIVE TWELVE-MONTHS' REPORT—OUT-PATIENT DEPARTMENT

Service	New Patients		Revisits		Totals	
	1954-55	1955-56	1954-55	1955-56	1954-55	1955-56
Medicine						
General	3,019	3,009	8,535	7,359	11,554	10,368
Allergy	38	63	861	942	899	1,005
Arthritis	83	96	2,115	1,929	2,198	2,025
Cardiac (adult)	304	238	1,792	2,060	2,096	2,298
CMC (Combined Medical Clinic)		1	283	279	283	280
Chest	13	38	314	388	327	426
Diabetes	19	94	754	921	773	1,015
Gastro-intestinal	15	35	265	336	280	371
Hematology	12	52	882	900	894	952
Metabolism	43	94	916	995	959	1,089
Dermatology and Syphilology	464	438	3,339	2,776	3,803	3,214
Neurology						
General	496	515	731	770	1,227	1,285
Convulsive Disorder	4	1	682	840	686	841
Multiple Sclerosis	40	21	216	189	256	210
Muscular Dystrophy	64	61	68	93	132	154
Parkinson			290	363	290	363
Psychiatry	409	458	2,964	5,068	3,373	5,526
Surgery						
General	562	715	3,853	4,228	4,415	4,943
Plastic	44	59	459	446	503	505
Proctology	381	358	1,843	1,510	2,224	1,868
Tumor	265	279	2,946	2,719	3,211	2,998
Orthopedic	365	341	1,514	1,588	1,879	1,929
Urology—Female	184	175	993	657	1,177	832
Urology—Tumor				5		5
Urology—Male	307	352	1,973	1,668	2,280	2,020
Urology—Tumor				25		25
Neurosurgery	103	110	554	539	657	649
Eye						
General	890	777	4,204	3,723	5,094	4,500
Refraction			366	904	866	904
Squint			231	228	231	228
Ear, Nose and Throat						
Audiology	693	624	2,811	3,095	3,504	3,719
	200	431	279	466	479	897
Gynecology						
General	508	455	1,415	1,437	1,923	1,892
Gynecology Tumor	39	60	1,476	1,467	1,515	1,527
Gyn. Proctology		2		41		43
Obstetrics						
Night Obstetrics	376	452	2,362	3,079	2,738	3,531
	3	1	290	188	293	189
Pediatrics						
General	1,103	1,131	4,634	3,857	5,737	4,988
Allergy	33	7	353	192	386	199
Cardiac	338	217	1,283	1,311	1,621	1,528
Convulsive Seizure	61	35	340	365	401	400
Endocrine	8	9	153	159	161	168
Child Psychiatry	186	194	358	776	544	970
Peds. Neurology		13		28		41
Speech	35	25	181	145	216	170
Well Baby	8	11	320	261	328	272
Emergency W-212	2,544	2,791	11,832	13,699	14,376	16,490
Nutrition	547	637	516	718	1,063	1,355
Dental	123	116	1,960	1,856	2,083	1,972
Polio	4	3	147	60	151	63
North	2,450	3,061	12,929	15,714	15,379	18,775
Miscellaneous (Private)	578	653	2,156	2,883	2,734	3,536
Vocational Rehabilitation	214	315	531	501	745	816
Totals	18,175	19,623	90,769	96,746	108,944	116,369

express our sincere appreciation to our corps of Volunteers working at the information desks and in patient areas. We wish to thank the many people throughout the state who have contributed to the Heart Fund and the Cancer Fund during the past year. To all members of the professional and service staffs of the Hospitals, the Administration wishes to extend the appreciation of the Hospitals for their loyal devotion to duty and considerate care of the patients.—RAY AMBERG, *director*

SCHOOL OF DENTISTRY

The school's faculty continuously attempts to improve the quality of its graduates but actually has very few yardsticks by which it may measure the effect of curriculum changes, of changes in teaching methods, of application of new discoveries related to the cause and prevention of dental disease, and of the new techniques that are developed by the faculty and by the profession. At the very outset of this biennium, however, the faculty was heartened by a report from the Minnesota State Board of Dental Examiners who held an examination at the University on June 14-18, 1954. Their report was in the July issue of *North-West Dentistry*, and contained the following statement: "Members of the Board of Dental Examiners wish to state that the knowledge of dentistry shown by the candidates at this examination was very fine and a credit to the College of Dentistry of the State of Minnesota and its staff."

The State Board has an excellent opportunity once a year to look objectively upon our students and to evaluate their ability by written examination and by actual performance of dental operations. The examinations require an entire week during which the State Board has an opportunity to make critical observation, and their opinions, therefore, are extremely important.

The faculty is hopeful that some relief will come to the crowded conditions in the School of Dentistry. Exceeding class capacity following World War II, and before additional space was made available, has, we feel, been somewhat of a mistake, although the need for additional dentists in Minnesota is becoming quite desperate.

Although dentists have been plentiful in Minnesota up to now, a peculiar set of circumstances is at work that will soon produce an acute dental manpower shortage in the state. The situation is briefly an unsatisfactory age distribution of the dentists where approximately half the dentists in this state, or about 1,000, are within less than ten years of retirement, or death. An analysis of this situation indicates that dentists will leave practice much more rapidly than we are replacing them with the graduates from this school. The shortage of dentists is beginning to make itself felt in a number of the small cities such as Faribault, Ortonville, and others, and also in a city as large as Duluth. The supply of dentists in Minneapolis and St. Paul is still excellent in relation to population. The loudest complaints at the present time are from the dentists themselves who are being overworked and overburdened with patients from other dentists in their communities who have either died or retired.

The school has awarded ten Master of Science in Dentistry Degrees during the past two years and one Ph.D. in Dental Pathology.

The practicing dentists in Minneapolis and St. Paul continue to be a very important source of teaching material for the School of Dentistry. During this biennium 13 new members have been appointed on an average of 30 per cent time which would be the equivalent of approximately four full-time teachers. Their assistance to the dental school is deeply appreciated.

Faculty—During the biennium the faculty has written and published 52 papers in State, National, and International Journals. In addition to the large amount of work in these publications, two other publications need special mention. One is the publication known as the *Minnesota Dental Formulary*. One hundred thousand of these small booklets were published in the first edition sponsored by the National Conference of State Pharmaceutical Association Secretaries and written by Drs. James R. Jensen, Mellor R. Holland, and Norman O. Holte. The *Formulary* has been distributed gratis to all dentists and pharmacists by the Pharmaceutical Associations in many states. The other outstanding publication was a book titled *Practical Oral Surgery* by Henry B. Clark, Jr., in 1955. This book published by Lea and Febiger has 375 pages and 223 excellent illustrations from our own dental school.

In addition to the publications noted above, the faculty has given 246 papers and clinics at different dental societies and associations throughout the state, nation, and world. The faculty has been the recipient of 98 honors in the form of election to various offices and special recognition.

Audio-Visual Aids—The dental faculty in co-operation with James Rothenberger in the Division of Dental Illustration has turned out a tremendous

number of teaching aids. These are in the form of motion pictures, lantern slides, prints, and another ingenious aid known as the teaching seminar kit. In regard to the motion pictures, the faculty has produced nine titles representing 9,450 feet of 16 mm color, sound film. Our film library now contains 46 current titles and forms a very important part of our teaching program. In many instances the motion picture can take the place of what we have traditionally used in the dental school known as clinic demonstrations.

These demonstrations with an instructor doing a certain operation in the oral cavity were a very effective method of teaching the students. This operation was observed by a few students, between five and 10 usually, but in a class of 75 to 90 students, it would take a very great deal of time to arrange all of the various clinics so that all might see the demonstration. The motion picture has substituted for this to a very large extent. With the motion picture, the entire class can be given the demonstration at one time, and the students can see the operation even better than they could when 10 or so were crowded around to witness an individual demonstration.

Furthermore, these motion pictures serve an important role in providing material for the motion picture programs of dental society meetings all over the country. Many have been sold to foreign countries and many are in the libraries of other dental schools and in the film library of the American Dental Association. The wide acceptance of the motion pictures made at Minnesota is a great tribute to both careful planning by the faculty members and Mr. Rothenberger.

In addition to the large number of motion pictures that have been made, the Division of Dental Illustration has, during this biennium, made 1,887 $3\frac{1}{4} \times 4$ lantern slides, 1,904 2×2 colored lantern slides, 594 photomicrographs, and 4,428 prints, mostly black and white but some in color.

Public Service—Residents in and about the Twin Cities continue to benefit by the excellent services they get at low cost in the dental clinic. The large number of patients who seek dental services in this clinic is one of the important features which help to make a graduate of this school equipped with a complete round of experience in every phase of dental practice.

Between 1,500 and 2,000 patients will come to the dental clinic in a typical week for dental services rendered by the students. Each year the average amount of work that each dental student will do continues to increase. The striking increase in the amount of student work which has occurred during the past biennium is no doubt due to the broader use of auxiliary aids in the form of dental assistants and dental mechanics. Well-qualified dental assistants are available to demonstrate to the students how their services will help them complete an operation easier, faster, and better. It is hoped that teaching the undergraduate dental student how to make the best use of auxiliary aids will, in part at least, compensate for the shortage of dentists.

Statistical studies on the value of efficient use of dental assistants have shown that the dental assistants may improve the dentist's output by approximately 40 per cent, and, depending upon the team arrangements between the dentist and his assistant, may increase his services as much as 200 to 300 per cent in some cases. The efficient, intelligent, and effective use of dental auxiliary help may prove to be dentistry's answer to the impending shortage of dentists. In any case, the School of Dentistry is doing the very best it possibly can to teach the student to take the greatest advantage of these important aids.

Continuation Study—During the past biennium 26 continuation courses have been presented to dentists, dental assistants, and dental hygienists. Since space and facilities are not available to present a practice type of continuation study course, it is necessary that most of these courses be primarily lecture and demonstration.

To extend this area of teaching to many who find it difficult to come to the University for instruction, the dental school has devised a new method of carrying illustrated lectures to individuals, small and large groups. Under the direction of Mr. Rothenberger, the school has developed, on an experimental basis, four Teaching Kits. The kit consists of a slow-playing record which will play for 15 minutes on each side. Some of the kits are complete

in one record and some have two records which will then play for one hour. In the kit there is a box of lantern slides and a table projector. As supplied to the individual dentist or to a small group, the unit is complete. For use by larger groups, the 2×2 slides which are supplied for the table projector may be used in a regular 2×2 projector, and phonographs for slow-playing records and projectors for 2×2 slides are very universally available.

The kit may be rented for \$5.00 plus express charges. Each time a kit returns, it is examined for accident or injury; thus each time it is sent out, it goes out in perfect condition. The kits have been very widely used by individuals and small dental societies all over the country.—WILLIAM H. CRAWFORD, *dean*

LAW SCHOOL

Administration—Dean Maynard E. Pirsig resigned effective September 15, 1955, in order to devote more time to writing, research and teaching. Professor David W. Louisell served as acting dean until February 1, 1956, when he became Visiting Professor at the University of California, Berkeley, to fulfill an earlier commitment. Professor William B. Lockhart became acting dean on February 1, 1956, and was named dean on May 11, 1956.

Enrollment—Student enrollment remained relatively steady during the biennium, as indicated by the following figures showing enrollment in the fall of each year:

1955-56	402
1954-55	384
1953-54	387
1952-53	376

While the first year of the biennium was substantially the same as in the preceding biennium, the increase of nearly 20 in the last year appears to be the beginning of the expected upswing.

For many years the proportion of scholastic failure in the first year of the Law School has been very high, ranging from 40 to 50 percent. This is largely due to the long-standing "revolving door" policy, which has admitted any student with a C average regardless of his chances of success in Law School, and then excluded the unsuccessful students at the end of the first year. The result has been heavy economic loss to the student, and an impediment to effective instruction due to the slower pace of the incompetent students. During the biennium more effective counseling on the basis of fall and winter quarter examinations combined with an aptitude test has resulted in the voluntary withdrawal of increasing numbers of the poorer students at the end of the fall and winter quarters. But the economic loss and interference with effective instruction is still too great. In an effort to solve this problem, the Law School is now seeking to develop data through use of the Princeton Law School Admission test. It is hoped that this test, coupled with the student's college record, may provide a dependable basis for screening out prior to admission those who have no chance of success in law studies.

At the other end of the scale, the law faculty is much concerned over the need for more students of exceptional ability. Too many first class Minnesota students are being lost to the Eastern schools because of scholarships available to entering law students. The Law School plans to increase its efforts to obtain additional scholarship funds in order to make a number of attractive scholarships available to first year law students.

Faculty—During the biennium the Law School lost by resignation Professor Charles Alan Wright who went to the University of Texas Law School in the fall of 1955. He was replaced by Assistant Professor Michael I. Sovern, an honor graduate of Columbia Law School. At the end of the biennium the Law School lost by resignation Professor Monrad Paulsen, who became Professor of Law at Columbia; Professor David W. Louisell, who became Professor of Law at the University of California, Berkeley; and Professor Kenneth M. Anderson who satisfied a long-felt ambition to enter private practice in

Minneapolis. Exceptionally able younger lawyers, with outstanding records, have been appointed to these vacancies.

A significant development was a gift of \$3,000 from six Minneapolis law firms to establish for the 1956 summer session the Edward F. Waite Distinguished Professorship. Largely through these private funds, the Law School was able to bring to the 1956 summer session two of the country's most distinguished professors, Professor Elliott E. Cheatham of Columbia Law School and Professor James W. Moore of Yale Law School.

Construction—The addition to Fraser Hall, made possible by a Legislative appropriation of \$600,000 in 1953, was nearly completed at the end of the biennium to be ready for full use in the fall of 1956. Because of increased building costs, the appropriation was inadequate to meet fully all of the Law School's building needs. But the major library needs have been met, and the library capacity nearly doubled. This will satisfy our library needs for approximately 15 years.

The Law School continues to have the fifth best law school library in the country. The addition to Fraser Hall will make this excellent research collection more readily available, both for students and for the public. The reading room has been expanded, and a convenient room made available for visiting judges and lawyers who may desire privacy for conferences or dictation.

Teaching Program—No major changes have been made in the program of instruction during the biennium. The most significant development has been the implementation of plans for seminars jointly conducted by a law professor and a non-lawyer specialist with a class made up partly of law students and partly of students specializing in another field. Two such seminars have been very successful during both years of the biennium. One participated in by law students and graduate students in agricultural economics has explored related legal and economic problems of concern to the farm community. The other participated in by law students and graduate students in social work has considered problems of juvenile delinquency and the juvenile courts. The Law faculty is impressed with the educational values resulting from this interplay among students and professor from different scholastic backgrounds grappling with common problems and intends to expand this form of seminar for advanced students.—WILLIAM B. LOCKHART, *dean*

COLLEGE OF PHARMACY

Undergraduate Enrollment—The following tabulation shows the number of undergraduate students registered in the College of Pharmacy during the summer, fall, winter, and spring quarters of the years 1954-55 and 1955-56:

	Summer Sessions	Fall	Winter	Spring
1954-55	24-20	144	142	141
1955-56	5-4	110	111	107

Graduate Enrollment—Graduate students with majors in Pharmaceutical Chemistry or Pharmacognosy were as follows:

	Pharm. Chem.	Pharmacog.
1954-55	15	1
1955-56	14	0

Graduates—The following is a tabulation of the undergraduate and graduate degrees awarded during the biennium:

	B.S. in Pharm.	M.S.	Ph.D.
1954-55	51	0	1
1955-56	33	0	0

Curriculum—No major changes were made in the professional part of the curriculum during the biennium.

Scholarships and Fellowships—Eighteen Samuel W. Melendy Memorial Scholarships of \$200 each were awarded during the biennium. Two students

received scholarships of \$225 from the Minnesota State Pharmaceutical Association. Five graduate students received Samuel W. Melendy Memorial Fellowships during the two years. The Minnesota State Pharmaceutical Association granted two fellowships, and the American Foundation for Pharmaceutical Education granted three fellowships during the two years.

Library—Approximately 283 books have been added by purchase or gifts during the biennium. As of June 30, 1956, the total number of books and periodicals in the Pharmacy Departmental Library was approximately 6922.

Pharmacy ROTC—During the biennium, 40 students who received the Bachelor of Science in Pharmacy degree, were commissioned in the Medical Service Corps. Captain Jack W. McNamara, Assistant Professor of ROTC, completed his tour duty at the University of Minnesota in June, 1956.

Continuation Study—No Continuation Course for licensed pharmacists was held during the year 1954-55, this, because of a poor registration a month before the course was to begin. The 18th Continuation Course was held in the Center for Continuation Study February 27-28, 1956. One hundred fourteen licensed pharmacists were in attendance. The Minnesota State Pharmaceutical Association, through its Committee on Pharmaceutical Education, and the Minnesota State Board of Pharmacy cooperated with the College in publicizing and supporting the 1956 Continuation Course.

State Board Examinations and Placements—The Minnesota State Board of Pharmacy conducted four examinations in the College of Pharmacy during the biennium. A total of 117 graduates of the University of Minnesota were licensed to practice their profession.

As near as can be determined, approximately 80 percent of the students graduating with the Bachelor of Science in Pharmacy degree are practicing their profession in retail pharmacies. The remainder are employed as hospital pharmacists, representatives of pharmaceutical concerns or are continuing their studies at the graduate level.—CHARLES H. ROGERS, *dean*

COLLEGE OF EDUCATION

During the academic year 1955-56, the College of Education marked its fiftieth anniversary with appropriate ceremonies. This was a year of reviewing past achievements and charting future goals. The distinguished history of the College really began 10 years after its founding, in 1915, with the appointment of Lotus D. Coffman as Dean. In that year the College enrolled 109 students. Forty years later in the fall of 1955, it enrolled over 2600 undergraduate students, 11 percent of the undergraduates of the University. In addition, the College enrolled 513 graduate students, 18% of the total registration in the Graduate School. During the summer of 1955, Education enrolled 1053 graduate students which was 51% of the total at the graduate level. During 1955, 665 master's degrees were awarded by the University—217 with majors in education. Thus the College of Education staff furnished major advisers for one-third of those receiving master's degrees. Of the doctor of philosophy degrees awarded by the University in 1955, 47 of 223 (21%) worked under education advisers. Since 1917, when the first Ph.D. with a major in education was awarded, a total of 445 Ph.D. degrees have been granted with a major or minor in education and since 1940, a total of 2488 have received master's degrees with a major in education.

The faculty of the College of Education (21 professors, 18 associate professors, 10 assistant professors) is willing to undertake this exceptionally heavy graduate load, the largest in the University in proportion to the number of staff members, because only through work at this level can we provide specialists competent in research and leadership for improving the public schools of the state and nation. The 139 full or part-time instructors and teaching assistants on the staff are all graduate students, candidates for advanced degrees and cannot assist materially with the advising load; they actually add to it.

In the laboratory schools, the research bureaus, the Psycho-Educational Clinic, and the various departments of the College, 139 subsidized graduate students (whole or part time instructors and assistants) carry a large proportion of our work. A problem has now been created in attracting high level talent to these positions because the salary level in the Twin City and suburban schools has increased to the point where it is difficult to compete. Competent students who wish to complete their graduate work may secure positions in the city and suburban schools and complete their studies as readily as while serving within the College.

The College carries an exceptionally heavy advising load compared to our credit hour offerings. The College furnishes counselors for all undergraduates registered in the College and this requires more than registration advice. At the present time, the staff advises 2671 undergraduates (including home economics and agricultural education students, two groups counted in the College of Agriculture, Forestry, and Home Economics). All prospective teachers must be carefully selected at the time they enter the College, but the selective process must continue throughout the various stages of training in order that all graduates may be recommended for teaching. Our counselors and advisers must know these students well. Approximately half are preparing to become secondary school teachers. These take approximately five-sixths of their credit hours outside the College of Education. Hence with one-sixth of their credit load, the College has complete advising responsibility. The other half of our students are preparing to become elementary teachers. This group takes approximately three-fourths of their credit hours outside of the College of Education. This makes our College responsible for approximately three times as much advising per credit hour as would be necessary if all the work were taken within the College of Education. Many of our advisers are responsible for advising more than 100 undergraduate students. With graduate advising in addition, this is almost an unbearable advising load.

Over the past three years, the College has had an annual increase in enrollment of approximately 300 students. Before the next biennium ends, it is probable our College will enroll over 3000 undergraduate students. The faculty is hard pressed for time, especially for conducting personal research. We feel that research and publication should be the distinguishing characteristics of a college of education in a university. Every effort is made through such agencies as the Bureau of Educational Research to provide assistance to the faculty in this regard.

Serious consideration is being given to measures which might be used for the instruction of many more students without a proportionate increase in staff and without diminishing research publications and service to the State. The Fund for the Advancement of Education has granted the College approximately \$50,000 for a three-year research program to determine the extent to which closed-circuit television, kinescope recordings, and movies can simplify laboratory and demonstration work, thus helping us maintain the most effective contribution to the needs of the State and at the same time the most economical use of faculty time.

General Education—General Education is by far the largest department in the College. It includes most of the undergraduate and graduate professional education offerings concerned with teaching, supervision, and administration of elementary and secondary schools. The dean serves as chairman of this Department. The faculty is organized into groups of specialists for discussing and deciding the problems, curricula, and policies of the various areas of the program.

The Educational Administration Faculty is concerned with curricula and policies for the preparation of superintendents, elementary and secondary school principals and college administrators. A two-year graduate sequence has been established for the preparation of superintendents leading to a diploma, *Specialist in Education*. Appropriate graduate sequences of similar nature for elementary and secondary principals are in the planning stage. A study of the entire program for the preparation of school administrators is underway for the purpose of more careful selection and more effective preparation of school administrators. It is probable that greater emphasis will be

placed on the contributions of the behavioral sciences to the education of administrators and on the case-study approach as an instructional procedure.

The Educational Psychology Faculty has made an intensive study of curricular offerings during the past two years. A core of courses common to the preparation of all educational psychologists has been established. Basic courses in statistics, measurement, and human learning have been re-organized in terms of the abilities and needs of various groups of students. Continuing attention is being given to further modification of curricular offerings in the areas of individual differences, adolescent psychology, group behavior, and personality development. Summer workshops have been established for school psychologists and for specialists in the education of the blind, the deaf, and the mentally retarded in cooperation with the Departments of Psychology and Child Welfare. A proposed two-year graduate program for the preparation of school psychological workers leading to a Specialist Certificate has been developed and recommended by the faculty and is now waiting Graduate School approval. Two members of the faculty visited, studied and reported on the psychological services at the state and local school levels in six states during the spring quarter of 1956. Reports of the finding of this project were made to the Interim Commission of the Minnesota Legislature, the College of Education, the State Department of Education, and the Annual Schoolmen's Week Conference. Professor Willis Dugan also completed a state-wide survey of student personnel and psychological services. Members of this committee have worked closely with the Minnesota State Department of Education and the Interim Commission of the State Legislature on Handicapped Children to explore needed developments in State leadership, graduate training, and new legislation pertaining to exceptional children. Three bills developed by the Interim Commission and related to improved educational provisions for exceptional children have been reviewed by members of our faculty in hearings before the Interim Commission.

During the past two years the Elementary Education Faculty has of necessity been concerned with a rapidly increasing enrollment—over 800% in the past eight years. This increase is made necessary by an increase by 20,000 pupils per year since 1952 in the elementary school enrollment in the State of Minnesota. This added enrollment requires that at least 700 additional teachers be trained. Much attention has been given to the curriculum designed to prepare elementary teachers. Attention has been given to increasing the quality and amount of natural sciences and mathematics in the program with consideration of a reduction in the areas of art, music, and health.

The Secondary Education Faculty has concerned itself largely with a revision of the undergraduate courses offered during the junior year commonly called the "junior sequence." Approximately 500 students enter this sequence each year. The observation of effective secondary school instruction is highly desirable, but it is difficult to find a sufficient number of demonstration teachers on the campus and in the Twin Cities to accommodate such a large group. Because it is not possible for more than 50 students to observe a high school class, the college class has had many different observations, and usually the instructor has seen only a few of them. During 1955-56, the Fund for the Advancement of Education agreed to support a project to study the uses of television and kinescope in teacher education. Plans have been made for a three-year experiment. During 1956-57 there will be a revision in the schedule of the junior sequence as follows:

From three hours of lecture, two hours of youth activity, and four hours of laboratory, the program has moved to two hours of lecture, two hours of youth activity, two hours of laboratory, and two hours of kinescope observation per week.

Laboratory instructors will have less contact with their students, but it is hoped that the gains from a much larger number of observations made possible by the kinescopes will offset this loss. Additional advantages will be a higher quality of teaching observed, observations better directed and controlled, pre- and post-briefing by the demonstration teacher is possible and the lecturer will have witnessed all the observations. In facing increased enrollments and pressures for staff time, it is hoped that this experiment will bring significant improvements in the utilization of staff resources.

The Higher Education Faculty has been working closely with members of the Graduate School faculty of the various academic fields throughout the University in planning the work of teaching interns holding fellowships under the Graduate School granted by the Fund for the Advancement of Education (\$50,000) for the purpose of improving college instruction. Three faculty members have offered special seminars for these interns on problems of college teaching.

The Rural Education Faculty has been active in meeting the needs for the training of rural education leaders in South and Central America. An international center for rural education under United States Government contract was established in March, 1954. Twenty-three leaders from Bolivia, Ecuador, Nicaragua, and Honduras completed a one-year special instructional program. The advanced training program for school administrators has been strengthened with reference to administrative problems in rural areas. A new course, The Community School, has been developed for this group of students.

The History and Philosophy of Education Faculty has established a reputation for both scholarly production and effective teaching.

The Office of Student Teaching coordinates all undergraduate supervised teaching, contracts with school districts of the State in arranging student teaching assignments and provides supervisors for most of the student teachers. Student teaching is carried on in 156 public and private schools of Minnesota. During the biennium, a total of 1496 applicants were approved for student teaching. Approximately 8% were rejected. This represents an annual increase of 8% in special education and 24% in elementary and secondary education during the biennium.

The Vocational Education Departments, partially supported through state and federal funds, include Agricultural Education, Home Economics Education, Trade and Industrial Education, and Business and Distributive Education.

The Department of Agricultural Education has continued its vigorous developmental program during the past biennium. There are over 400 agriculture teachers in the public schools of the State. Approximately 80% of them are graduates of the University of Minnesota. During the biennium, the Vocational Agricultural Farm-Management Program has developed rapidly. This program involves the cooperation of the Department of Agricultural Education, Agricultural Economics, and the Agricultural Extension Service of the University and was made possible by a grant of \$78,000 from the Hill Family Foundation to cover a period of five years. The project involves stimulating and assisting adult farmers in establishing accounting and bookkeeping procedures which enable them to determine exactly their production costs in each of their production areas and the identification of the areas in which they are making or losing money. These data are sent immediately to analysis centers established in the area of vocational schools at Thief River Falls, Mankato, and Austin, and at the Morris School and Station. Analyses are reported back to the agricultural education departments in the high schools, enabling each participating farmer to determine how his cost and profit or loss compare with those of other farmers in his area. This enables farmers to identify quickly those production areas in which there is greatest need of help. Next year analysis headquarters will be established at the Winona and Duluth area vocational schools. During the past two years farmer enrollment in the program has more than doubled. A 50% increase is anticipated for 1956-57.

The Department of Home Economics Education has taken leadership in developing a research project involving Home Economics Education in six states (Iowa, Illinois, Ohio, Missouri, Michigan, and Minnesota) to determine the extent to which attitudes crucial to effective teaching change during the pre-service preparation of home economics teachers. The design and statistical analysis for this project is being carried through by the Minnesota Bureau of Educational Research. During the biennium, the home economics curriculum has been modified in the direction of putting greater emphasis on the study of children and family life. Wider use is being made of radio and television in adult homemaking education.

The Department of Trade and Industrial Education has inaugurated two new publications during the biennium, *News and Views* designed to maintain better communication with alumni, and *Research Report* designed to bring

the results of recent research to students of industrial education throughout the country. During the biennium the undergraduate enrollment in this department doubled. Thirty men received master's degrees and nine were awarded Ph.D.'s. Twelve service courses were offered for elementary teachers and occupational therapists. The off-campus service to industry and vocational schools by this department continues to expand. Approximately 500 students were served in off-campus courses in varying lengths each year. Demonstration teams from the department have travelled to all parts of the state to aid in the up-grading of teachers in service. Groups of students from 10 foreign countries have spent from a few days to several weeks observing and attending conferences especially designed for them by the department.

The Department of Business and Distributive Education provides teachers for vocational training. It is the largest field of gainfully employed in Minnesota, with 25% of the employed workers in this occupational group. This department is the only teacher training department in Minnesota which provides complete preparation for the operation of an occupational part-time training program. Since its establishment, 71 bachelor's degrees, 34 master's degrees, and one doctor's degree have been granted to distributive education majors. In addition to its instructional function this department, with a grant from the Consumer's Union, has sponsored an Institute on Consumer Problems and prepared source material on consumer education for the use of college teachers. A current research project involves a study of the relative importance of emphasis on speed and accuracy in teaching beginning typewriting.

Art and Music Education—During the biennium, two new elementary art education laboratories were designed, equipped, and put into operation. These laboratories provide better instructional facilities and permit class size about 25 per cent larger than formerly. The increase in the number of teachers preparing in elementary education has thrown a heavy burden on this department. Added facilities have been necessary in the Department of Music Education because of the rapidly increasing enrollment in elementary education. The Old Child Welfare building has been converted to a Music Education Building which offers excellent facilities both for music education and for the music program of University High School. Staff provisions for music at the University Elementary and University High School have been made more adequate during the past biennium.

Physical Education for Men is a department both of the College of Education and of the Division of Athletics.

The Department of Physical Education for Women has been active in curriculum revision. The school health education minor has been revised in the direction of being more functional and stronger in content. Two handbooks have been prepared: one designed to guide prospective major students in physical education entitled, *Choosing Physical Education As A Career*, the other designed as a handbook to give an overview of the undergraduate professional program including philosophy, objectives, policy, and course outlines. Six members of the staff have research projects underway and are involved in a coordinated women's physical education research program involving both the University of Wisconsin and the University of Iowa.

Laboratory Schools—The teaching staff of the University Elementary School has become stabilized, the curriculum has been developed more completely, and communication with related departments has been increased. During the biennium, over 6000 observers visited the school, coming from states throughout the Union and from many foreign countries.

The University High School has undergone significant changes during the biennium. Professor Robert J. Keller has accepted the position as Director of the University High School, making the directorship of University High School a major staff position designed to stimulate a closer relationship between the College and the High School, to stimulate research in the area of secondary education, and in other ways to insure that University High School makes a more vital contribution to the development of secondary education in Minnesota.

A research grant from the Fund for the Advancement of Education of approximately \$50,000 has made possible a three-year research program in University High School concerned with the use of closed-circuit television

and kinescopes designed to make it possible for a much larger number of undergraduates to observe superior teaching as a part of their training.

The faculty of University High School consists of six tenure staff members carrying rank in the College of Education and approximately 30 other staff members who have been selected because of their superior teaching ability and academic competence for advanced graduate work. While teaching at the University High School, they complete graduate work and go out into the secondary schools and colleges of the State and nation to give leadership in up-grading secondary education.

The Bureau of Educational Research—The Bureau provides research facilities for the college faculty in addition to its own fundamental program. It has continued during this biennium to conduct an active program of research and publication. Several Bureau studies have aided in determining the States' need for school psychological services. The Bureau's studies of elementary and secondary teaching include: factors related to increases in achievement occurring during the summer vacation; effects of emphasis on speed rather than accuracy on typewriting ability; and the effectiveness of incidental arithmetic instruction in the early elementary grades. Another series of Bureau studies of this biennium has dealt with the factors related to changes in teachers attitudes toward children. These latter studies are longitudinal in character, dealing with both the college and post-college experience of our Minnesota-trained teachers.

The Bureau of Institutional Research—The bureau is a department under the Academic Vice President of the University, but it is housed with the College of Education, and its directing staff hold instructional appointments in education.

The Bureau of Field Studies and Surveys—Although the Bureau, which was established in 1948, was restricted by limited staff and lack of facilities during its early years, more than 80 surveys have been completed. Most of the surveys have related to school plant needs, but many other school problems—such as district reorganization, the educational program, pupil progress and achievement, administrative and supervisory organization, business management, and accounting procedures—have also been studied. The Bureau has been employed on an annual contract for eight successive years by the St. Paul Public Schools to make specific educational studies. Sixteen separate reports have been made under this contract. Two state-wide projects, an extensive state-wide survey of school facilities and a proposed plan of state support for public education, have been carried out. Twenty-five surveys have been underway or completed during the biennium.

The Psycho-Educational Clinic—The Clinic has been exceedingly active during the past biennium. Demands for Psycho-Educational services for teachers of exceptional children and for remedial teachers and other school psychological workers have accelerated markedly. The Clinic has been pressed to expand its regular training and service functions.

To meet demands, a number of special projects have been undertaken. A recruitment and scholarship program for teachers of exceptional children has been started. Approximately \$1500 a year has been granted as scholarship aid to students taking work in special education areas. Summer training programs have been expanded. In the summer of 1955, the University offered a special program in the area of teaching deaf and hard of hearing children. This program was developed cooperatively by the Department of Speech and Theatre Arts and the Psycho-Educational Clinic. It was offered again on an expanded basis during the summer of 1956. A special summer training program for teachers of the blind was also offered in 1956. A second annual workshop on the teaching of retarded children arranged cooperatively with the Psycho-Educational Clinic and the Institute of Child Welfare was offered in the summer of 1956. Each of these summer programs has had substantial support from outside the University. A total contribution for these and similar programs in the biennium is estimated at \$1400.

In the College of Education, the clinic staff has participated in planning a new two-year graduate training program for school psychological workers,

and a new undergraduate training program for remedial teachers. Following a series of studies and visits to other special education centers in six states, the clinic staff has participated in planning a re-organization and integration of training and laboratory services at the University in the areas of school counseling, remedial work, and special education. It is planned that these will take effect in the fall of 1956.

Research efforts of the Clinic staff have been oriented to problems of planning special services in the schools. This has been necessary in order to support the work of the Interim Committee of the Legislature. A major project on prediction of adult status of mentally defective children has also been carried actively through the two-year period. Other studies have been conducted evaluating clinical functioning and pertaining to the incidence and prediction of school adjustment difficulties of children.

The Student Personnel Office—This office handles the selection of students for the College, provides counseling, coordinates registration advising, takes care of all work for the Student Scholastic Standing Committee, and carries on research in the area of teacher selection. In the process of carrying out these various functions, the counselors have more than 5000 interviews with students each year.

The office has participated in various ways in the recruitment of high school students for teaching. A four-page brochure entitled, Teaching, was prepared and distributed to the schools of the State. High School chapters of Future Teachers of America have visited the campus and have participated in day-long programs organized by the staff. There has been an annual increase in enrollment in the College of Education of 13 per cent. Certain programs have shown remarkable increases; for example, enrollment in the social studies has increased 114 percent during the biennium; language arts, 75 per cent and elementary education, 45 per cent.

The Student Personnel Office staff has begun a long-range study of the personality and academic characteristics of students entering various areas of teacher training. It is expected that the characteristics of students who fail to complete programs and those who complete programs but who never teach will be known as well as characteristics of successful teachers. These findings will be applied in the development of the admission and instructional program of the College.

The Bureau of Recommendations—The Bureau registers all prospective graduates of the College during the senior year and provides their credentials to employing officials in the schools who seek teachers and administrators.

The total number of vacancies of all types reported to the Bureau last year was the largest ever, over 12,000. Calls for elementary teachers continue to be high and those for secondary teachers are increasing. The calls for college and university personnel increased from 1706 to 2380 during 1955. The number of active candidates registered with the Bureau increased from 1583 to 1789 over the biennium. The number of placements in new positions reported by active registrants was the highest in the history of the Bureau, 1153. The supply and demand situation continues to be critical at the elementary level and is becoming more serious at the high school level. In a number of fields it is already critical at the higher education level.—WALTER W. COOK, *dean*

SCHOOL OF BUSINESS ADMINISTRATION

The School of Business Administration has just completed a biennium of serious losses, rapidly rising enrollment, and a very encouraging and timely increase in research support. The competition for qualified faculty members is intense, but progress in the appointment of replacements is steady, aided by the opportunities for research assistance. The requests for special services by the faculty reflect confidence by the people of the state in the quality of the staff, although only a fraction of the requests can be filled.

Research—The School entered an enlarged era of research which was just beginning to bear fruit toward the close of the present biennium. The 1955 State Legislature substantially increased the special grant for business and

economic research with the larger portion available in 1956-57. This expression of confidence was gratefully received by the faculty. Whereas formerly the grant had been used almost entirely for publication costs, the increased appropriation made possible several summer session research grants which gave the appointed staff members greater opportunity for uninterrupted research. Sixteen issues of *Business News Notes* were published in the biennium.

Professor Leonid Hurwicz received one of the coveted fellowships at the Center for Advanced Study in the Behavioral Sciences at Stanford University for 1955-56, and toward the close of the year, three faculty members received notice of one year research fellowships from the Ford and Merrill Foundations for the coming year. The most heartening announcement with respect to research was notice of a grant from the Ford Foundation for \$125,000 for the next five years for business and economic research. One of the conditions of the Ford grant was that the School should make every effort to obtain matching funds from private sources. Undoubtedly, the rising level of the special legislative appropriations for business and economic research was a factor in demonstrating to the Ford Foundation that such research merits vigorous development at Minnesota.

Students and Faculty—The enrollment at the undergraduate level has been increasing faster than the University as a whole and moving ahead of expectations. The enrollment in the final quarter of the biennium was 760, which was the highest on record, except for the postwar bulge. Approximately 300 students graduate each year and have no difficulty in finding employment immediately upon graduation.

There were severe losses in the faculty ranks during the biennium. Five men were lost by death or retirement, two of the men retiring before the compulsory age. These men represented from 26 to 40 years of service to the school. As pioneers in the development of the present standards and curriculum, their imprint on the School is very clear and they will be missed. With this group goes the last member of the original faculty who founded the School in 1919.

In addition to the retirements, four senior members were lost through resignation to accept offers elsewhere. Six appointments were made for 1955 and four for 1956 in an effort to replenish and build up the faculty. Faculty recruitment is still in the very active phase in order that there be adequate staff, not only for the present teaching needs, but to take advantage of the research opportunities made available by the Ford grant.

The biennium just closed saw a successful launching of the School of Business Administration Alumni Association as a constituent body within the general University Alumni Association. Two annual meetings have been held with emphasis on conferences of solid professional character. Hopes are high that this association will tie the alumni more closely to the needs and services of the School with reciprocal benefits to all.

Special Services—The School has been able to render a limited number of special services and has had to refuse with regret many opportunities for wider activity. The special summer program in industrial administration which had been offered for the Naval Postgraduate School at Duluth, was moved to the new permanent location of the Postgraduate School at Monterey, California. Nevertheless, the University of Minnesota was requested to continue to formulate the program and provide a staff even at this long distance.

The Business Executives' Research Committee program has continued although only one group was active during the biennium. The report of this group, "The Effect on Minnesota of a Liberalization of United States Foreign Trade Policy," has attracted national attention and may provide the pattern for similar local studies elsewhere.

The School was asked to participate under the All-University contract in the establishment of a School of Business Administration in Korea. The professional obligation was recognized, but the request was declined, or at least postponed, because of the shortage of seasoned faculty members.

Instructional Plans and Problems—The faculty has been slow to add new courses until some of our basic plans take more definite form. The new course

in Introduction to Business, which was established to orient freshmen two years ago, has more than fulfilled its promise of presenting an attractive background to business. New courses have been added in the logic of data processing and in the new fields of decision-making.

Intensive work has been carried on by the faculty in studying the several aspects of the proposal of our Long-Range Survey Committee looking toward increased emphasis on graduate work in business administration. The increasing complexities of business administration have pointed up the need for broader background at the undergraduate level and greater emphasis on professional work at the graduate level. Our committees are studying the effects on enrollment and staff needs as well as the rearrangement of the curriculum should such change in emphasis be adopted. It is expected that such a plan might help us to be of greater service to the colleges of the state in integrating their preliminary work in business with professional work at the University.

The prime function of the School is teaching. The faculty is acutely aware of this, particularly as the rising tide of enrollment approaches more rapidly than anticipated. Plans have been laid for experimentation with various devices and changes in organization of material and classes which will maintain the quality of teaching even though the number of the faculty cannot keep pace with the number of students. This is the number one problem as the faculty moves from a biennium marked by serious losses in staff and explorations in new directions of curriculum development, to the beginning of a new era marked by sharply rising enrollment, a marked acceleration in research opportunities, and greater demands by the state and by business for services in our special field.—RICHARD L. KOZELKA, *dean*

GRADUATE SCHOOL

General—The biennium 1954-56 was one of steady progress for the Graduate School in its training of thousands of students in more than a hundred fields of study and in its support of faculty research and writing in many areas. In instruction, its faculty of more than a thousand members has guided students in their preparation for teaching, research, professional careers, and public service; on the research side, the scholars comprising the graduate faculty have pushed back frontiers of knowledge at many points.

Alongside its instructional program, the Graduate School has tried to find ways of aiding its faculty scholars in their search for truth, and a biennial review must necessarily give emphasis to funds and researches. The report that follows reflects not a few changes and enforces the view that the Graduate School is not enchained by tradition. It accepts the philosophy of transition while seeking to uphold high standards of scholarship in its many areas of specialization. Its eyes are open to new needs, problems, and potentialities in the service of graduate education to state and nation.

Enrollment and Degrees Granted—Though the anticipated great upsurge in the numbers of students has not yet reached the graduate level, graduate enrollment continues to be large, especially when one takes into account both the regular academic quarters and the summer terms of a given year. For the past biennium enrollment in the Graduate School approximated the average enrollment of 5,697 in residence in the 1952-54 biennium. There were 5,431 students in residence at some time during the 1954-55 year, and in 1955-56 there were 5,740 individual students. (See Table I for further details) It is significant that the Summer Session registration in the Graduate School remains high. This continues a long-term pattern of growth in which the summer program has become increasingly important.

Degrees—The biennium has shown a higher proportion of Ph.D. degrees in relation to the total number of graduate degrees granted. In 1954-55, 665 Master's degrees and 223 Doctor of Philosophy degrees were granted, for a total of 888 advanced degrees. Comparable figures for 1955-56 were 729 Master's degrees and 233 Ph.D. degrees, for a total of 962 degrees. The number of doctoral degrees granted in this biennium is almost identical with the number granted in the 1952-54 biennium.

For the two years here under consideration the geographic sources of our students remained almost constant. Approximately 53 per cent came from Minnesota; 11 per cent from the economic area surrounding Minnesota; 24 per cent from other parts of the United States; and the remaining 12 per cent from foreign countries. Thus two-thirds of the graduate students were from Minnesota and the area for which it maintains a somewhat special concern and responsibility.

TABLE I. GRADUATE SCHOOL STUDENTS IN RESIDENCE

Classification	1954-55			1955-56		
	Men	Women	Total	Men	Women	Total
Fall, winter, and/or spring	1,896	405	2,301	2,115	466	2,581
Summer Session only	1,069	366	1,435	1,086	412	1,498
Both fall, winter, spring and Summer Session	768	174	942	810	166	976
Mayo Foundation Fellows	719	34	753	655	30	685
Totals	4,452	979	5,431	4,666	1,074	5,740
Totals, academic year (exclusive of Mayo Fellows)	2,664	579	3,243	2,925	632	3,557
Total individuals in two summer terms, less duplicates (exclusive of Mayo Fellows)	1,837	540	2,377	1,896	578	2,474

Foreign Students—Table II indicates the national origins of the foreign students in each year of the past biennium. A noticeable increase in the number of foreign students coming to the University in recent years evidences the international regard with which the Graduate School is viewed and in part reflects the new world leadership of American education.

Canada, China, Germany, India, Japan, and the Philippines each have sent 20 or more students to our graduate programs. Altogether 62 countries were represented in 1954-55 and 56 countries in 1955-56. During the biennium the Graduate School has given support to experimental plans for strengthening the skills of foreign students in the use of spoken and written English. Most of the 82 students from Korea enrolled in 1955-56 are faculty members of Seoul National University, studying agriculture, medicine, and technology under the International Cooperation Administration contract between their institution and our own.

Special Programs—New needs require curricular flexibility. In large part, the success of the graduate program has depended upon the willingness of the faculty to meet these needs by appropriate changes. During the past two years several such programs have been planned or undertaken after review by the relevant committees of the Graduate School.

By action of the Executive Committee, six major fields of concentration have been approved for doctoral programs in the broad area of Veterinary Medicine. These are: Veterinary Anatomy, Veterinary Bacteriology, Veterinary Medicine, Veterinary Parasitology, Veterinary Pathology, Veterinary Physiology and Pharmacology.

Under the aegis of a University-wide committee a training program for Vocational Rehabilitation Counselors was instituted with support from the United States Department of Health, Education, and Welfare. This program establishes no new degree, but extends the traditional master of arts program to include internship opportunities in working with handicapped persons.

Approval was given by the Executive Committee for separate majors in Entomology and in Fishery and Wildlife Management within the Department of Entomology and Economic Zoology.

Because of the importance of the emerging field of Nuclear Engineering, it is now possible for a graduate student to prepare himself for work in this area by election of courses from existing departmental programs. Again no

TABLE II. ORIGIN BY COUNTRY OF FOREIGN STUDENTS REGISTERED IN THE GRADUATE SCHOOL

Country	1954-55			1955-56		
	Men	Women	Total	Men	Women	Total
Argentina	3	.....	3	2	.....	2
Australia	10	.....	10	4	.....	4
Austria	4	2	6	7	2	9
Belgium	2	1	3	3	1	4
Bolivia	1	.....	1	.....	.....	.....
Brazil	4	1	5	1	1	2
Burma	4	.....	4	4	1	5
Canada	158	14	172	141	14	155
Chile	3	.....	3	4	.....	4
China	44	10	54	54	11	65
Colombia	5	1	6	3	1	4
Cuba	1	1	2	.....	1	1
Cyprus	2	.....	2	1	.....	1
Denmark	2	2	4	1	1	2
Ecuador	1	.....	1	1	.....	1
Egypt	18	1	19	19	1	20
England	14	3	17	16	3	19
Estonia	1	.....	1	.....	.....	.....
Ethiopia	1	.....	1	.....	.....	.....
Finland	1	1	2	2	2	4
France	7	2	9	4	3	7
Germany	30	7	37	32	8	40
Greece	7	3	10	10	3	13
Guatemala	2	.....	2	6	.....	6
Haiti	1	.....	1	1	.....	1
Iceland	4	.....	4	4	.....	4
India	57	5	62	72	7	79
Indonesia	.....	.....	.....	2	.....	2
Iran	7	.....	7	6	.....	6
Iraq	5	.....	5	7	.....	7
Ireland	6	.....	6	6	.....	6
Israel	6	1	7	4	2	6
Italy	4	1	5	3	1	4
Jamaica	2	.....	2	1	.....	1
Japan	20	6	26	22	5	27
Jordan	.....	.....	.....	3	1	4
Korea	15	1	16	80	2	82
Latvia	1	.....	1	.....	.....	.....
Lebanon	4	.....	4	2	.....	2
Mexico	12	.....	12	9	1	10
Netherlands	5	2	7	6	2	8
Newfoundland	1	.....	1	.....	.....	.....
New Zealand	4	.....	4	3	1	4
Nigeria	1	.....	1	3	.....	3
North West Indies	1	.....	1	1	.....	1
Norway	17	1	18	14	1	15
Pakistan	15	.....	15	19	.....	19
Panama	2	.....	2	3	.....	3
Paraguay	1	.....	1	1	.....	1
Peru	2	1	3	.....	.....	.....
Philippines	7	13	20	13	15	28
Poland	1	1	2	.....	1	1
Portugal	1	.....	1	1	.....	1
Scotland	9	1	10	10	.....	10
South Africa	7	.....	7	5	1	6
Spain	3	.....	3	2	.....	2
Sweden	3	2	5	1	2	3
Switzerland	6	.....	6	6	.....	6
Thailand	2	.....	2	1	.....	1
Turkey	11	1	12	11	1	12
Venezuela	1	.....	1	.....	.....	.....
Viet Nam	2	.....	2	3	.....	3
Wales	2	.....	2	.....	.....	.....
Yugoslavia	2	.....	2	2	.....	2
Totals	573	86	659	642	96	738
Total Countries Represented	.....	.....	62	.....	.....	56

new degree is established, but the specialization may be obtained by a regrouping of established course offerings.

During the biennium, plans were brought to completion for an inter-departmental program in the Behavioral Sciences aimed at the production of research specialists able to operate on problems cutting across the domains

of psychology, sociology, economics, political science, and anthropology. The Behavioral Sciences Division of the Ford Foundation granted money for the partial support of this program during the past biennium, and the academic year 1956-57 will see the admission of the first group of candidates to the new program. Again no new degree is involved since ultimately each student meets traditional major and minor requirements after completion of core courses from several social science fields. The Graduate School has given full status to the offering of the doctoral degree with a major in Physiological Hygiene.

It is of some interest to note that these new programs are based primarily upon extensions, modifications, and regroupings of present curricular offerings but do not represent either designated degrees or new degrees.

Social Science Research Center—During the biennium the Social Science Research Center, founded in 1947, has continued to expand its program. The eighth annual public discussion series of the Center, *Social Science and Freedom*, published in 1955, drew such wide favorable comment that 20,000 copies were reprinted by the Fund for the Republic for national distribution. The ninth annual series, *Minnesota's Tomorrow—The Economic Future of Our Region*, broadcast as a radio series during the summer of 1956, will soon appear in published form. It is the second annual series devoted exclusively to problems and trends of this geographical area—*Minnesota Trends* having been published in 1954.

The improved training of graduate students in the social sciences, one of the basic objectives of the Center, received impetus through the maturing of plans for the special training of men and women for research careers in the social sciences. These plans have the assistance of a new grant from the Ford Foundation. Seven new graduate students will begin their doctoral training under this program in the fall of 1956; ultimately 30 students will complete the new program. The Center also helped to secure federal assistance for graduate training of prospective vocational rehabilitation personnel, a part of a nationwide emergency program.

In its continuing effort to aid the social science staff in applying for external support for research, staff development, and graduate training, the Center has assisted during the past biennium in securing more than \$800,000 in current and committed external funds for these purposes. In 1954, at the close of its first seven years, the Center reported that the one million-dollar milestone had been passed; the biennial activities represent accelerated success in helping to secure both outside support and national recognition for the social science enterprise at the University.

Other activities of the Center during the biennium included two special tour programs at University social science research agencies for visiting social scientists from abroad: a group of research specialists from the Netherlands visited the University in 1955 to consult with our social science staff; and a similar program was conducted for a team of French social scientists who visited the United States in 1954. For its services in furnishing technical assistance and cooperation through this program, the Center received a citation from the Foreign Operations Administration.

In the coming year the Center will broadcast and publish a tenth annual public discussions series; continue its annual inventory of social science research at the University, initiating some new procedures designed to increase its utility for the social science faculty; consider sponsoring an interdepartmental colloquium in the social sciences; and try to complete arrangements for a summer workshop for social science teachers. The program of the Center depends heavily on the leadership and cooperation of the social science faculty, particularly the members of the advisory council and its executive committee, the faculty governing bodies for the Center. Professor Robert McClure served as chairman during 1954-55, and Professor E. Adamson Hoebel, during 1955-56. Dean John G. Darley has continued as executive secretary.

Preparation for College Teaching—The experimental College Teaching Internship Program, begun in the preceding biennium, was carried through 1954-56, with a generous subsidy from the Fund for the Advancement of Education. In all, 33 prospective college teachers took part in this program, received supervised practice in classroom instruction, and studied college teaching

problems in a wide range. The students were graduate students well on their way to the Ph.D. degree and clear in their purpose of going into college teaching as a profession. The program involved faculty sponsors in no fewer than 16 departments, actual teaching of college classes by the interns, and weekly seminars in which 25 staff members have participated. The interns also were given opportunities to visit other colleges and universities to see at first hand how college teaching problems are being met. In the final year of the three-year program the project was interrelated with instructorships and teaching assistantships. Study is now being devoted to the implications of the experiment for the future, particularly with a view to strengthening the experience of teaching assistants. The Graduate School is deeply interested in the improvement of the training of college teachers. Its traditional emphasis upon research poses no conflict with an emphasis upon effective preparation for college teaching as one goal of graduate study. The internship program was all-University in scope, with a committee on policy appointed annually by the dean of the Graduate School. The director of the program for its first two years was Dr. C. Gilbert Wrenn, and for the final year, Dr. Gordon M. A. Mork.

Revisions of Procedures and Regulations—With the revision of the constitution of the University Senate, the matter of Graduate School representation on the Senate was considered by the Executive Committee of the Graduate School. The committee voted to designate six of its members, who were also elected Senate members, to represent the interests of the Graduate School. The committee also designated another elected representative, not a member of the Executive Committee, to serve as its seventh representative for areas of Graduate School interests. Thus on these members of the Senate falls the dual responsibility of representing Graduate School problems as well as the problems of the units to which they are initially and administratively attached.

The Executive Committee voted to maintain as a permanent policy the present program of meeting foreign language requirements with two foreign languages or with one foreign language and the alternative of a research technique or a collateral field of knowledge. In the first five years of this experimental program 1,945 graduate candidates had submitted plans for the foreign language requirement or its alternatives; of this group 86 per cent were meeting the requirement with two foreign languages; 3 per cent were presenting one foreign language and a special research technique; and the remaining 11 per cent were presenting one language together with a collateral field of knowledge. The Graduate School has concluded that the general plan, as originally devised and accepted by the graduate faculty, has served its purpose effectively and well. By action of the Executive Committee, after surveys and reports by the several graduate group committees, the program is no longer regarded as experimental, but has been placed on a permanent basis as a policy of the Graduate School.

Upon the recommendation of the dean of the Graduate School, the Executive Committee reaffirmed an earlier resolution urging that a suitable certificate of attendance be issued to foreign students who spend a minimum of one academic year in residence and who for a variety of reasons cannot truly be defined as degree candidates. This recommendation has not yet been implemented by the University. With limitations upon the time that foreign students can spend in residence at the University, an undue emphasis upon degrees is unwise, and an appropriate certificate based upon a sound program of studies short of a degree would at once strengthen the educational goals and outcomes for many foreign students and ease the problems of graduate advisers.

The Executive Committee concurred in a proposal from the Bureau of Loans and Scholarships that the upper limit for loans to graduate students be raised from \$300 to \$500 for loans granted within one year and that the limit on loans outstanding for graduate students be raised from \$600 to \$750. The financial difficulties of graduate students, particularly those who do not hold fellowships or assistantships, are often very serious. Many of those who withdraw before completion of their studies do so on economic grounds.

Upon review of experience in recent years with the new microfilm method of publication of theses, the Executive Committee unanimously voted to reduce the microfilm fee from \$35 to \$25 effective winter quarter, 1956.

Careful consideration of the wartime policy of permitting credits taken elsewhere to be transferred to a Master's degree program at Minnesota resulted in a decision by the Executive Committee to terminate this plan and to require that candidates for the Master's degree meet the minimum of a full academic year in residence and the stated minimum requirements in credits earned in residence.

Duluth Branch—In the summer of 1949 the Graduate School began course work at the Duluth Branch applicable to a Master's degree, making it possible to complete approximately two-thirds of a Master's program there, with the balance to be completed on the Minneapolis campus. The offerings were expanded in 1953 to permit students to complete at Duluth, as an integral part of the Graduate School, all requirements for the Master of Arts degree with major work in education or in curriculum and instruction. The program was designed to serve elementary school teachers and principals, rural teachers, and secondary school teachers.

The graduate work at Duluth includes courses in 11 areas of education, with the greatest concentration in the area of curriculum and instruction, but with supplementary work in the subject-matter fields of art, botany, chemistry, child welfare, English, geography, history, mathematics, music, physics, political science, speech, and zoology. Graduate work in the arts and sciences is restricted to courses that have direct pertinence to the training of elementary and secondary school teachers. In 1949 only a handful of students took advantage of the graduate offerings at Duluth. In 1954-55, 93 students were enrolled, and in 1955-56 this number had increased to 123. In 1955-56, 34, or 27.6 per cent of these students received the M.A. degree.

The graduate program at Duluth is one of significant and increasing service to the teachers and principals in the Duluth area.

Fellowships and Scholarships—Three graduate students held Greater University Fellowships in the first year of the biennium and three in the second, and the number appointed for 1956-57 is five. These fellowships, provided by the generosity of alumni and friends through the Greater University Fund, are for students nearing the end of their Ph.D. work. The stipends have now been raised to \$1500 for the academic year plus coverage of tuition. The Norwegian Luncheon Club of Minneapolis has continued to support fellowships for graduate students from Norway, and in 1955 a brochure was brought out listing a total of 30 students who have held such fellowships from 1946 to 1955, with information about their positions and careers since their Minnesota graduate studies. The competence of the students selected is attested by their rapid rise professionally in their home country. The John Cowles Foundation has continued to provide funds for stipends for graduate students from Southeast Asia. These funds have now been increased from \$4000 to \$5000 per year. The University has continued a generous program of tuition scholarships to aid students of outstanding ability from other countries throughout the world, with a numerical limitation of 40 such scholarships for any given quarter. Meanwhile the Graduate School has served as a central office for the handling of student applications for Fulbright Fellowships. A considerable number of National Science Foundation fellowships have been awarded students for graduate study at Minnesota—17 for 1955-56 and 14 for the first year of the next biennium. There has been some increase during the biennium in the number of special and endowed fellowships, but the Graduate School faces a serious problem in the lack of fellowships not limited to specific areas, and another problem in the circumstance that the older levels of stipends are no longer adequate to meet the needs of graduate students who cannot carry forward their studies without financial aid. There is a need for additional fellowships in many fields, but particularly in the nontechnical areas, notably languages and arts, history, political science, anthropology, sociology, and various other departments. The Graduate School wishes to encourage the setting up of funds generally for graduate studies, especially in fields where the opportunities for stipends outside regular teaching assistantships are relatively few. Whereas efforts are now being made to come to the aid of advanced graduate students through the Greater University Fellowships, we are sadly lacking in fellowships designed to encourage and help beginning grad-

uate students. In this connection, it may be noted that during the biennium 10 Woodrow Wilson fellows have selected the University of Minnesota for their graduate work.

Research—The details of projects in progress each year may change, but the overall picture of research, as seen from the coordinating point of the Graduate School, is one of intensive and exciting activity on the part of a substantial number of faculty members. Several notable developments warrant mention. The cost of the research enterprise moves upward, both in terms of personnel requirements and capital outlays and expendable supplies. The amount of instrumentation increases, and outlays for single pieces of equipment reach figures far beyond those of earlier years. Machines do more precisely, more rapidly, or more searchingly the tasks that in earlier times were done by individuals or by less adequate equipment. This development in turn opens up new frontiers of research for exploration. It is encouraging to be able to report that the total funds for research, from all sources, have increased, permitting the employment of more graduate assistants, supporting more areas of research activity, and creating differing patterns of support, both external and internal.

By its interlocking committees and by its considered practice of strong and highly competent faculty participation in the allocation of internal funds, the Graduate School continues to serve as an informal, coordinating agency and information source for the vast research program upon which so much of the strength of the University rests.

General Research—Totaling \$90,000 per year, this Legislative fund supported 56 projects during 1954-55 and 50 projects during 1955-56. As its name implies, it ranges across all frontiers of knowledge. Projects in biological and physical sciences, the humanities, social sciences, and the specialized professions find their support from this fund. Not infrequently, activities started with small grants from this fund later move forward with greater dollar levels of support from sources external to the University. Thus its seedbed function remains an outstanding characteristic of its activities.

Several specific research fields and projects illustrate the scope of the fund's activities. These include the photochemical properties of chlorophyll; rural social change in Minnesota; the follow-up of mental defectives released from state institutions; the search for white dwarf stars; documentary sources on the Lewis and Clark expeditions; jurisdictional problems in the study of labor relations; the toxic effects of DDT under differences in temperature; the learning of languages in the elementary grades; the use of radioactive phosphorus in studying soil and plant relations; analysis of the effects of full medical and hospital insurance prepayments and health practices in specific communities; comparative studies of Scandinavian public administration; relations between protein structure and enzymic function; and the use of television in classroom instructional situations. These and many other studies supported from this important fund indicate the directions in which the faculty moves in its unending and carefully planned search for new knowledge bearing on human and natural resources and the needs of the society we serve.

The Research Overhead Reserve Fund—The President has continued the sound and effective practice, inaugurated in the previous biennium, of allocating annually substantial grants from research overhead funds for the support of research in all areas of University interest. Recommendations for allocation from this annual fund are made by the same faculty committee that functions for the General Research Fund, thus providing coordination in management and policies of the total research enterprise. The fund is used generally for major equipment purchases on a nonrecurring basis; support of projects already under external or contract support and requiring supplementary funds; support of high-risk projects where early outside support may be envisioned if the work is successful; and support of team projects of a programmatic nature, usually involving fairly heavy outlays.

During the past biennium major items purchased through this fund included a helium cryostat for low-temperature research; special equipment for the studies of photosynthesis and related metabolic processes; and special

spectrophotometers and centrifuges. In addition, grants were made for the study of econometric problems; for studies of the changing location of manufacture in the United States; for studies of the effects of isolation and deprivation on human behavior (of interest to the military establishments in survival training); for analyses of administrative law; and for the extension of high speed computing services. These are a few illustrations of research and research equipment needs and ideas that the overhead fund has helped and can help the faculty to meet and implement on the frontiers of science and scholarship. We cannot keep pace with research needs in their full compass, but this fund of more than a hundred thousand dollars annually has already made notable contributions to the ongoing research of University scholars.

Medical and Cancer Research—This fund, in the amount of \$62,500 for 1954-55 and \$67,500 for 1955-56 supported 40 projects during 1954-55 and 70 projects during 1955-56. The difference in the number of projects for the two years is accounted for by purchase during 1955-56 of a considerable number of items of special equipment, each classified as a project, and by a substantial increase in the fund for the second year of the biennium. While it admittedly represents a relatively small proportion of all funds allocated to research in medicine and its supporting basic sciences, the fund's value far exceeds the dollar amounts involved, since it is used to initiate or search out the research problems of great significance on the frontiers of medical science. A few projects will indicate the range of activities carried on under this fund: the use of radioisotopes in tracing tissue and tissue component turnover in the skeletal structure; the genetic patterns of cancer in mice; studies of cholesterol metabolism in relation to arteriosclerosis; cortical tolerance of anorexia; the therapeutic use of cross-circulation and cross-transfusion during surgery; electron microscope study of the central nervous system under normal and experimental conditions; replacement of the aortic arch with plastic tubes; identification of chemical mediators affecting sensitivity of cancer tissue to radiation; studies of peptic ulcer. The value of this medical research fund in helping to initiate researches of high potential importance to medicine and human welfare is dramatically illustrated in the publication in 1956 of the definitive monograph on *The Nature of Brucellosis* by Dr. Wesley W. Spink. His studies, which have made him a world authority in this field and have now produced a masterly work on a disease that has taken heavy toll both of animal and human life, were aided at their inception by a modest grant of \$375 from this particular fund.

The research grants made through the Graduate School often open doors to knowledge and understanding that can be of genuine value to the state and to human beings beyond our borders.

Minnesota Institute of Research—This fund, amounting to \$30,000 annually, is applied to the solution of problems relating to utilization of the industrial and natural resources of the state. During 1954-55 the fund supported 19 and during 1955-56 17 research projects. The mention of a few projects will illustrate the interests furthered through this Institute for benefit of the state: mineral and chemical properties of soil parent materials in Minnesota; factors affecting the marketing qualities of concentrated and dried milk products; the utilization of solar energy (Minnesota and the world); the biological problems of commercial fishery resources in Minnesota; location of nickel and copper deposits in northern Minnesota; the geography of Iron Range cities; the chemical properties of lignin; the manufacturing problems affecting the quality of concrete drain tile.

Allocations from this fund are recommended by a faculty committee under the chairmanship of the dean of the Institute of Technology. This faculty committee is now planning an investigatory conference to study and mark out some of the significant industrial, agricultural, and mineral research needs of Minnesota with a view to encouraging and forwarding research that could open the way to a fuller use of known resources and the new development of resources not hitherto exploited.

Nonmedical Research Fund—This fund is presently budgeted at \$28,750 per year. Its allocations to faculty research projects are on the average smaller

than those from other funds, but its importance far exceeds the size of allocations, since it supports research that cannot normally be financed from external sources and since it provides a continuing base for the scholarly interests of many faculty members in the humanities, the social sciences, and the basic science fields. Over 60 projects were supported during 1954-55, and during 1955-56 52 projects were given aid.

Illustrative projects carried forward under this fund may be seen in the following sample of titles and subjects: mapping of the flowering plants of Minnesota; refinement of methods for detecting the element *scandium* and methods for separating it from ores; analysis of the laws of military occupation; investigations of visual function as related to fatigue, illumination, and typography; studies of twentieth-century American society and culture; a history of Swedish literature; radio and television broadcasting in the United Kingdom; glacial studies in central Minnesota; and pollen studies with special reference to fine structure of pollen grains. In the administration of this fund, project proposals are appraised and screened by the several graduate group committees whose members are close to the research areas involved.

Dight Institute—The leadership of the Dight Institute in the human genetics field was strengthened during the biennium. Its pioneering work in counseling made it possible for its director, Dr. Sheldon C. Reed, to bring out in 1955 an authoritative book on *Counseling in Medical Genetics*, which opens new doors for thousands of families that need help on problems centered in heredity. Dr. Reed served as president of the American Society of Human Genetics in 1956 and led an American delegation to the First International Congress on Human Genetics in Copenhagen.

The biennium also marked the completion of the Institute's research project on the biology of human breast cancer initiated 12 years ago by the first director, Dr. C. P. Oliver. Studies with respect to families of mentally retarded people have been supported for the past seven years by the Minnesota Human Genetics League. The twin method of study of multiple sclerosis, supported by the National Multiple Sclerosis Society through the University of Illinois, is nearing the end of its field work as a result of the able efforts of Mr. N. C. Myrianthopoulos, a graduate student.

The Dight Institute needs additional and stable income for the effective prosecution of its work. A five-year grant from the Rockefeller Foundation expired in 1955, and with only the modest income from the Dight endowment the Institute is unable to retain a much-needed assistant director, with a consequent handicap to the counseling program. Despite financial difficulties, the Institute has attained a position of national and international eminence in both research and counseling.

Lake Itasca Biological Station—The interest of the Graduate School in the development of the Biological Station at Lake Itasca was continued, with the dean of the Graduate School serving as chairman of the faculty committee on the Station's policies during the first year of the biennium. Special institutes for high school and college teachers of biology were carried forward with outstanding success. The Hill Foundation provided funds for the 1955 high school institute, after its support in 1954 by the Fund for the Advancement of Education; and the National Science Foundation supported the college institute both summers. Experimentally, the high school institute was held in 1956 without any supporting grant and proved effective. Because of the pressure of the University Self-Survey, the dean withdrew from the committee chairmanship in 1955, and this post was taken over by Dean E. W. Ziebarth.

Cedar Creek Forest—The biennium has witnessed a notable development of this project, which is of great importance to University research in the field of natural history. A grant of \$250,000 from the Max C. Fleischmann Foundation of Nevada has made it possible to enlarge the land holdings of the University in the Cedar Creek Forest area and to plan a headquarters laboratory building on the grounds, as well as to strengthen the administration of the project in many ways. A Graduate School committee under the chairmanship of Professor Dwight E. Minnich functions with respect to overall policy in relation to the forest, and Professor Arthur N. Wilcox has assumed the responsibility of the directorship. The laboratory building is expected to

be completed early in the next biennium, probably November, 1956. The research and instructional value of the project has been greatly enhanced by these developments, but the University faces a serious problem in the provision of funds to aid in its maintenance and administration through a long future.

Hormel Institute—This Institute, with its well-equipped laboratories at Austin, exemplifies in the work of its staff the contemporary trend toward team research. The store of scientific knowledge has become so vast and has developed in such multifarious detail that many important advances of the future inevitably will be based upon a broader portion of that body of knowledge than the mind of any one man can encompass. This circumstance, involving the interdisciplinary approach to the study of problems, accounts in considerable part for team effort. Individual effort is basic. The dignity of the scholar and the freedom of his research are essential. But amid the complexities of science and the pressures of many unsolved problems, one of the best hopes for the advancement of knowledge and resultant progress is to be found in well-coordinated team work.

The Institute was established in 1942 under the Graduate School to conduct chemical and biological researches related broadly to agricultural problems. In its earlier years it carried on extensive researches on diseases, nutrition, and genetics in swine. A development of the biennium is a shift in the balance of the total program. Work in nutrition is being continued, but it is no longer centered in the practical aspects of swine nutrition and instead deals with basic problems of nutrition, involving other species of animals as well. The studies of genetics are now being limited to the further development of a miniature breed of swine, and with the successful conclusion of the Institute's researches on swine diseases, no new researches in this area are now being launched. Meanwhile the Institute has established a position of leadership for its studies in the field of lipid chemistry and is giving major emphasis to this field. These studies are wide in their extent. They include the chemistry and technology of food fats, autoxidation and antioxidants, the chemistry of the drying of oils, the physical properties and nutritive value of fats, the role of essential fatty acids in nutrition and metabolism, the chromatography of lipid materials, the composition and structure of highly unsaturated fatty acids, and inclusion complexes of lipid materials. More recently the Institute has embarked on a new project in the lipid field, a study of the role of fats and other lipid materials in relation to the problem of atherosclerosis. As its work has developed, the Institute has broadened its relationships to scholars working in similar fields throughout the world. This program as a whole has developed under its effective director, Dr. Walter O. Lundberg, with an Institute board composed of Hiram E. Essex, J. G. Huntington, Walter M. Lauer, Harold Macy, and Theodore C. Blegen, chairman. One very important factor of strength for the Institute has been the continuing and cordial support of the Hormel Foundation.

Summer Research Appointments—In 1955 and 1956, 24 recipients of Faculty Summer Research Appointments were added to the total number of those who have benefited from this plan since its inception in 1946. The range of projects included economics, history, English, classical languages, pharmacy, speech, medicine, chemistry, law, geology, political science, humanities, sociology, and botany, and the reports of progress indicate substantial advances in productive research.

Single-Quarter Leaves—In the previous biennial report, attention was directed to the development of a new University plan for single-quarter leaves on salary by staff members with the purpose of advancing research and writing projects. This plan has now been in effective operation since the winter quarter, 1955, with special college committees and an all-University committee for nominations and selections. Though the period of trial has been brief, the soundness of the plan is evidenced by gratifying results in creative work.

Administration—The faculty of the Graduate School carries a heavy load indeed, with more than 5,000 graduate students in the course of a year and

nearly a thousand higher degrees completed, each involving an adviser, course programs, and examinations, plus dissertations to be read and appraised. Any mention of administration, therefore, must be prefaced with an acknowledgment of the instructional and advisory services of the faculty. The administration of the Graduate School would be of no importance whatever if it were not for the competence and scholarly integrity of the graduate faculty, which, day by day, meets the specific student and research problems that arise in connection with the tasks of graduate education. Nor should we forget the many committees whose functioning is essential to the success of the school—the examining committees, the graduate group committees, certain special committees, and the Executive Committee at the center of the system. To all these committees and to the faculty in its full extent, I give the thanks of the Graduate School for work well and faithfully done. The Executive Committee at the close of the biennium consisted of Dean Marcia Edwards and Professors Wallace D. Armstrong, A. Orville Dahl, Norman J. DeWitt, W. M. Myers, A. O. C. Nier, and J. Warren Stehman, with the dean serving as chairman. Associate Dean Darley has performed with his usual competence many duties in the central graduate administration, and the staff of the Graduate School office has continued to deal efficiently with the thousands of details and problems that the procedures of the school entail. Dr. Darley was granted a six-month leave of absence in 1956 to enable him to work with Dr. T. R. McConnell of the University of California in an important study of the problems of higher education, and during his absence Dr. Forrest G. Moore, Foreign Student Adviser, served effectively as assistant to the dean. During the biennium the dean devoted a major portion of his time and energy to the University Self-Survey, serving as chairman of an all-University committee of six members appointed by the President. This central committee, with the aid of four subcommittees drawn from the University staff, studied the problems of the University in their campus-wide context and with an eye to the needs of the next decade. Its work eventuated in an extensive series of reports dealing with University instruction, research, and public and internal services, plus various problems that did not precisely fit these four categories or were supplementary to them. The committee completed its responsible assignment shortly after the close of the biennium.—THEODORE C. BLEGEN, dean

The Mayo Foundation for Medical Education and Research

As part of the Graduate School of the University of Minnesota, the Mayo Foundation for Medical Education and Research conceives its main responsibilities to be the advancement of knowledge in medicine through research and investigation by faculty and graduate students or fellows, and also the advanced education of qualified students who may creditably represent the Foundation and the University throughout the country and the world as experts in one or another of the branches of medicine. These education and research activities are not distinct from one another, but are closely integrated in the entire program of the Mayo Foundation.

The facilities employed in this program of education and research are first, the faculty of the Mayo Foundation which is derived from the full time staff of the Mayo Clinic. The clinical and research laboratories of the institution are employed in both the educational and research activities. The facilities for diagnosis and treatment in the various Mayo Clinic units and in the closely affiliated Rochester hospitals, involving tremendous numbers of patients, constitute an educational asset of considerable magnitude for the training of specialists in the various fields of medicine and surgery. Insofar as the practice of medicine may be considered a science, the laboratory for such practice is the out-patient clinic and hospitals.

Research Program—The recent transfer of practically all laboratory research programs from the Institute of Experimental Medicine located outside Rochester to the new Medical Sciences Building was aimed at facilitating closer collaboration between the clinician and the laboratory scientist. Another purpose was to make more readily available to members of the clinical faculty

such laboratory research facilities as they might need. The effectiveness of this program is demonstrated by the fact that clinicians in increasing numbers have been able to devote more time to laboratory research of their own and to the direction of laboratory research carried out by fellows. The geographical proximity of laboratories and clinical facilities has made possible integrated research programs which would otherwise have been difficult. An outstanding example of such research is that which is involved in the diagnosis and therapy of such cardiac conditions as require surgical intervention within the heart itself. This project has involved close collaboration between the sections of engineering, physiology, pathology, surgical research, pediatrics, cardiology, and surgery. From this teamwork has resulted not only improved and new methods for coping with the problems of surgery within the heart, but also there has been derived a great deal of new information regarding the physiology and pathology of the circulatory system.

Research by Fellows—Throughout the institution there is an effort to provide a climate favorable for research. Fellows are encouraged to engage in investigation not only in the laboratories, but in the pursuit of new knowledge derived from clinical investigation. Such activities on the part of fellows have resulted in the publication of reports in many scientific journals. During the biennium reported, a total of 459 papers with fellows as co-authors were published involving 304 fellows as authors. Although much of this work reported consisted of modest contributions to knowledge, much of considerable significance was also included. Perhaps as important as the contribution to knowledge by the fellow has been the effect upon the fellow himself in the development of a scientific research approach to the problems even though these problems might be primarily of a clinical nature.

Much of the research carried out by fellows under supervision of members of the staff has been incorporated into more formalized programs leading to higher degrees. In the biennium ending June 30, 1956, there were 5 Ph.D. degrees and 157 masters degrees awarded. Of those physicians, dentists, and scientists who enter upon Mayo Foundation fellowships, 35 to 40% complete the work for a higher academic degree. A goodly number of those who do not work toward or secure a degree remain in residence as fellows for a shorter period of time than that required for degree purposes.

Expanded Facilities—There has been a consolidation of the efforts, administration, and plans of the "downtown hospitals" under the direction of the Methodist Church, which owns and operates that group of hospitals known as the Methodist Hospital. Plans for renovating and expanding this institution and bringing its facilities under one roof are now under active consideration.

St. Marys Hospital, which is the largest hospital employed in the Foundation's teaching program, has continued to undergo expansion and remodeling through the years. The recent demolition of one large wing and its replacement with modern hospital facilities and equipment have improved the medical care and educational program of that institution.

As a result of the completion and occupation of the new Mayo Clinic-Mayo Building, it has been possible to expand educational facilities in the old Mayo Clinic Building, which is now known as the Mayo Clinic-Plummer Building. Library facilities have been expanded from the former single floor to more than three floors with greatly increased facilities for library work by fellows, such as cubicals to which they are assigned and in which they may keep papers and reference volumes for a relatively extended period of time.

Faculty—With a continued increase in the demands upon the Mayo Clinic for medical services, the staff of the institution continually increases. When new appointees meet the appropriate academic requirements, academic appointments are made to the faculty of the Graduate School of the University in consultation with the dean of the Graduate School and appropriate committees on the Minneapolis campus. Included on the staff of the Mayo Clinic are the following numbers of faculty members of the Graduate School of the University: 75 professors, 54 associate professors, 77 assistant professors, 66 instructors; a total of 272 faculty members.

Fellows—Fellows of the Mayo Foundation are derived from all the medical schools of the United States and Canada. At any one time some three-fourths of the schools of these countries are represented on the fellowship roster. In addition, there are always some fifty to sixty appointees who have graduated from medical schools outside the United States and Canada. The medical schools ordinarily having the largest representation in the fellowship group are the University of Minnesota, Northwestern University, University of Pennsylvania, and Harvard University. The total number of fellows at the close of the biennium was 540. This number, coupled with the graduate fellows in medicine and related fields at the University, makes this program by far the largest of its kind in this country and probably in the world.

An Appreciation—The faculty and administration of the Mayo Foundation are deeply appreciative of the trust placed in them by the Board of Regents, the president, and the dean of the Graduate School. The goal of the Mayo Foundation is to be worthy of that trust and to warrant a just pride by the University in the Mayo Foundation's accomplishments in medical education and research.—VICTOR JOHNSON, *director*

THE GENERAL COLLEGE

The General College of the University is, in a manner of speaking, the bellwether for the other colleges of the University. It was the first to make interdepartmental courses available to lower division students. It was in the forefront of those seeking to emphasize good classroom teaching as a major factor in promoting faculty members. It was again first in feeling the impact of shifts in the enrollment pattern of the University.

When college enrollments dropped during World War II, they dropped twice as fast in the General College as in the University as a whole. When the so-called veterans' bulge hit the University, the General College was most immediately and acutely affected. In the period of a general increase in University enrollments since 1951, each year the General College has experienced an increase almost exactly *double* that for the University as a whole. The magnitude of the problems attendant upon rapid enrollment fluctuations may be imagined in view of the fact that in a four-year period (from the fall quarter of 1951 to that of 1955) student enrollment in the General College came within 16 students of doubling itself, rising from 1,050 to 2,084.

The biennium being reported here brought into sharp relief in the General College many of the problems which will face the other colleges of the University as well as those of the country generally in the next decade and a half. Thus in this college we may see in microcosm, as it were, the difficulties to be overcome and some of the adaptations that must be made in higher education as a whole in the face of predictions for sharp increases in enrollment. Some of these difficulties involve coping with the increasing size of classes, mechanization of testing procedures to take care of larger numbers, recruiting of faculty members in the face of increasing competition for their services, internal reorganization and consolidation, adaptations of space and scheduling often varying sharply from traditional patterns, re-examination of the functions of teaching assistants and instructional personnel, and efforts to continue programs of evaluation and research in the face of mounting stresses and strains.

The General College has sought to isolate some of these and related problems and issues, and to find constructive means of approaching them, by means of a specially designed and conducted self-survey undertaken during the winter and spring quarters of 1954. It has an additional opportunity to analyze and evaluate its own position and projected functions through participation in the All-University Self-Survey set up and conducted through the President's office during 1955 and 1956. Both of these surveys gave the faculty of the college an opportunity to evaluate its curriculum.

In the addition of new courses to its program or the revamping of old ones, the college seeks constantly to be sensitive to the needs of its students and of the society of which they are a part. Some of the projects and course

developments which have been undertaken or refined during the biennium, for example, are as follows:

1. A course "Democracy in Action," taught cooperatively by the social science faculty, in which each student is required to work with or join one community activity, such as a labor union, a service group, a social agency, or attend open meetings of a political action group, a mayor's committee, etc. Final examinations are both written and oral, the latter conducted by a committee of the faculty.

2. Further development and refinement of the "demonstration laboratory" in biological science and the "measurement laboratory" approach in mathematics, whereby students work through a series of demonstrations or problems on their own time as an adjunct of the large lecture or recitation class, different experiences being available each week.

3. A developmental (rather than remedial) reading course for students with average reading ability, in which drill exercises, films, slides, and reading assignments help students improve reading speed and comprehension.

4. A course in practical law to provide students with an understanding of the average citizen's involvement with such legal matters as contracts, deeds, mortgages, court procedure, real estate titles, joint tendency, wills, property, and automobile insurance.

5. The pairing of a large (200 to 250 students) and a small class in a social science course to determine what types of instruction are particularly suitable to develop learning in a large class situation.

6. Experimentation with relatively large sections (60 students) in a course in "Fundamentals of Usage and Style" to give students firmer grounding to benefit from a course in Freshman composition in which they will enroll subsequently.

7. Reorientation of the General Arts and Music Today courses to provide for more direct student participation both in the classroom and in relevant non-classroom activities.

8. Redesigning the Nature Study course to provide for large numbers of students and more field trip experiences to supplement classroom instruction.

9. Further experimentation with terminal vocational sequences to supplement those in retailing and selling, practical nursing, commercial art, dental assisting, and general business.

10. A complete reorganization of the offerings in literature and writing, after a two-year period of analysis and intensive study by faculty members teaching in that area. This reorganization restored to the area a basic unity and a coherent rationale.

An examination of trends in colleges over the last 30 years would indicate a very considerable expansion in course offerings. Much of this expansion is, of course, desirable in view of the need to keep up with current developments in technological and specialized fields. In many instances, however, courses which were established originally to provide a survey or introduction to a field of learning have become successively divided so that a sort of academic mitosis has resulted. A study conducted as far back as 1932, for example, indicated that in 13 representative institutions there was one course listed in the catalogue for every 2.89 students; for the small endowed colleges there was one course for every 2.87 students; and for the state institutions one course for every 3.81 students.

In spite of the fact that it is desirable for new courses to arise as a response to changing times and needs, there is seldom any effective check on indiscriminate course additions in many colleges and universities. The faculty of the General College has given careful consideration to an effective means of providing for the establishment of new courses where these seem desirable, and yet keeping some check on the addition of too many courses. As an example of their method of operation the faculty has appointed a standing committee as a curriculum committee of the college. Any instructor (or group of instructors) who has an interest in a new course first presents his proposal for such a course in writing to this committee, which considers the

written proposal and outline, and furthermore discusses the matter with the instructor in person. If the committee, after further deliberation, is convinced that the proposal has merit, the item is placed on the docket of the meeting of the faculty as a whole. In this meeting the proposal for the new course is presented in outline form and in terms of its relationship to the existing curriculum. If after extended discussion the course receives approval of the faculty, it is then entered in the program of the college, but the course number is given an "X" designation, as for example, 20AX, Practical Law.

Up to this point this may be fairly standard procedure for departments and colleges. But in the General College the "X" designation means that a course must not be offered more than three times without a report to the faculty on the course in question by the evaluation committee. This means that, in those instances in which the faculty feels that the evaluation of the course shows that it fills a continuing need, it is henceforth adopted as a regular offering and the "X" designation is removed. In some other instances the "X" review may convince the faculty that the course is not necessarily a desirable part of the regular offering, in which case the course is discontinued at that point.

During this biennium the General College faculty has continued to develop its well-known comprehensive examination. The General College has achieved national recognition for its experimentation with new and resourceful evaluation techniques, and among these is its general comprehensive examination. This examination, which is administered to all new students at the beginning of their first quarter in residence, is an achievement test covering, as thoroughly as a paper and pencil test can do so, the total program of the college. The examination has been administered in three four-hour sessions set up on three separate days, and students take another form at the end of one year in the college, and candidates for the A.A. degree take the examination again to qualify for the degree at the end of their second year. Results on the initial administration are used in advising students on their program planning, and results on subsequent testings provide evidence of both individual and group growth and achievement in addition to that provided by individual course examinations and grades. The faculty has been moving toward the development of somewhat standardized comparable forms of the examination, a most difficult and time-consuming task, since 1947, when the single comprehensive test was adopted to replace the separate area examinations. During the biennium 1954-56, this goal was brought in sight, a significant achievement for the faculty and for the program of the college.

The faculty of the college sustained serious losses during this biennium. Three of its major members who were pioneers in the general education movement as well as leaders in the college submitted their resignations.

A tragic loss was sustained by the college, and by his many colleagues and friends, in the untimely death of Dr. Edwin S. Cieslak, Associate Professor of Biological Science, on January 11, 1956.

We are fortunate to report gains to offset these losses. Moreover, the consolidation of part-time positions in various divisions of the college is expected to give more conciseness and direction to the professional development of the program because of the immediate involvement on a full time basis of fewer people rather than part time services by a larger number of individuals who frequently had other interests distracting them from their service to the college and to the University.

A further step in this same direction was taken in the spring of 1956 when the Coordinators' Council, with a regular schedule of weekly meetings, was established. As the faculty has increased in size during recent years, there naturally arose a greater difficulty in maintaining channels of communication between the central administration of the college and individual faculty members. The Coordinators' Council embraces in its membership senior faculty members representing their colleagues in such major areas of the college program as, for example, Science and Mathematics, Social Science, and Literature, Writing and Speech. The Council will provide, it is expected, not only a clearer and more direct channel of communication in both directions, but also a forum for interim discussion of policies and procedures, and may help provide further clarity and direction for the total activities and program of the college.

There remain, of course, many problems, some of which are assuming serious proportions. The faculty of the college is acutely aware that one of its functions is to continue to experiment with new curriculum developments and instructional techniques. These activities, which greatly enhance the program, are in danger of being swamped by the sheer weight of the sharply increasing number of students which is not accompanied by a proportionate increase in the number of faculty. A further and closely related problem is the need for upgrading the faculty in rank and salary, for the college lags behind all the other colleges of the University in both of these respects. A concerted effort to improve the student load and professional status of the faculty, and the awareness and concern about the situation expressed by the President of the University, give every reason to believe that the General College can continue to maintain and to develop further a program with a high level of educational integrity and quality even in the face of quantitative expansion.

Certainly, in spite of these and other problems, we in the college continue to have great faith in the mission of the college. The University, distinctive in many ways among the institutions of higher learning in this country, is distinctive also in the establishment and maintenance of the General College. Other Universities, it is true, have units variously labelled as a Basic College, Basic Division, Junior Division, Integrated Liberal Studies Division, or even, in some cases, actually with the identical name of General College. But despite similarities in name, what makes Minnesota's General College unique is that it provides a program of courses which are specifically designed and taught to serve the needs of students most of whom, for various reasons, will not continue in college more than one or two years. Thus Minnesota justifies in its positive orientation towards these students its great liberal tradition in education.

One of the practical and significant results of this enlightened policy is the high level of health and efficiency of the people of the state of Minnesota. A chart prepared by the Department of the United States Army, Office of the Surgeon General, and reproduced on page 4 of the *Minneapolis Morning Tribune* for August 29, 1956, together with an editorial about Minnesota youths' high "ability to absorb training," shows graphically that Minnesota leads all of the states in having the lowest rejection rate for the armed services. While there are various factors which contribute to this distinctive record, the availability of a state public educational program which will permit any graduate of a high school the opportunity to proceed further up the educational ladder, as far as his effort and ability will carry him, must be no small factor in having the health and skill of Minnesota youth excel the record of those in the other 47 states. The General College serves as a means of making access to the University completely democratic. It feels, therefore, that it has an important role to play in the field of conservation of human resources, and that it has contributed significantly to the University's share in making Minnesota's record an enviable one.—H. T. MORSE, dean

UNIVERSITY COLLEGE

In spite of the large number of students on its campus the University of Minnesota provides for attention to the individual. One of the methods of doing this is through registration in University College. A student in any undergraduate college of the University may present a program "tailor made" for him, and if a faculty committee or selected faculty members believe the program is appropriate as the basis for a degree, Bachelor of Arts or Bachelor of Science, the student is accepted in this unit.

During the 1954-1956 biennium 51 students received degrees through University College. As in past years, the variety of programs is too wide to attempt description here. The number of students is not growing since the orthodox colleges often accept modifications in their standard programs. If applicants for admission to this college ask for only minor deviations from normal college programs the students are encouraged to seek a degree from their present college.

Faculty members continue to cooperate in the counseling of students and in appraising the programs of those seeking admission to the college.—J. W. BUCHTA, *chairman, University College Committee*

DULUTH BRANCH

During the biennium 1954-56, the Duluth campus assumed physical, academic, and statistical characteristics that indicated its maturing status as a full-fledged liberal arts college and its closer integration within the total University of Minnesota family.

Its enrollment continued a steady and, in recent years, rapid upward trend from a post-World War II enrollment of 1,208 in the fall of 1951. In the fall quarter, 1954, the enrollment was 1,657; in 1955, 1,925. Estimates indicate approximately 2,200 students in the 1956 fall quarter. These figures exclude graduate students enrolled through the Graduate School in Minneapolis and studying at Duluth. A complete compilation by quarters for the biennium as well as summer session enrollments are included in the all-University tables.

Physical Development—Two buildings were completed and two buildings begun during the biennium. On February 24, 1956, as a special feature of the Duluth campus observance of University Week, the new library was dedicated by Malcolm M. Willey, Vice President, Academic Administration, with an address entitled "The Wonderful World of Books." In conjunction with the formal opening was a regional librarians' conference which attracted representatives from several states and many communities of northeastern Minnesota. Constructed through an appropriation of \$700,000 from the 1953 Legislature, the library, contemporary in architectural design, is 67 by 150 feet in over-all dimension, has three floors, provides study facilities for approximately 250, and contains space for approximately 75,000 volumes, of which 98 per cent is for open shelf use. Four classrooms and eight faculty offices on its first floor also are available. Ground breaking took place April 20, 1954.

On June 22, 1956, the Kirby Student Center and dormitory units were dedicated in ceremonies held in conjunction with a regular meeting of the University Board of Regents on the Duluth campus. Begun with ground-breaking ceremonies September 29, 1954, the Kirby Student Center was designed as the physical and social keystone of the Duluth campus. With a \$400,000 gift from the late Stephen R. Kirby, pioneer Duluth and Iron Range banker and business leader, and \$400,000 allocations each from the 1953 Legislature and St. Louis County for the center development and construction of adjacent dormitory houses, financing of the project seemed assured from the outset. As work progressed, however, it became evident that additional monies would be required to complete the project as first envisioned. University Regent Richard L. Griggs was instrumental in obtaining additional gifts, including a \$40,000 increment from Mr. Kirby, to assure such completion. In his dedicatory address, "3D-Duluth, Dedication, and Devotion," President James Lewis Morrill termed the Kirby benefactions "the most striking single summons to success" of the center-dormitory development. President Morrill dedicated the center "The Kirby Student Center" and named seven dormitory houses after other donors, or according to donors' wishes. These names were: M. L. Hibbard House, Warren Moore House, B. H. Ridder, Jr. House, A. B. Anderson House, Mannering House, John G. Williams House, and Lee Spanner House. An eighth house is yet to be named.

On May 22, 1956, ground-breaking took place for two other buildings—the \$800,000 humanities building and the \$575,000 science addition. Funds for both structures were appropriated by the 1955 Legislature.

A major step in campus development took place on November 6, 1955, when Mrs. Alice Twced Tuohy and her daughter, Mrs. John W. Brickson, announced joint donation of a total of \$180,000 toward construction of a new art gallery as a part of the Fine Arts Center. The project was deferred from the humanities building construction pending additional financing for the corridor that will connect the gallery with the humanities building.

Construction of parking areas on the upper campus to provide several hundred additional spaces brought total parking accommodations to more than

1,000 cars. Adequate parking became an increasing concern as more student and staff automobiles were noted on campus. New walks and roadways were laid out on the upper campus to improve access for both pedestrians and drivers. Completion of track facilities on the field adjacent to the physical education building made it possible to hold dual and triangular track meets on the campus for the first time in UMD athletic history. Addition of a diving board also made it possible to hold dual swimming meets with member schools in the Minnesota Intercollegiate Athletic Conference.

Faculty—The UMD faculty continued to number approximately 125 members, including part-time teachers. Substantial increases in certain departments such as English were indicated toward the close of the biennium as enrollment continued to rise.

Research—A number of Duluth Branch faculty members engaged in research under various grants during the biennium. Ten have received research grants from University agencies, including the Graduate School and the Greater University Fund. Research has also been carried on by Duluth Branch faculty for the Office of Army Ordnance and the Iron Range Resources and Rehabilitation Commission.

Summer Session—Enrollment showed a continuation of the steady growth exhibited since the summer of 1953. Part of this growth can be traced to the development of a complete program of course offerings for the Master's degree in the field of education. Growing traditions during the summer session are the series of history tours conducted by Maude L. Lindquist, professor and head of the history department, and the annual workshop in advanced painting featuring distinguished American artists. The history tour series included the Far West in 1954 and the New England states in 1955. American artists who have conducted the workshop during summers of the biennium are Fletcher Martin, 1954 and Philip Evergood, 1955.

Community and Regional Service—A number of the regular services of the Duluth Branch to the community and region continued to enjoy good response. Tweed Gallery recorded a total of 15,363 visitors during the biennium, or nearly half of the total number of visitors (32,492) since the gallery was given to the University in 1950.

Darling Observatory recorded more than 1,200 registrations in 1955 and the rate of registrations during the early part of the summer of 1956 indicated a total exceeding that of 1955. The continuing strong interest in the observatory, operated on a limited basis now because of staff availability and distance from the campus, has stimulated new efforts to move the observatory to its logical location on Rock Hill in University Park overlooking the upper campus.

Institutes, clinics and workshops in which faculty and staff collaborated with community agencies, such as the Red Cross, the Community Chest, the Boy Scouts and Girl Scouts, the YMCA and YWCA, the Duluth Chamber of Commerce and the Duluth public schools, as well as with the General Extension Division and other University services, brought increasing numbers of persons to the Duluth campus and sent increasing numbers of personnel into the community and region.

Athletics—Effective September 16, 1955, Lloyd W. Peterson, football coach, was named athletic director, and Norman H. Olson, assistant athletic director.

Increasing activity in several sports prompted application for membership in the National Collegiate Athletic Association. Membership, effective in January, 1957, will permit UMD skiers who have excelled in this region for a number of years to compete for national honors in the NCAA.

Needs—The most conservative enrollment prediction would indicate the Duluth Branch will soon be called upon to serve the needs of twice the number of present students. Rapid completion of the campus as planned is urgent. The most pressing needs are the completion of the Humanities Building-Tweed Gallery project and the completion of the science addition and business office, alternates deleted in 1956. New facilities for the social sciences, education, including home economics and industrial education, are urgent

needs. Housing for a minimum of 120 men is essential. The student health service should be moved to the new campus near the dormitories where more efficient service to students will be possible. The curriculum pattern is serving present needs but will demand additional budgetary support for instructional costs directly related to enrollment increases.—RAYMOND W. DARLAND, *provost*

GENERAL EXTENSION DIVISION

Evening and Special Classes—Probably the most significant development during the last biennium was the change in tuition fees for evening classes from a basis of \$5.00 per credit hour to \$6.00 to enable the Extension Division to increase the salaries of evening class instructors.

Perhaps as result of the increase in fees, there was a 3 per cent drop in individual registrations for the second year. Part of this was accounted for by the drop in registration from World War II veterans which was not entirely compensated for by registrations of Korean veterans. In spite of the drop in individual registrations, there was a 6.7 percent increase in total registrations in the evening classes, indicating that more individuals were registering for more than one class during that period. There was also close to 100 per cent increase in registrations in sub-collegiate courses which are not included in the individual and registration figures mentioned above. This is a field in which we anticipate an extended increase over the next few years commensurate with the expected increase in Day School enrollments.

The accompanying survey of evening courses indicates an increase of instructors employed on special appointment from 350 to 420. This increased load was accounted for in small part by the addition of seven new courses in the second year of the biennium and in large part by the addition of 81 sections of the courses offered.

The short courses and lecture series continued at about the same pace for the two years with considerable diversity of subject-matter. The scope of the Workers Education classes was considerably increased and the staff was expanded in order to deliver better service to the labor groups.

In reviewing the needs of this department for the future there are three items which we feel require immediate and very careful consideration:

First, we believe that a definite policy as to the operation of off-campus classes for business and industrial firms should be adopted.

Second, we would like to urge very strongly the establishment of some procedure for giving bonuses to instructors for distance traveled off campus

TABLE I. EVENING AND SPECIAL CLASSES

	1954-55	1955-56
Summary of evening classes:		
Number of enrollments		
Agriculture	218	310
Arts and Science	9,523	10,198
Business	5,840	6,297
Education	1,168	941
Engineering	2,925	3,410
Recreation	1,566	1,513
Totals	21,240	22,669
Net change over previous year	+2,679	+1,429
Number of Courses given:		
General	329	336
Business	104	105
Engineering	80	79
Number of Individuals in classes	13,824	13,415
Net change over previous year	+2,102	-409
Summary of short courses:		
Mortuary Science	{ Resident 53	55
	{ Non-resident 122	31
Workers Education Registration	416	462
Short Course Registration	2,267	2,369
Number of Short Courses	21	22

and time spent in such travel for the conduct of evening classes and short courses.

Third, the Evening Class Department is in dire need of additional office, registration, and general meeting space for its staff and students.—HUNTINGTON MILLER, *assistant dean*

Correspondence Study—The Biennial Report of the Correspondence Study Department indicates a steady growth of correspondence study enrollments. The 1954-56 biennium has a total of about 7,500 new registrations compared to approximately 6,500 for the period 1952-54. This is slightly more than a 13.5 per cent increase and is the highest biennial enrollment in ten years. Of the 7,500 enrollments for 1954-56, 3,602 were made in the first year of the biennium, 3,853 in 1955-56. This is 251 more, or about a 7 per cent increase within the biennium. However, the gain is more than covered by the 258 registrations resulting from the resumption of the contract with the United States Armed Forces Institute of July 1, 1955. Moreover, high school registrations are accelerated. For high school courses there is a 35 per cent gain within the biennium and a 75 per cent increase over the 1952-54 period. These high school registrations were 8 per cent of the total enrollment in 1952-54, and 12 per cent in 1954-56.

The high school correspondence program has received considerable administrative attention in the biennium. The Department provides standard, academic subjects in high school English, mathematics, social sciences, languages, and bookkeeping. The fact that an increasing number of students are using these courses seems to point to the importance of the high school correspondence program. English, Engineering, Education, History, Economics, and Business Administration seem to attract the highest correspondence enrollments. These registrations would reflect the fact that the largest single occupational group in correspondence is teachers. It is quite likely that teachers and resident students make up more than 40 per cent of the total enrollment.

Several new courses have been added to the correspondence program and others are under consideration. New courses have been prepared in Basic Technical Writing I and II, Geography of Minnesota, Property and Liability

TABLE II. CORRESPONDENCE STUDY DEPARTMENT

	1954-55	1955-56
Regular courses		
Registrations in force beginning of year	2,856	3,094
New registrations during the year	3,602	3,853
New registrations made through the USAFI	0	258
New registrations made under the G.I. Bill of Rights	69	40
Reinstatements from previous years	148	136
Reinstatements (Registrations expiring within the year)	701	710
Total registrations in force during the year	6,606	7,083
Registrations terminating during year	4,213	4,453
Registrations in force at close of year	3,094	3,340
Special courses		
Citizenship		
New registrations during year	68	56
Individuals enrolled (regular courses)		
New registrations	2,998	3,238
Total active registrations during year	5,351	5,886
Lesson reports received		
Regular courses and citizenship	36,241	36,627
Geographical distribution of new students		
Minnesota	2,104	2,142
Other states	813	864
Out of United States	42	50
Army Post Office	28	57
Fleet Post Office	11	25
Number of states represented	47	47
Number of foreign countries represented	19	19
Courses offered	289	290
Instructors	127	125

Insurance I, and Spanish in Slow Motion. The last deserves a word of comment. Spanish in Slow Motion is a new venture for the Department. It is prepared in cooperation with the Romance Language Department and Audio-Visual Extension Service and is our first correspondence course to be presented almost exclusively by the aural-oral method. Favorable results from this experimental effort will indicate additional tape-lesson courses. Other conventional correspondence courses under consideration include, General Handicrafts II; Japanese Government and Politics and the Far East in International Relations to be written by Professor Emeritus Harold S. Quigley; Labor Legislation—Collective Bargaining; Labor Legislation—Economic Security; Humanities in the Modern World II and III; and high school courses in Business Education and Agriculture. In developing the latter course more extensive use is to be made of the faculty at the University High School, School of Agriculture and State Experimental Stations.

The Department must be alert to the possibilities of combining home study courses with educational television. The University telecourse in Child Psychology was successful, and certainly other universities and colleges have effectively presented credit telecourses, using correspondence study guides as the basis for credit enrollments. Further developments must await the completion of the local educational station, but this is an important field for home study.—F. LLOYD HANSEN, *director*

University Program Service—The University Program Service provides programs of all types, from those of pure culture to those of high entertainment value, to public and parochial schools of our area.

The School Assembly and the Concerts, Theatres and Lectures Service were combined in 1955-56 into the University Program Service, which resulted in increased efficiency and economy of operation.

A further report of the biennial activities of the University Program Service appears elsewhere in this volume in the report of the Department of Concerts and Lectures by which, with the General Extension Division, the Service is operated cooperatively.—JAMES S. LOMBARD, *director*

Drama Advisory Service and Loan Play Library—During the past two years the Drama Advisory Service and Loan Play Library has become established as an important force in the state, seeking to better the quality and increase participation in non-commercial play production activities. The Drama Advisory Service has carried on a workshop program designed to bring basic knowledge of theatre practices to teachers in charge of dramatic activities in Minnesota high schools. At the same time these workshops are designed to bring new methods, ideas and information on new equipment to those teachers who have had training in the theatre in their college background.

An extensive program of field work has been carried out, working with high school and community theatres in the state. The supervisor has been called on to aid a dramatics teacher charged with the responsibility of writing, producing and directing a series of 15 television shows in Moorhead, Minnesota.

The increasing work with community theatres in the state points to an increase in theatrical activity of that type in the past few years. The Duluth Playhouse, the Rochester Civic Theatre, Bloomington Community Theatre, and the Paul Bunyan Community Theatre Association of Bemidji have been among the most interesting and outstanding of them.

During the past biennium the supervisor has continued as secretary of the Play Selection Committee for the annual State High School One-Act Play Festival.

In September of 1954 a film produced jointly by the Audio-Visual Education Service and the Drama Advisory Service, dealing with the subject "Character Make-Up For Men," was completed. This film won the outstanding film award in the field of Literature, Arts and Music at the American Film Festival Convention in New York.

In addition to the program of workshops and field work carried on by the Drama Advisory Service, an increasing volume of correspondence covering all phases of theatrical work is handled through this office. Teachers, directors and students have come to regard the Drama Advisory Service and Loan

TABLE III. UNIVERSITY PROGRAM SERVICE

	1954-55	1955-56
School Assemblies		
Number of programs used	20	
Number of schools and organizations served	950	
Number of engagements filled	3,736	
Concerts, Theatres, and Lectures Service		
Number of programs used	28	
Number of colleges and other organizations served	65	
Number of engagements filled	280	
*University of Minnesota Program Service		
Number of programs used:		
School assemblies		23
Concert series		15
Lecture series		9
Summer session		7
Theatre		1
Total		55
Total attendance		1,330,400
Drama Advisory Service		
Total number of volumes on inventory	6,361	5,948
Total number of requests filled	1,477	1,214
Total number of plays loaned	4,322	4,025
Number of books added	114	97
Number of plays reported selected	267	256
Number of inactive plays	898	0

* University of Minnesota Program Service combines School Assembly and Concerts, Theatres and Lectures Service.

Play Library as the clearing house for information on all subjects relating to the theatre.

Early in 1956 plans were approved to add a full-time consultant to the staff of the Drama Advisory Service. It is expected this new person will carry on the program as it has developed to date and expand the activity of the Drama Advisory Service in new directions.—PAUL K. PETERSON, *assistant to the director*

Radio Station KUOM—KUOM serves an area with more than a dozen radio stations and four television stations and averages as many or more listeners as some of these commercial stations, exceeds several which have been self-supporting for many years.

KUOM has continued its varied and excellent programs in the field of education, health, mental health, farm programs, dramatic and music programs, presenting them by tape and recordings, as well as live. In *Background of the News* it has added to the interest by taping on-the-spot recordings of important speeches and comments by important people on current events and problems. WCCO considered the broadcast on Albert Einstein's death, *Men Who Knew Einstein*, a news event in itself and produced four minutes of the KUOM broadcast. With a grant from the National Association of Educational Broadcasting, Philip Gelb prepared two series on special legal cases, *Your Rights Are on Trial*, traveling throughout the country to record comments by legal authorities and other persons involved in these cases. The two series will be distributed over 100 educational radio stations. In the school radio programs, KUOM has given 798 broadcasts and distributed 33,000 pieces of printed materials.

KUOM produced the first telecourse for credit given by the University of Minnesota, *Child Psychology: The First Twelve Years*, with Professor Dale B. Harris. It conducted eleven other series over commercial radio stations, and cooperated with other departments of the University of Minnesota in televising speech and journalism classes, an experiment in television as an aid to teachers. It has conducted a television workshop as well as an institute for volunteers to acquaint them with the possibilities and limitations of this medium.

KUOM has added to the engineering installation. The final work of equipping the largest of KUOM's radio studios for television has been completed. Camera control equipment was installed in the Small Control Room, and a kinescope recorder and additional television camera were acquired. It has added two Ampex tape recorders thus making it possible to extend the scope of station services. The Small Control Room was completely re-wired for improved audio quality and the flexibility of audio equipment for joint use with television was a factor in this operation. A new modulation monitor and limiting amplifier were installed at the transmitter increasing effective coverage by approximately 40 per cent for music programs and 25 per cent on others.

KUOM received one first award in 1955 and two honorable mentions in 1955 and 1956 in national competition held by the Institute for Education by Radio-Television.—BURTON PAULU, *director*

Municipal Reference Bureau—The Municipal Reference Bureau serves as a University Division for Students' reference work and, as headquarters for the League of Minnesota Municipalities, extends its facilities to government officials throughout the state.

The Bureau published the magazine, *Minnesota Municipalities*, and nine other reprints and publications on municipal problems and matters of interest.

The field representative from the Bureau travelled 6,500 miles and visited some 185 municipal officials.

The Director of the Bureau has continued to hold a number of important civic and government positions.—CLARENCE C. LUDWIG, *director*

TABLE IV. MUNICIPAL REFERENCE BUREAU

	1954-55	1955-56
Number of inquiries	2,489	2,800
Monthly Magazine		
Total number of copies published	92,100	94,176
Average monthly number published	7,675	7,848
Annual convention attendance	648	612
Attendance at regional meetings	1,329	1,097
Number of regional meetings	17	17
Number of cities receiving charter service	16	11
Attendance at short courses	496	899
Number of short courses held	7	11

Center for Continuation Study—The three statistical reports setting forth the gradual increases in attendance at the Center for Continuation Study are of interest. They point up the degree to which people of this area concern themselves with the adult education activities of the Center. The enrollment of 20,071 persons for the 1954-56 biennium is the highest in the Center's history.—FREDERICK BERGER, *director*

TABLE V. CONTINUATION COURSES AND INSTITUTES

	1952-54	1954-56	Total 1936-56	Per Cent or Average
Number of courses	283	292	1,735	100
Number of registrations	17,867	20,071	99,268	100
Minnesota	14,190	15,887	76,756	78
Other U.S. states	3,494	3,973	21,491	21
Foreign countries	125	211	1,021	01
Male	11,421	12,845	63,208	63
Female	6,446	7,226	36,060	37
Number on faculty	3,986	4,928	27,156	16
Course hours	7,776¼	6,116½	55,799	32
Course days	1,280	974½	10,189	6

TABLE VI. CONTINUATION COURSES AND INSTITUTES BY TYPES, NOVEMBER 13, 1936 TO JUNE 30, 1956

	Number of Courses	Registration	From Minnesota	From other U.S. States	From Foreign Countries	Men	Women	Number on Faculty	Course-Hours	Course-Days
Medical	323	15,585	6,656	8,494	435	14,419	1,166	6,422	13,517	2,473½
Educational	229	15,261	12,870	2,330	61	6,227	9,034	3,919	5,097	849½
Hospital service and public health	184	10,967	8,301	2,597	69	1,648	9,319	3,264	9,430	2,250¼
Commercial	139	9,902	8,798	1,042	62	9,237	665	2,015	2,747½	404½
Technological	68	9,539	7,362	2,012	165	9,520	19	1,103	1,002¾	153½
State-municipal functions	142	8,639	8,436	167	36	8,100	539	2,458	2,806½	466½
Social welfare	124	7,651	6,772	854	25	3,485	4,166	1,859	2,369¼	402
Nursing (7-1-48 to 6-30-56)	87	5,799	4,569	1,180	50	158	5,641	1,612	1,685½	351
Civic and cultural	91	5,770	5,435	321	14	1,746	4,024	1,540	1,779¼	301¾
Dental	215	4,116	2,789	1,295	32	3,623	493	1,412	6,172¼	1,045½
Labor	29	2,408	2,137	252	19	2,265	143	490	511¾	76½
Legal	18	1,220	1,193	27	0	1,172	48	128	380¼	65
Pharmaceutical	18	927	858	67	2	734	193	338	384	51
Kenny technique (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 (physicians)	24	441	46	376	19	414	27	188	699	136½
Totals to June 30, 1956	1,735	99,268	76,756	21,491	1,021	63,208	36,060	27,156	55,799	10,189

TABLE VII. ATTENDANCE AT TYPES OF COURSES, 1936-1956

	Number of Courses	Registrations		
		Number	Per Cent	Average
Medical	323	15,585	15.7	48
Educational	229	15,261	15.4	67
Hospital service and public health	184	10,967	11.0	60
Commercial	139	9,902	10.1	71
Technological	68	9,539	9.6	140
State-municipal functions	142	8,639	8.7	62
Social welfare	124	7,651	7.7	62
Nursing (July 1, 1948 to June 30, 1956)	87	5,799	5.9	67
Civic and cultural	91	5,770	5.8	63
Dental	215	4,116	4.2	19
Labor	29	2,408	2.4	83
Legal	18	1,220	1.2	68
Pharmaceutical	18	927	.9	52
Kenny technique (technicians and nurses)	38	537	.5	14
National defense	6	506	.5	84
Kenny technique (physicians)	24	441	.4	18
Total	1,735	99,268	.....	57

Audio-Visual Extension Service—The growth of the Audio-Visual Extension Service has been increasing steadily during this period. More and varied groups have been served. Requests for films in specialized areas are being made constantly. The steady increase in the use of this medium for teaching and training has made it necessary to increase the size of our library of films at a rapid rate. About 1250 prints were added during this biennial. Over 7000 requests for films could not be filled because films were not available. With the exception of one commercial film library we are the only film center with instructional films for the schools, colleges and other groups in the State of Minnesota. We are making every effort to improve our services to our many users. The number of institutes, conferences and workshops conducted has increased. 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.

Our entire department is now, since we have larger quarters, at one location. We have ample room at present for our film storage, inspection and shipping. Our preview room has been of great value.—ERWIN C. WELKE, *director*

TABLE VIII. AUDIO-VISUAL EXTENSION SERVICE

	1953-54	1954-55	1955-56
Number of communities served	2,317	2,492	2,503
Number of visual programs furnished	37,005	39,508	45,495
Number of shipments	17,079	18,350	19,927
Number of prints in the library	4,285	4,948	5,540
Number of titles in the library	2,443	2,534	2,908

State Organization Service—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 and does not seek, in any manner, to influence the content of the programs.

The 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.—WILLIAM C. ROGERS, *director*

—JULIUS M. NOLTE, *dean*

TABLE IX. STATE ORGANIZATION SERVICE—TABLE 1

	1952-54	(1954-55)	(1955-56)	1954-56
SOS member organizations	34	(36)	(37)	37
Individual members of SOS organizations	16,135	(16,230)	(23,689)	23,689
Work orders from member organizations	708	(546)	(643)	1,189
Number of units processed	414,978	(199,985)	(416,051)	616,036

MINNESOTA WORLD AFFAIRS CENTER—TABLE 2

	1952-54	(1954-55)	(1955-56)	1954-56
WAC member organizations	19	(23)	(26)	26
Individual members of WAC organizations	116,796	(118,920)	(342,719)	342,719
Requests for program planning assistance	624	(150)	(184)	334
Distribution of pamphlets	44,753	(37,186)	(26,357)	63,543

SUMMER SESSION

This was a biennium of change and transition in the Summer Session. The retirement of Dean Thomas H. Teeter in 1954 meant the departure of a highly respected administrator who had assisted significantly in the development of the Summer Session from its early status as an academic appendage to that of a vital university-wide educational enterprise. 1954 also marked the end of the long period of declining enrollment. In 1955, the Summer Sessions at the University of Minnesota served the needs of the greatest total number of summer students of any American institution of higher learning reporting to the National Association of Summer Session Deans and Directors. It also had the largest staff of any reporting institution.

Enrollment—During the 1955 Summer Session, while national increases in summer enrollment averaged about 4%, the Minnesota enrollment rose 7%. The total enrollment for the 1955 Summer Session was 7788 for the first term, and 5827 for the second term, making a total of 13,615 students served during the session.

During the 1956 session, the first term enrollment was 8226, the second was 5936 with a total of 14,162 students served in 1956. Student reports indicate that needs, particularly for graduate enrollees, are now being met more satisfactorily through increased emphasis on the program of the second session.

Staff—The 1956 summer staff has been strengthened at the upper ranks through the increase in maximum salary from \$900 to \$1,000. Most summer salaries at these ranks are still lower than academic year salaries, but the increase has resulted in holding more upper rank people than have been held in past summers.

New Projects—In 1955, a wide variety of new and educationally significant projects were carried out. Among these were a pioneering program in Audiology, an interdisciplinary program in Statistics at the graduate level, a Summer Institute for teachers of college Chemistry designed to improve the teaching of Chemistry at the college level, a Workshop dealing with problems of the mentally retarded child, a Speech and Drama Institute open to especially qualified High School students, and special courses in Nursing Rehabilitation and the Improvement of Patient care. Workshops in Applied Nutrition and related fields were held in connection with the national meeting of the American Home Economics Association, a summer travel course in European Art was offered, and a variety of other new methods of serving the needs of students were inaugurated.

The recreation program received special attention and included such important co-curricular activities as Clinics in Physical Education; a newly

re-opened Art Craft shop, and a series of "Know Your University Open Houses," designed to help students become better acquainted with departments and divisions of the University outside their own areas of special interest.

Recreation—Productions by the University Theater during the 1955 sessions included: Shakespeare's *Othello*, Ibsen's *Hedda Gabler*, and *Admirable Crichton*, by James M. Barrie; in 1956, *The Fourposter*, by Jan de Hartog, *The Enchanted*, by Jean Giraudoux, and Shakespeare's *A Midsummer Night's Dream* were produced.

The department of Concerts and Lectures working with a relatively limited budget provided by the Summer Session has maintained the very high quality of its performances, and has improved its Summer Session offerings both qualitatively and quantitatively. For example, in 1955, Earl Spicer, ballad singer, Levin and McGraw, piano duo, and Carl T. Rowan's lecture *Asia As I Saw It* were presented, and in 1956 outstanding presentations by the Andahazy Ballet Company and Soloist Mary Ellen Jenkins with the Summer Session Sinfonietta were featured.

Educational films and newsreels have been provided through the cooperation of the Department of Audio-Visual Education.

National Conference—A national conference on Problems of the Middle East was sponsored by the Summer Session in June of 1956. The conference attracted participants from major universities throughout the United States, and from several Canadian institutions. The proceedings of the conference are being edited by the Dean of the Summer Session and will be published during the 1956-57 academic year.

Program Study—During the academic year 1955-56 the Dean of the Summer Session, in cooperation with the Director of the Bureau of Institutional Research, outlined a comprehensive study to be made of the Summer Session itself; its structure, its student clientele, its faculty, the nature of its problems and the extent to which it is serving the needs of the people of the state. The study was launched at the beginning of the 1956 Summer Session, and will continue through the next biennium. The results of this research should assist significantly in the development of additional useful Summer programs and perhaps in the elimination of programs no longer meeting the needs of the student body.—E. W. ZIEBARTH, dean

INSTITUTE OF CHILD WELFARE

Research—In the biennium 27 new research projects were undertaken. These added to 28 projects continued from earlier years, made a total of 55 active projects. Twenty-four research projects were completed, of which 16 had been continued from earlier years. In addition, two major research programs, begun before the biennium with grants from the National Institutes of Mental Health, continued to engage the attention of several of the staff.

Nursery School, Kindergarten and University Village Play Center—During 1954-55 the average enrollment of the Nursery School was 55 children per quarter, and 56 children per quarter in 1955-56. The Kindergarten enrollment averaged 30 children per quarter in 1954-55, and 27 in 1955-56. Both schools were in session during the first Summer term each year. The University Village Play Center was in session on a half-day plan with an average enrollment per quarter of 30 children in 1954-55, and of 30 children per quarter in 1955-56.

Instruction and Enrollments—For 1954-55 the total enrollment in Institute classes on the campus, both undergraduate and graduate, was 2,449 and for 1955-56 was 2,712. Three students received Ph.D. degrees, and 12 M.A. degrees with majors in Child Welfare.

Parent Education—The parent education program is summarized in the following table:

SUMMARY OF PARENT EDUCATION ACTIVITIES

	1954-55		1955-56	
	No. Groups	Enrollment	No. Groups	Enrollment
Extension courses				
Credit	7	130	9	200
Correspondence courses				
Credit	4	96	4	94
WMIN-TV	1	43		
Non-Credit	2	67	2	35
Study groups for Parents	13	3,370	7	1,218
Lectures to parent groups	49		49	
TV Presentations, KSTP	12		3	
Radio Talks, KSTP	6			

Publications—During the biennium, 29 scientific and professional articles, and 11 popular or semi-professional articles, exclusive of book reviews, were published. Two of the most popular of the Institute Leaflet series, the "Book-list for Parents" (No. 4), and "Finger Plays for Young Children" (No. 11), were revised and reissued. About three thousand copies of these have been distributed during the biennium.

Other Activities—In the biennium, members of the staff gave 332 lectures or addresses to various groups, societies and organizations, both lay and professional. As in previous years, exhibits for organizations, radio and TV programs, and a newspaper feature going to many Minnesota weeklies, were made available. Tape recordings 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 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*

DEPARTMENT OF PHYSICAL EDUCATION AND ATHLETICS

During the past biennium we have enjoyed increased interest in our physical education, intercollegiate athletics, intramural and recreation programs. The main reason for this overall growth is increased enrollment. Because of greater spectator interest our income has been enhanced. Being assured of continuing interest we look forward to retiring our indebtedness within the next biennium. This will give us the opportunity to continue a building program which is absolutely necessary under existing conditions.

The Department secured the services of Hammel & Green Architects to make a survey of our facilities in order to project our future needs.

The Department has continued to provide free clinics in the various sports to high school coaches of the state. This has proved popular as shown by the large attendance at the various clinics in intercollegiate sports.

As a result of unprecedented demand for seats at our hockey games we are now completing a balcony in Williams Arena that will add 1,000 seats and will bring our total capacity up to approximately 8,000. This will give Minnesota one of the largest and finest college hockey arenas in America.

The old building on the golf course used by the greenskeeper as a residence and also for an equipment storehouse has been torn down, and a modern tool and equipment shed has been constructed which will permit a more efficient operation.

For the first time in history the University of Minnesota baseball team under Coach Dick Siebert won both the Big 10 and NCAA Championships.

Unusually high honors were paid to two of our staff members the past year. Mr. John Mariucci was chosen as the Olympic Hockey Coach and Mr. Jim Kelly was selected as head Olympic Track Coach. On the Olympic Hockey Team that represented America and competed at Cortina, Italy, were the following University of Minnesota hockey players: Wendell Anderson, Eugene Campbell, John Mayasich, Richard Meredith, Jack Petroske, Richard Dougherty. The only loss suffered by the American team was at the hands of the

Russians in the final game. Mr. Kelly will take the American track team to Australia in November.

Record of season play on our golf course, tennis courts, and ice rink is as follows:

	Golf			Skating	Total
	9 Holes	18 Holes	Tennis		
1954-55	26,583	34,656	11,264	29,501	102,004
1955-56	29,965	36,173	13,679	30,640	110,457

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:

1954-55

1. Intersectional Ice Hockey series with Rensselaer Polytechnic Institute.
2. State high school championship meets in basketball, gymnastics, swimming, wrestling, tennis, golf, track.
3. Twin City High School Football Game.
4. High school games in basketball and hockey.
5. Northwest Gymnastics Meet.
6. Minneapolis High School championship meets in track, basketball, swimming.
7. Coaches clinics in football, baseball, track, wrestling, hockey, basketball.
8. Basketball tournaments: Twin City High School, District 17, District 18, Region IV, Region V.
9. Hockey tournaments: Region II, Private Schools.
10. Track meets: Metropolitan High Schools, Out-state High School, High School Relays, District 18.
11. Big 10 Conference Meets in wrestling, gymnastics.
12. American Red Cross Life Saving classes.

1955-56

1. Intersectional Ice Hockey series with St. Boniface, Canada.
2. State High School Championship Meets in basketball, golf, gymnastics.
3. Twin City High School Football Game, Twin City golf tournament.
4. Northwest Gymnastics Meet.
5. Minneapolis high school championship meets in track, basketball.
6. High school games and meets in track, swimming, basketball, hockey, football.
7. Coaches clinics in baseball, track, wrestling, swimming, hockey, basketball, gymnastics, football.
8. Basketball tournaments: District 17, District 18, Region IV, Region V, Twin City High School.
9. Track meets: Metropolitan High School, Out-State High School, District 17.
10. Golf tournaments: District 17, Region V.
11. Tennis tournaments: Region V.
12. Hockey tournament: Private Schools.
13. Big 10 Conference Meets in track, tennis, golf.
14. American Red Cross Life Saving classes.

Physical Education—The various programs in physical education have been carried on during the past two years with moderate increases in enrollment and participation each year. Included in this area are the organized activity programs, professional preparation in physical education and recreation on the undergraduate and graduate level, and intramural athletics. Enrollment in these various areas has increased in about the same proportion as the general University enrollment.

The recreational leadership programs including the graduate courses in hospital recreation have now become firmly established, and a real contribution is being made to the state and nation in this area of training. Over one hundred men and women students have been enrolled in these curricula in each of the years of this biennium. Graduates are taking positions in industry, educational and social organizations, the American Red Cross, hospitals and various other institutions. The University of Minnesota graduated more students in this area than any other institution in the country.

Approximately 160 men were enrolled in the regular four year undergraduate curriculum in physical education during the past year. The number

TABLE I. STATISTICS ON INTERCOLLEGIATE ATHLETICS FOR 1954-56

Activities and Head Coaches	Total No. Games		No. Confer- ence 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. Freshmen Numerals Awarded		No. Games Won		No. Games Lost		No. Games Tied	
	54- 55	55- 56	54- 55	55- 56	54- 55	55- 56	54- 55	55- 56	54- 55	55- 56	54- 55	55- 56	54- 55	55- 56	54- 55	55- 56	54- 55	55- 56	54- 55	55- 56	54- 55	55- 56	54- 55	55- 56	54- 55	55- 56
Baseball Siebert	32	31	15	13	17	18	136	131	41	46	32	28	21	21	14	13	95	85	22	25	23	24	9	7	0	0
Basketball Cowles	22	22	14	14	8	8	100	127	19	23	17	18	17	17	8	10	81	104	21	18	15	11	7	11	0	0
Cross Country Kelly	4	5	3	2	1	3	6	19	5	10	5	7	5	5	3	4	1	9	1	4	0	3	4	2	0	0
Football Warmath	9	9	6	6	3	3	157	118	55	62	54	57	39	38	34	30	102	56	44	34	7	3	2	6	0	0
Golf Bolstad	11	16	2	4	9	12	50	54	32	31	14	19	14	17	11	8	18	23	10	11	11	14	0	2	0	0
Gymnastics Piper	9	11	7	8	2	3	39	42	18	21	12	10	8	9	8	9	21	21	7	4	6	10	3	1	0	0
Hockey Mariucci-Ryman	30	29	24	22	6	7	59	86	28	33	19	20	17	18	13	18	31	53	21	20	16	16	12	12	2	1
Swimming Thorpe	6	6	6	6	0	0	55	45	27	25	15	21	13	15	7	11	28	10	12	20	1	0	5	6	0	0
Tennis Brain	8	8	5	6	3	2	42	33	28	19	13	12	6	8	6	6	14	14	7	6	3	1	5	7	0	0
Track Kelly	10	8	8	7	2	1	50	91	24	47	18	23	15	21	12	12	26	44	12	15	3	1	6	7	1	0
Wrestling Johnson	11	14	7	7	4	7	36	49	24	25	17	18	10	13	6	8	12	24	8	7	2	10	8	4	1	0
Totals	152	159	97	95	55	64	730	795	301	342	216	233	165	182	122	129	429	443	165	164	87	93	61	65	4	1

during the previous year was slightly less. Graduates are being employed by the schools of Minnesota and many other states to carry on programs of physical education, including the interscholastic and intramural athletics. The contribution of these men to the all round education of the youth of the country is high.

Graduate work in physical education has seemingly become stabilized and the number of students pursuing graduate degrees has remained fairly constant during the past two years. As could be expected the summer session has the greatest enrollment. However during the regular terms an average of about ten graduate students pursuing the M.Ed., the M.A. or the Ph.D. degrees has been maintained. Every effort is made to keep the level of graduate work high in all areas with the emphasis on quality rather than on greater enrollment.

The number of students enrolled in the required and elective classes in physical education, although gradually increasing, remains relatively small. The one-year requirement of the General College was dropped by that institution in the spring term of the year 1955-56. The effect of this action is at present not known. Enrollment in the various activity courses increased slightly in the spring quarter, but there is some apprehension concerning the fall term of the approaching year. Just what will happen under the elective system is problematical. It is hoped that an increasing number of students will take advantage of the opportunities offered to them for participation in healthful recreational activities and for learning or improving their ability in physical sports that can be followed not only during their school period but in later years as well. The College of Education is now the only school in the University that requires any physical education of its students.

TABLE II. INTRAMURAL PARTICIPATION*

	No. of Teams Entering 1954-55	Estimated No. Participating 1954-55	No. of Teams Entering 1955-56	Estimated No. Participating 1955-56
Baseball	44	414	53	482
Basketball	325	2,113	323	2,293
Bowling	297	1,965	319	2,264
Fencing		43		39
Free throw			23	112
Golf	22	132	40	252
Handball	11	46	16	75
Hockey	50	400	55	636
Paddleball	8	32	8	32
Sigma Delta Psi		9		26
Softball	136	1,306	134	1,246
Squash		8		10
Swimming	19	129	27	160
Table tennis	35	142	64	269
Tennis	37	161	32	189
Touch football	108	907	124	1,054
Track	16	139	27	178
Volleyball	55	341	76	486
Wrestling	19	63	20	40
	1,182	8,350	1,341	9,843

* These figures include organized league and tournament play only. A large number of students participate in non-scheduled "free play" activities.

The intramural program of recreational athletics has increased not only in the number of participants but also in the breadth of the program. More and more men are taking part each year in a greater number of team and individual sports. Because of the limitation of facilities a large proportion of the activities must necessarily be conducted in the late evening and at night. This results in an inadequate program for the large group of students who live at home, away from the campus. Since physical education is not required, a large segment of the student body has no contact whatever with any physical activity program. It is hoped that in the near future the various colleges will consider more seriously the health and recreation of their students.

The extent and kind of participation in intramural activities is shown in Table II.—ISAAC J. ARMSTRONG, *director*

DEPARTMENT OF PHYSICAL EDUCATION FOR WOMEN

Enrollment—In general an average of 2,900 individuals were served per quarter during this biennium by 12 full time and three part time instructors, altogether the equivalent of no more than 13 staff members.

The College Instructional Program (Non-Professional)—An increase of 16% women students was served in this program despite the change by the General College from a requirement for all to an elective with credit. Physical Education is still required for women in Education, Nursing, Home Economics, and Dental Hygiene; it is elective with credit in the College of Science, Literature and the Arts, and also in General College.

The Recreational Program—In this biennium there has been an increase of 8% in the number of average individuals per quarter and in the total registration per year, and a 13% increase in total participations per year.

The Professional Undergraduate Program—A stable number of individuals in the major and minor, i.e. between 90 and 100, seems to have been reached during the last several bienniums.

The Professional Graduate Program—A slow gradual increase in graduate women students is evident in the regular, academic year: an average of six in the previous biennium and of between 10 and 11 in this biennium. The number in the Summer Session is about two and a half times that of the regular year.

Major Accomplishments—Staff Studies—The number of studies by the staff is increasing, six of the 12 full-time members being actively engaged in research. Six held important offices at either the District or National levels.

The number of hours given by the staff to research and the other services such as committee work for professional organizations and creative writing has totaled more than 1,458 hours during this biennium.

Public relations activities by the staff include annual programs by the various honorary clubs, three of which in aquatics, dance, and riding are really of a professional nature; the department served as hostess to three large Play Days. Three institutes during this biennium were attended by a total 1,023. The titles of the institutes were "Effective Teaching of Physical Education in the Elementary and Secondary Schools," "Learning the Meaning of Democracy through Physical Education," and "The Dynamics of Posture and Poise."

Departmental Programs—The College Instructional (Non-Professional), the Professional Undergraduate and Graduate, and the Recreational Programs.

1. A study of grades given in the Non-Professional Program in relation to those in the University as a whole showed that the department gave fewer A's.

2. Objective Motor Examinations for credit have been added to the objective written examinations in 7 of 25 activity areas.

3. Development of Student Handbooks for entering students interested in the Professional Undergraduate Program and also for the total Recreational Program of the department.

4. A study of the four-year major program in relation to three types of analyses: of the activity area (e.g. aquatics), by staff members teaching professional courses, equipment and facilities.

5. First steps in a study of overlapping between undergraduate professional courses, i.e., a master list of topics treated in all courses, analyses of course emphases in relation to professional objectives accepted by the staff for the teacher education program.

6. Study and revision of the School Health Education Minor; a stronger and richer program of preparation has been achieved.

7. A study of the Comprehensive examinations for graduate students has resulted in new forms and more definite criteria for guidance of the evaluation by the staff member doing the reading.

8. A consensus was reached on policies to be followed in relation to problems courses, seminars, and guidance.

Problems and Plans

1. The study of departmental grading is to be extended as more data are made available by the Registrar's Office.

2. A study of the physical education background of entering women students is to be started in 1956-57.

3. Examinations for credit will be studied in additional activity areas.

4. Stronger recruitment procedures are needed at both undergraduate and graduate levels of teacher education in order to offset in some degree the alarming shortage of women teachers of physical education.

5. Continuation of the "Overlapping Study" beyond the first two steps taken in this biennium.

6. Use of the data collected within this biennium on the study of the four-year major and on overlapping in order to start a tentative formulation of "minimum essentials" or a "core" in undergraduate professional physical education.

7. Development of a Handbook for Advanced Students.

A number of problems, such as: The more effective use of leadership training procedures in the recreation program, providing for the students that are now necessitating double sections in certain areas, and the reduction of the loads carried by educators endeavoring to carry on research while teaching too many courses, all point toward the much-needed solution of additional staff.

The serious problem of meeting competition for competent women staff in physical education at this time of great shortage necessitates an even more careful evaluation of the salary picture.—*GERTRUDE M. BAKER, director*

MINNESOTA GEOLOGICAL SURVEY

The activity of the Survey has continued along the same general lines as in the previous biennium, but the interest in all aspects of geology has increased tremendously, partly as a result of the boom in uranium. This has resulted in a marked increase in requests for information by the citizens of Minnesota and others from throughout the United States. This interest has so stimulated sales of the bulletins issued by the survey that most of the stocks have been exhausted. In the case of bulletin 31, "The Geology and Underground Waters of Southern Minnesota," the demand was so insistent that the bulletin was reprinted by off-set.

Bulletin 37, "Minnesota's Rocks and Waters" issued in June, 1954, has sold so rapidly that it will probably be necessary to reprint while the set type is still available. The value of survey bulletins over a long period is shown by the repeated requests for bulletin 25, "The Glacial History of the Upper Mississippi Valley." When funds permit, this bulletin will probably be reprinted by offset.

Professor Frank F. Grout, who retired in 1948, continues to work at the tedious task of preparing a summary of the results of many years of field work by himself and other survey geologists in Cook County. It is planned that a bulletin on the geology of Cook County will go to press during the fiscal year 1956-57.

During 1954-55 Professor George A. Thiel devoted considerable time to the preparation of county reports on the subsurface geology of 15 counties in West Central Minnesota. Through the cooperation of the University News Service these reports were published in the newspapers of the respective counties as a public service. This was done in an attempt to curb the wasting of funds in the drilling of "oil wells" in an area where the rocks and their structure are such that oil cannot accumulate in commercial quantities.

During the field season of 1955, Professor Thiel collected samples of high silica sands for physical laboratory test and chemical analyses. Pure quartz

sands have many possible industrial uses. Among them are its use in making plate glass, in processing various types of molding sands and core sand for foundry practices. Crushed and pulverized silica sands are used extensively in the manufacture of pottery, porcelain and tile. The state of Illinois marketed more than two million dollars worth of crushed silica sand in 1951 and the time seems ripe to expand the utilization of Minnesota sands.

Comprehensive studies of the Keweenaw igneous rocks of the north shore of Lake Superior have been carried on under the supervision of Professor Samuel S. Goldich. Richard Taylor was granted a National Science Foundation fellowship for part of this work and the Minnesota Geological Survey furnished field assistants and expenses. Harry Gehman has extended Taylor's work beyond the Duluth area with particular reference to the Beaver Bay complex of rocks. The survey is deeply indebted to Professor Goldich for supervising this work without remuneration except for part of his out-of-pocket expense.

The glacial studies during the period 1954-56 have included continued reconnaissance over the eastern two-thirds of the state by Professor H. E. Wright in a long-range program of mapping and recorrelation of the drift sheets of the last glacial stage. The work has progressed to the point where some of the basic revisions involved are now well established and are being used in soil surveys. A project of detailed mapping in the Cushing and Little Falls quadrangles was completed by A. F. Schneider. J. H. Zumberge has started a restudy of the glacial drift near Mankato, the type locality for one of the most important subdivisions of the glacial period in this country, and its correlation has recently been questioned. A field trip for professional glacial geologists and soils scientists was conducted in 1954 in central Minnesota, and another is planned for the 1956 meeting of the Geological Society of America.

Assistant Professor R. E. Sloan studied the Cretaceous rocks of Minnesota and Richard L. Pierce of the department of Botany worked under Sloan's supervision on the fossil plants of these deposits. They are among the best preserved fossil plants in the world and from this study, to be used by Pierce on his Ph.D. thesis, will come important information on climate and vegetation of the Cretaceous period. Sloan has studied the vertebrate and invertebrate paleontology, as well as mapped the lithofacies of these rocks in detail and previous views on their correlation have been modified. The study of Cretaceous rocks is particularly interesting because of the light it sheds on tectonics and the Cretaceous stratigraphy of the United States. Important economic aspects of the problem have been the mapping of clay deposits and theories on the formation of iron ore in the state particularly that in Fillmore county.

Nikola Prokopovich, a part-time employee of the survey, has carried on extensive sampling of the limestones of the state which may be useful in the manufacture of Portland cement. Through the cooperation of the Mines Experiment Station, the samples have been analyzed and a report of the results has been released.

During the work on limestones, clays and shale samples were collected for testing their expanding or bloating properties. The material produced is useful as a light-weight aggregate in concrete. Preliminary results are available for over 200 samples.

In 1955 the Reserve Mining Company made available a graduate fellowship and agreed to make available the facilities for a detailed fundamental study of the mineralogy and stratigraphy of the taconite deposits of the Eastern Mesabi district. James Novotny was awarded the fellowship and spent the summer of 1955 studying the deposits exposed in the new pit and examining diamond drill cores. During the academic year he has started the microscopic and other laboratory work. The Minnesota Geological Survey supervises the work and field expenses are provided from the survey budget. Professor Schwartz has charge of the work which will be extended westward in the future.

The director of the Minnesota Geological Survey is by law a member of, and has continued to serve as chairman of the State Mapping Advisory Board which has responsibility for scheduling the topographic mapping carried on jointly by the State of Minnesota and the U. S. Geological Survey. At the

request of the Commissioner of Iron Range Resources, the director has also supervised their cooperative topographic project with the U. S. Geological Survey.

In February, 1956, the office of the Commissioner of Iron Range Resources and Rehabilitation appropriated funds to begin a study of the possible utilization of marl. These funds will be used by various divisions of the University under the general supervision of the director of the Minnesota Geological Survey.

Publications—The following publications were issued during the biennium:

Frank F. Grout and J. F. Wolff, Sr. "The Geology of the Cuyuna District, Minnesota," Minnesota Geological Survey, *Bulletin* 36, 1955.

David A. White. "The Stratigraphy and Structure of the Mesabi Range, Minnesota," Minnesota Geological Survey *Bulletin* 38, 1954.

George M. Schwartz and Nikola Prokopovich. "Map of Mineral Resources of Minnesota." 1954.

George A. Thiel and Nikola Prokopovich. "Groundwater Map of Minnesota." 1954.

Nikola Prokopovich and George M. Schwartz, "Minnesota Limestone Suitable for Portland Cement," Minnesota Geological Survey, Summary Report 8, 1956.

Papers based in part on survey work and published in Scientific Journals are as follows:

E. J. Bolin, "Upper Cretaceous foraminifera, Ostracoda and Radiolaria from Minnesota." *Jour. Paleontology*, vol. 30. pp. 278-298, 1956.

George M. Schwartz, "Replacement and Rock Alteration in the Soudan Iron Ore Deposits, Minnesota" (with Ian L. Reid). *Mining Engineering*, March, 1955, pp. 298-300.

Swain, F. M., 1956, "Stratigraphy of Lake Deposits in Central and Northern Minnesota." *Bull. Am. Assoc. Petrol. Geol.*, vol. 40, no. 4. pp. 600-653.

Herbert E. Wright, Jr. "Valders Drift in Minnesota." *Jour. Geology*, vol. 63. pp. 403-411, 1955.—GEORGE M. SCHWARTZ, director

THE MINNESOTA ALUMNI ASSOCIATION—DEPARTMENT OF ALUMNI RELATIONS

The 1954-56 biennium were years of steady progress for the Minnesota Alumni Association. Because of the stimulus of the Alumni Office alumni work on the campus has increased many fold. There are now 16 organized alumni groups serving the University, of which three are official constituent groups; membership has increased some 13 per cent over the 1952-54 figures; the number of plates in addressograph file increased from 67,665 in July 1954 to 83,856 in July 1956, or 24 per cent increase; the amount of mail has increased from an average of 436,171 pieces to an average of 699,731 pieces or 60 per cent increase. Important advances during the biennium were: Adoption of a new reunion program with emphasis on college rather than class reunions; the change in the By-laws reducing the length of service on the Board from two three-year terms to one four-year term, and the sending out of a special issue of the *Gopher Grad* to all non-members in May, 1956.

Officers—The officers of the Minnesota Alumni Association for 1954-55 were: president, Francis L. Lund 1931-35; first vice president, Elmer E. Englebert, Sr., '20BSBus; second vice president, Mrs. Earl A. Knudtson '23BSEd; secretary, Maurice E. Salisbury '08BA; treasurer, Wendell T. Burns '16BA. For the year 1955-56: president, Hibbert M. Hill, '23BCivEng; first vice president, Glenn E. Seidel '36BMechEng; second vice president, Maurice E. Salisbury '08BA; secretary, Mrs. B. W. Bierman '17BA; treasurer, Wendell T. Burns '16BA; and Ed Haislet '31BSEd, executive secretary.

Office—For the second consecutive biennium the Alumni Office staff has remained constant with a total of 18 full time and three part time employees.

Budget—Total income for 1954-55 from all sources was \$97,023.38 and for 1955-56 the total income was \$101,608.17.

Field Services—Ray Chisholm has headed up this important work since September, 1952. During the biennium stress was laid on solid organization of state clubs, with more and more clubs being organized on a county basis. As of July 1956, total instate clubs numbered 56 and outstate clubs 48, for a total of 104 clubs. Outstate clubs average 1.57 meetings a year; instate clubs 3.89 meetings. During the same time alumni contacts were made on an average of 70 communities each year.

Faculty members spoke to alumni on 72 occasions, and 359 "packaged" programs were requested (films, tapes, slides, etc.). Total attendance figures for the two years at alumni meetings, including guests, was 26,185 persons. The alumni part of University of Minnesota Week continues to grow, with 28 clubs holding meetings in 1955 and a record of 36 clubs in 1956. Vice President Malcolm M. Willey visited alumni clubs in Baudette, International Falls and Moorhead-Fargo in 1955; President J. L. Morrill visited alumni clubs in Brainerd, Wadena, Park Rapids in 1955; Albert Lea, Blue Earth and Jackson in 1956.

Minnesota Alumni Scholarship Program—Through its 22 alumni district committees screened in 1955 some 519 applications with 40 scholarships being awarded, 20 boys and 20 girls. In 1956 the district committees screened 675 applications (all time high) with 52 scholarships being awarded, 26 each going to boys and girls. Funds received for the Greater University Fund in 1955 amounted to \$13,163.00 and, in 1956, \$16,000.00.

Membership—During the biennium membership showed a 13 per cent increase, averaging 12,542 paid members. The trend in membership continues to be toward paid-in-advance rather than annual, with 2,401 such members. The Life Membership Fund as of May, 1956, had a cash value of \$106,830.00 and a market value of \$121,287.00. The Life Membership time-payment plan secured 97 members during the biennium with an additional 51 time payments still in process. The renewal rate showed a seven per cent increase in 1954-55, but an 11 per cent decrease for 1955-56. A study of Association membership by college indicates that by actual number of members the Institute of Technology was first, followed closely by SLA; ranked according to percentage of members to total number of graduates, Medical Sciences was first, followed by the Institute of Technology with a less than 1 per cent difference. The class having the greatest percentage of members is the Class of 1921 with 40.1 per cent, followed by the Class of 1920 with 38.5 per cent.

Mailing—During the biennium the mailing division averaged 699,731 pieces of mail, or a 60 per cent increase at a yearly average cost of \$8,493.74 for postage. New equipment added during this biennium for the Records and Mailing Divisions included three steel desks, five new typewriters (as part of a replacement program), a wheeldex filing cabinet and an automatic plate feeder attachment for the Graphotype.

The increase in the number of alumni names in the addressograph file is indicated by the following figures:

Year	Members	Non-Members	Total Plates
July, 1948	5,554	15,235	20,789
July, 1956	12,538	71,031	83,569

This represents over a 40 per cent increase in eight years.

Growth in Constituent Groups—Constituent Alumni Group growth has been constant during the biennium. There are now 16 separate organized alumni groups of the University, its schools and departments. During the years 1954-56, two official college alumni groups became a part of the overall Minnesota Alumni Association's constituent plan. (The Institute of Technology led the way in March of 1954.) The School of Business Administration Alumni Association was the second official group, organized April 21, 1955, and the third was the College of Education Alumni Association, organized March 15, 1956. The President of each of the above groups was Frank Morris '24BSME,

'25MSME and Douglas Manuel '22BSChE for the Institute of Technology Alumni Association; Larry Clark '22BS for the School of Business Alumni Association; and Emmet Williams '48 BS, '50MA for the College of Education. All served as members of the Board of Directors of the Minnesota Alumni Association during their terms.

Special Events—During the biennium a Minnesota Insignia Tray and Minnesota chair were added to the two loyalty items now being offered Minnesota alumni—the official Minnesota Ring and the Record of Minnesota Songs. The Minnesota Insignia Tray was introduced in May, 1955. It is hand-etched of polished aluminum, 15 inches in diameter. The University of Minnesota is inscribed around the edge, the Minnesota M and a figure of a Golden Gopher in the center. There has been a steady demand for the tray since it has been offered.

The Minnesota chair was added to the list of loyalty items in March, 1955. The chair is made of northern yellow birch, hand rubbed with black stain finish and bearing the University Seal in tarnished gold.

The St. Paul Quarterback Club was sponsored by the MAA both years, 1955-56. The meetings were held at the Minnesota Club each Monday noon during the football season. Alumni meetings were held in conjunction with football trips—in 1954 in Pittsburgh, Ann Arbor and Madison; in 1955 at Cedar Rapids and East Lansing.

Homecoming—The 1954 Homecoming was held October 30th, Minnesota vs. Michigan State; the 1955 Homecoming was October 29th, Minnesota vs. Southern California. The Alumni Office both years worked in close cooperation with the student homecoming committees. Names were furnished for judges for the homecoming parade, house decorations, queen contest, bonfire and pepfest. The Association furnished the awards for the Homecoming Queen, attendants and Alumni King and assisted in the selection of the Alumni King (Ted Rowell of Baudette, Minnesota, in 1954 and Sheldon Beise of San Francisco, California, in 1955). In 1954 President Francis "Pug" Lund presented both the Alumni King and Homecoming Queen to the football crowd at half-time, as did President Hibbert Hill in 1955. The traditional alumni pre-game buffet was held in 1954, but in 1955 a post-game coffee hour was substituted.

Alumni Reunion Celebration—The Fifty-second Alumni Reunion celebration was held May 19-20, 1955, with some 2,000 alumni in attendance. The Classes of 1900, 1905, 1910, 1915, 1920, 1930 and 1940 held their reunions. The Fifty-second Annual Alumni Day Dinner was held May 20th with 461 present. President J. L. Morrill presented Outstanding Achievement Awards to B. W. Bierman '16BA; Robert M. Gaylord '11BA; George Russell '27BA; Victor Christgau '24BSAg; Val Bjornson '30BA acted as toastmaster and Robert M. Gaylord was the main speaker.

Some 1800 alumni returned for the 1956 Reunion held May 24-25, 1956. The Classes of 1901, 1906, 1911, 1916, 1921, 1931 and 1941 held their reunions. A general alumni luncheon was held with the members of the Class of 1896 as guests; Frank J. Morley was toastmaster. The Fifty-third Annual Alumni Day Dinner was held May 25th with 555 alumni present. President Morrill presented Outstanding Achievement Awards to John Henry Ray '08BA, Thomas W. Phelps '23BA, John B. Sanborn '05BA, Merwin H. Silverthorn '14-17, Sherman Ellsworth Johnson '19, and Hedley W. Donovan '34BA, who was the main speaker at the Banquet. Dr. Vernon D. E. Smith '27BA, '31MD was the toastmaster.

Commencement Packets—The Alumni Office began in 1955 to give out commencement packets to the five graduation classes each year. This presents the opportunity for all seniors to visit the Alumni Office at least once while they are in school.

Football Radio Shows—A football half-time radio program on the University of Minnesota over WTCN was MC'd by Alumni Secretary Ed Haislet. It provided an opportunity to bring factual information about the University to friends and alumni.

Name of Publication—The publication name was changed to *Gopher Grad* and a new cover format introduced to alumni during the reunion. The magazine, published nine times a year, October through June, goes to approximately 13,000 alumni members. A special issue of the *Gopher Grad* was mailed to 71,000 non-members in May, 1956. The purpose—to bring information about the University to all alumni at least once a year.

Board of Directors—The Board met six times during the 1954-56 biennium. The Executive Committee met nine times in 1954-55 and seven times in 1955-56. Significant Board action included the formulation of a new reunion program which places emphasis on college rather than class reunions; a change in the By-laws so that five new members will be elected to the Board each year for four-year terms, and limiting service to one term only; presented a new program of establishing better communications with alumni to President Morrill which resulted in a special issue of the *Gopher Grad* to all non-members once a year; presented a suggested legislative plan of action to President Morrill; and inaugurated a study of the Greater University Fund in relation to fund raising at the University.—ED HAISLET, *director*

GREATER UNIVERSITY FUND

A special meeting of the Board of Trustees in Duluth on August 24, 1954, as guests of Dr. Edward Tuohy, and a subsequent tour of Northern Minnesota taconite developments conducted by the Reserve Mining Company started the biennial period for the Greater University Fund. During the biennium John K. Fesler continued to serve as board chairman, and the terms of Parker D. Sanders, Alice R. Warren Gaarden, Dr. Edward Tuohy, and Samuel C. Gale, expired. National campaign chairmen were: Leif J. Sverdrup, president, Sverdrup and Parcel, Inc., St. Louis, Missouri, 1954; and Edgar F. Zelle, chairman of the board, First National Bank of Minneapolis, 1955.

New alumni members on the Board of Trustees during the biennium were: Louis Gross, Edwin A. Martini, Bradshaw Mintener, and Betty Sullivan. Other Board members were: President J. L. Morrill, Vice President William T. Middlebrook, Vice President Malcolm M. Willey, and representing the Regents, Lester A. Malkerson. Edwin L. Haislet, Alumni secretary, served as the secretary, and R. P. Provost as the director.

At the conclusion of the 1954 campaign, total gifts given to the University through the Greater University Fund passed the million dollar mark and established a milestone in this department's short eight-year history.

Consistent growth in alumni participation and in total dollars raised during each annual campaign operating in the calendar year basis, has been experienced during the biennial. In 1955 there were 4,760 contributions totaling \$233,344 in behalf of 158 different projects ranging from Freshmen scholarships to a new student center on our St. Paul Campus. Promotion of gifts continues to be primarily a direct mail type campaign with three basic mailings each year.

New special projects that proved successful included the McQuarrie Pediatrics Fund and the University of Minnesota Memorial Fund to honor deceased members of the University's faculty and staff and their families. The St. Paul Campus Student Center campaign resulted in gifts totaling \$166,842. There were 186 scholarships granted to student athletes through the Williams Fund during the biennium.

Student aids continue to be the predominant use of gifts to the Greater University Fund. In addition to many new scholarship programs established, the Minnesota Alumni Association Freshmen Scholarships were continued along with the highly successful Greater University Graduate Fellowships. The cooperation of the Bureau of Student Loans and Scholarships in the development and administration of new and existing scholarship programs has been exceptionally good. Also, the selection of the fellowship recipients by the Graduate School has done much to improve the effectiveness of this program.

Cooperation was given during the biennium to several projects for funds at UMD. During 1955 a special mailing and telephone campaign was conducted in the Duluth area.

Our limited staff, facilities, and budget will control the expansion and growth of our program in the future. Future plans call for: increased alumni participation and the opening of personal solicitation of alumni by fellow alumni; the continued growth of our important student aids program; and a more effective program of introducing to students on campus the importance of giving to higher education in the years ahead.—ROBERT P. PROVOST, *director*

INDUSTRIAL RELATIONS CENTER

The Industrial Relations Center has passed an important milestone—the tenth anniversary of its establishment. During this period the Center has continued to develop a three-fold approach: emphasizing research, training, and service. Several special programs and publications marked the Center's anniversary, including a special University convocation, a research conference, a brochure describing the history of the Center, and a bulletin outlining its research projects and findings.

Research—To recognize principles underlying the behavior of industrial relations, major emphasis in the Industrial Relations Center has focussed on research, and has organized about six laboratories, including Triple Audit and Basic Research, Professional Standards, Labor Relations and Personnel, Union Studies, Management Development, and Labor Marketing and Employment.

In the Professional Standards laboratory, findings of several annual surveys provide yardsticks for evaluating trends in current policy and practice. Studies of industrial relations budgets for example, show how staff time and money are allocated among various functions and activities. They have helped make the Minnesota Center a major source of information on professional standards and practice in the United States. One current study is developing generalized job descriptions for all major employee relations staff jobs. Another current project will provide an annotated list of basic reference materials in industrial relations.

In management development, one study seeks to discover the relationship between specific industry and company characteristics and (1) the presence or absence of a formal program of management development, and (2) specific patterns of management personnel activities. Another study is searching for identifiable personal variables which can be of value in the prediction of potential success in management jobs. A suggested job evaluation program for managers has been developed. Another project involves classification of management jobs, while another will identify job, industry, company and personal factors accounting for variations in management compensation.

Studies in the Triple Audit and Basic Research laboratory are checking relationships between policies and practices and selected goals, such as low labor turnover, higher productivity, reduced absenteeism, and others. An employee attitude scale has been developed, as has a scale for measuring in-plant communication.

The Union Studies laboratory is conducting an extensive research project evaluating (1) types of communications media and their effectiveness, (2) union member participation in union affairs, and (3) attitudes of union members toward (a) local union administration, and (b) toward the national union.

The Labor Relations and Personnel laboratory is studying the vocational interests of employed engineers engaged in four types of engineering duties. Findings will be useful in counseling and guidance of students in engineering and in the efficient placement of applicants in appropriate industrial jobs.

In the Labor Marketing laboratory, a study of fringe benefits is designed to provide standard measures of costs, while another study evaluates the importance of family size, composition and economic status on labor force participation. Another inquiry is studying the effects of technological changes on employment, productivity, wages, and occupational structures in specific work groups.

The Industrial Relations Center cooperated with the Minnesota Department of Employment Security in a study of the placement of older workers. This study served as a guide for similar studies in six other states.

For their active participation in this on-going research program, 1,306 men and women in the United States and Canada have been granted Research Affiliate Certificates.

Training—The Center has developed an integrated program of courses leading to a special master's degree in industrial relations. Workers' education courses are offered for union members and evening courses for persons already working in industrial relations. A total of 19 persons have earned a special Certificate in Industrial Relations, 9 of them during the past biennium.

A total of 836 persons participated in the eight regular conferences held during the past two years. Major topics discussed at these conferences include: Job Opportunities and Job Security, Human Relations Research, Problems of Economic Security, Labor-Management Relations, Recent Development in Industrial Relations, Civil Liberties, Organization for Management Teamwork, Manpower Measurement and Evaluation, and International Labor Studies. Meanwhile, 878 union members participated in Workers' Education courses carried on in conjunction with the General Extension Division. Courses offered include Union Leadership Training, Union Administration, Collective Bargaining, Labor-Management Relations, Parliamentary Law and Public Speaking, Labors' Stake in International Affairs, and Current Labor Problems. Summer institutes were held in both 1954 and 1955 with a total registration of 203. An institute on consumer problems, offered for the first time in 1955, attracted 125 participants.

Members of the Center staff cooperated in the selection of eight high school students who received scholarship awards provided by several local unions. Staff members also assisted in the formulation of a scholarship program for six additional awards.

Service—Requests for consultation services, speakers, reference services, special reports, conference planning, counseling and placement increased during the past biennium. Members of the staff gave 123 speeches to professional societies. Twenty-two articles by IRC staff members were published in professional journals and newsletters. Members of the staff served on the Federal Advisory Council to the Secretary of Labor, the Labor Market Research Committee of the Social Science Research Council, the St. Paul Fair Employment Practices Commission; the State Federation of Labor Education Committee; Examining Board for the Minnesota Civil Service Department; the Governor's Advisory Commission on Problems of the Aging, and the Advisory Committee, Educational Project in Occupational Health Nursing for the Minnesota League for Nursing, as well as on the editorial boards of two national professional publications. Staff members counseled 207 persons on professional job placement. During the past two years, approximately 700 requests for information were answered. Requests came from companies, unions, and government agencies.

One hundred eight distinguished visitors from all parts of the world visited the Center. Included were representatives from England, Germany, India, Japan, The Netherlands, and Sweden.

A special Lofquist Memorial library was established as a part of the Center in 1954. The St. Paul Allied Printing Trades Council established the Memorial in honor of Clarence G. Lofquist, their late president, who was a charter member of the Center's Advisory Council. Since the establishment of the Memorial, the Minnesota State Federation of Labor, several locals, and one individual have contributed to the Fund.

Publications—Results of research studies and proceedings of conferences are made available in three series of bulletins published by the Center and in a wide variety of professional and technical journals. Publications released directly by the Center during the biennium include five *Bulletins*, two *Research and Technical Reports*, and four *Reprints*.—DALE YODER, director

Divisions of Academic Administration

OFFICE OF THE DEAN OF STUDENTS

Descriptions are included in this report for responsibilities in the orientation program, in residential counseling and on the St. Paul Campus.

The staff has continued during the past two years to make significant professional improvement. Six staff members have received Ph.D. degrees, and two others have completed work for masters' degrees. Several important research projects have been undertaken and 70 papers have been published. Twenty-one staff members served as officers of appropriate professional organizations.

Orientation Program—The Office of the Dean of Students has continued its functions of coordinating and supervising a University-wide orientation program consisting of seven major activities. During each year, over five hundred student leaders participated in planning these programs. During the biennium, 10,578 new students attended the Two-Day Orientation Program that is held each quarter and during the summer months. The Freshman Camp program continued its emphasis on initiating an understanding of the personal, intellectual, social, aesthetic and moral changes that each new student will experience during his college career. In 1954, 360 students attended the five camps, and in 1955, 367 new students attended.

The Parents' Day program was attended by nearly 4,000 parents. The Welcome Week program included five classroom preview sessions each year. These sessions were conducted by University professors to acquaint new students with methods of University teaching, study, and curricula.

Approximately 7,500 copies of the new student handbook have been distributed annually to new students and their parents to provide advance information about University life.

The orientation program for foreign students was attended by 112 students in 1954-55 and 192 students in 1955-56.

Residential Counseling—A full-time staff member was assigned to coordinate the residence counseling program with responsibility for recruiting residence counselors, certifying applicants to the various units, organizing and conducting training programs, and evaluating the effectiveness of the program. During each year of the biennium, 17 men dormitory counselors, 39 women dormitory counselors, 49 academic and professional fraternity counselors, and 20 sorority housemothers were employed, trained and supervised. In 1954-55, 232 applications for counselorships were reviewed, and 154 candidates were certified.

During 1954-55 there were 195 special training meetings involving 52 guest speakers for the residence counselors. In 1955-56, there were 193 such meetings with 146 speakers. In 1954-55 there were 52 Residence Board meetings and 7 Residence Council meetings. In 1955-56 there were 56 Residence Board meetings and 6 Residence Council meetings.

The residence counseling coordinator, with the assistance of our bureau staffs, provided assistance concerning activity projects, work with individual students, and learning to make many of the adjustments necessary in college. The program objectives included the role of the residence counselor in improving the level of intellectual activity within the units, in developing the cultural potential of the units, and in developing attitudes of students' loyalty to the University.

St. Paul Campus—The staff members of the Student Housing Bureau, Student Activities Bureau, Student Counseling Bureau, the Foreign Student Adviser's Office, and the Coordinator of Students' Religious Activities have found the central location in Coffey Hall very helpful in maintaining adequate communication with students and staff. During this biennium there have been 19,306 contacts with students and staff. There were 650 conferences with St.

Paul campus staff members including meetings with departmental groups and faculty members and special programs.

Foreign Student Adviser—The number of foreign students enrolled at the University increased from 630 to 684 during this biennium with a ratio of six men to one woman. The total number of different individuals in residence at some time during 1955-56 was 966, an increase of 19 per cent over 1954-55. Sixty-four countries were represented on the Minneapolis and St. Paul campuses. The countries of highest representation in 1955-56 were Korea, 88; Canada, 81; India, 77; China, 65. Approximately 85 per cent were graduate students, 9.7 per cent undergraduate students, and the balance, special students. The total number of contacts was 34,994 in 1954-55 and 31,469 in 1955-56. The number of exchange-visitor letters increased 15 per cent, and the number of scholarship applications increased 50 per cent.

The American Brother-Sister program involved 139 American students in 1955-56. The International Center for Students and Visitors completed its second full year. The number of home contacts increased 115 per cent while the total community contacts increased by 12 per cent to 1508 in 1955-56.

With the improved health protection coverage, health problems were minimized, although the number of foreign students hospitalized increased.

The Exchange Scholarship Program continued with the financial support of the All-University Student Congress.

Coordinator of Students' Religious Activities—Response by religious organizations to Minnesota's permissive and voluntary policy has continued to be excellent. New structures have been built to house the programs of two foundations, construction has begun on a third, and two additional groups have architects' plans for new buildings. With the termination of activities of the Young Men's and Young Women's Christian Associations on the St. Paul campus, the total number of religious groups now is 28, of which 12 own their facilities and properties. Excellent cooperation continues among the groups, as witnessed by their complete participation in the Student Councils of Religion and in such projects as Church Night during Welcome Week, Religion in Life Week, and Brotherhood Week. Minnesota has demonstrated that there does not have to be geographical and organizational uniformity in order to have friendly and enthusiastic cooperation. In fact, student life is enriched by the multiplicity of religious offerings in their continuing harmonious relationships.

The number of students filling out the voluntary religious census cards in 1954 was 73.75 per cent, while in 1955 the figure rose to 75.49 per cent, the highest percentage since the inception of the coordination program.

A new provision of an award to the young man and woman who have contributed most to campus inter-religious life has been made by the estate of the late Conrad J. Hoigaard. The awards have been presented at Brotherhood Week observances in each of the two years 1954-55 and 1955-56.

Student Loans and Scholarships—The case load and dollar-value of student financial assistance continues to increase. A significant increase in this load came from 33 new scholarship funds established during this biennium.

	1954-55	1955-56
Financial Aid Cases	4,184	4,234
Interviews	6,217	6,695
Number of scholarship applications	1,800	2,183
Number of loan applications	1,275	1,229
Loan aid from University funds	\$158,137.53	\$152,550.00
Loan aid through referrals	\$4,500.00	\$1,850.00
Scholarship aid through University funds	\$148,767.12	\$180,446.00
Scholarship aid through referrals	\$1,301.00	\$4,625.45
Grants-in-aid	\$2,977.97	\$1,917.35
Addition to present funds and establishment of new funds	\$80,321.12	\$82,378.97

Graduate students constituted approximately 16 per cent of those aided through loans with an average loan of \$171.99. The average for undergraduates was \$160.44.

Undergraduates comprised 91 per cent of students receiving scholarship assistance with an average for both graduates and undergraduates of approximately \$216.

The freshman scholarship load has been increasing rapidly. In the first year of this program in 1949, there were 112 applications from graduating high school seniors, while in 1954-55 there were 522 and 679 in 1955-56.

Student Activities—The Student Activities Bureau's educational functions of supervising, coordinating, and advising students' programs has continued. A total of 52,911 meetings, conferences, and interviews were held during the biennium. During this period 45 organizations were disestablished, and 24 were established with 348 organizations functioning at the close of this biennium.

During this biennium several important steps were taken to advance the educational content of students' experiences through organized student life. An All-University Judiciary Council was developed. A careful review and appraisal was made of policies concerning the approval of off-campus speakers, the responsibilities of students for the conduct of their activities, and the channels of appeal for student groups.

Also during this period the student organizations raised \$107,971.79 for charitable purposes through 1,410 projects and programs.

Student Conduct—Reported cases of student misconduct were slightly less than during the preceding biennium. In 1954-55 there were 218 new individual discipline and rehabilitation counseling cases (154 men and 64 women), and in 1955-56, 229 such cases (156 men and 76 women). These may be compared to the 290 such cases in 1953-54. There were nine charges against student organizations in 1954-55 and 16 in 1955-56.

Of the 218 students in disciplinary situations in 1954-55, 18 were involved in more than one incident during the current or preceding year. The corresponding figure for 1955-56 was 5 out of 229 students.

The development of the policy concerning student responsibility has led to 588 students being handled by student judiciaries in 1954-55 and 879 in 1955-56.

The All-University Disciplinary Committee was convened for nine cases during this period.

The distribution of types of student misconduct has remained approximately the same for the years of the biennium. For example, 12 per cent of the cases in 1954-55 and 10 per cent of the cases in 1955-56 were classified as financial irregularity, and 26 per cent in 1954-55 and 21 per cent in 1955-56 were disorderly conduct cases.

A significant development during this period has been the increased time spent in assisting student judiciaries to perform their functions.

Speech and Hearing Clinic—During this biennium the clinic case load remained at approximately the same level as during the previous biennium (1952-54, 884; 1954-56, 875). The numbers of contacts with these students totaled 36,318 during this period. However, with the increasing numbers of new students, the Speech and Hearing appraisals increased sharply during 1955-56. There were 6,216 such appraisals in 1955-56 and 5,338 in 1954-55, or an increase of approximately 16 per cent.

Student Counseling—The Student Counseling Bureau continued to provide professional counseling and teaching services to University students and consultation to University, college, and high school faculty members. The staff has continued to provide teaching services through the graduate clinical practicum, vocational orientation classes, classes in social psychology of small groups, and seminars on vocational rehabilitation counseling.

	1954-55	1955-56
Total number of cases	3,381	2,864
Total number of interviews	6,982	7,399
Case reports to other counselors	4,082	3,834
Case reviews and consultations	995	823
Number of psychological tests administered	276,917	314,252
Total number of tests scored	417,616	410,464

The Educational Skills Clinic provided remedial assistance to 340 students in 1954-55 and to 388 students in 1955-56. The total number of visits to the clinic was 4,206 in 1954-55 and 4,523 in 1955-56. The staff tested all new graduate students from non-English speaking countries who did not have a full year or more of college training in an English speaking country. A total of 73 foreign students (61 of them graduate students) received assistance through this program. The counselor for physically handicapped students provided services for 115 handicapped students in 1954-55 and to 53 in 1955-56. The total number of counseling contacts registered at the student faculty contact desk was 46,508 in 1954-55 and 44,836 in 1955-56. The total number of student visits to the Counseling Bureau were 23,410 in 1954-55 and 25,229 in 1955-56. While the number of different individuals counseled decreased slightly, the numbers of intensive interviews increased. The appointment calendar for counselors was always filled three to four weeks in advance.

Since the increase in numbers of students is more rapid than the possible increased professional staff, a number of group and individual sessions were held with students and staff to provide the professional consultation needed to provide for the educational needs of more students. These included conferences on test interpretations of the psychological test data available.

Student Housing—The residential status of each student enrolled in the University the fall quarter of each year of this biennium was as follows:

	1954-55	1955-56
Parents homes*	7,561	9,858
Relatives homes	368	419
Friends homes	76	85
Dormitories†	2,032	2,841
Fraternities and sororities	992	1,045
Apartments	1,997	3,277
Rooming houses	1,865	1,742
Own or rent own home	693	837
Employer's home	108	82
University Village	407	679
Total	18,099	20,865
No returns	2,000	2,985

* In Minneapolis and St. Paul, including commuters from the suburbs.

† Includes temporary facilities at University Village, nurses from Powell Hall and students from cooperative houses.

The placement of students was accomplished through personal interviews in which counselors present to students the listings of approved types of housing so that each student may make a choice based on current information. The staff work-load increased with the enrollment increases as well as with the increasing complexity arising from restricted and deteriorating facilities adjacent to the campuses.

	1954-55	1955-56
Interviews with householders	1,665	1,617
Interviews with students	5,870	6,219

The number of householders with units available at the beginning of the fall quarter was 1,927 in 1954-55 and 2,269 in 1955-56. The number of disapproved units was 298 in 1954-55 and 423 in 1955-56. The stricter enforcement of city and state housing codes and laws by the city of Minneapolis has produced these increases in disapproved units.

The number of Health Service inspection requests was 1,069 in 1954-55 and 1,196 in 1955-56, or an increase of approximately 17 per cent.

The work with rooming house groups and clubs produced 99 meetings in 1954-55 and 66 in 1955-56.

University Veterans Counseling Center—During this biennium, the center continued to provide counseling for veterans referred from the Veterans Administration.

	1954-55	1955-56
Total cases	1,904	1,751
Total interviews	2,848	2,541

Of these cases, 25 per cent were disabled veterans in 1954-55 and 14 per cent in 1955-56.—E. G. WILLIAMSON, *dean*

UNIVERSITY OF MINNESOTA LIBRARIES

On June 30, 1956, the accessioned holdings of the University of Minnesota Libraries totaled 1,841,437 volumes. Of these, 1,772,587 volumes comprised the collections in libraries on the University's Twin City campuses. These figures reflect a rate of growth that has averaged 45,000 volumes per year since World War II. The University of Minnesota Library continues to rank approximately seventh in size among university libraries in this country. Probably within four years the volume holdings of the University of Minnesota Libraries will pass the two million mark.

The continued rapid growth of collections, in spite of our selective acquisitions policy and rigorous efforts to weed out obsolete material has finally, during the past biennium, brought the library face to face with a very real crisis in space for shelving its holdings.

In spite of temporary solutions, involving the installation of shelving at the ends of aisles, and between ranges, where possible, the situation has finally become critical and has begun to affect the service in areas where books are now jammed out of their proper locations or piled on the floor in overcrowded aisles. An inventory of available space, undertaken in February, 1956, revealed that the main library stack is now filled to 98 per cent of its capacity.

Proposed Library Annex—A solution for housing the University of Minnesota's Twin City library resources would be to erect a maximum capacity "Library Annex" of simple, unadorned, fireproof construction on property in the University Village area, where several hundred thousand volumes of the library's less-used titles could be shelved for convenient use on very short notice. Such a building, of warehouse type construction, would provide the greatest capacity for housing large segments of the library's collection at the lowest possible cost. Books housed in such an annex could be delivered daily, on call, for use in the University Library, or patrons could arrange to use them on the new premises, scarcely ten minutes away from either campus.

In the late Spring, 1956, a program of minimum specifications for such a building, together with space estimates and a list of equipment needs, was presented to the University architect, so that this project could be included in the University's presentation of specific buildings needs to the 1957 Legislature.

Enrollment Implications—Contrary to the general belief, the size of a university library's collection and its rate of growth is not greatly affected by enrollment, except insofar as additional copies of assigned books may be needed for reserve use by large classes. The spread and diversity of subjects in which graduate studies are offered and the scope of the University's research program actually determine the fields in which library strength must be developed in breadth and depth.

In the service aspects of the library's operation, however, enrollment increases present very real problems, both in terms of additional staff needed to render effective service to more students and in the provision of sufficient seating capacity to accommodate the larger clientele. During the past biennium, the problem of providing space for readers on the Minneapolis Campus has suddenly become critical, as enrollment has produced "standing room only" conditions in several of the University's Libraries at peak hours. During certain times of the day, patrons who wish to use library materials can't find seats in such units as the Reference Room, the Biomedical Library, the Freshman-Sophomore Library, and in departmental libraries for Engineering, Chemistry, and Math-Physics.

Engineering presents a typical case in point, where with more than 3,500 students and almost 500 faculty members and research workers in the Institute of Technology as potential users of the library, it is obvious that the 150 seats in the Engineering Library are inadequate. As in the case of other specialized libraries on the campus, the complaint is made that students who use these installations as a place to study their own textbooks and class notes or simply

to work out their assigned mathematics problems involving no use of the library collection make it impossible for those who would use library books to do so for lack of seats.

Service to Research—With the great increase in research activity that has occurred at the University since World War II, it has become evident that research workers on specific projects need far more intensive library service than a General Reference Department and the established departmental libraries can provide. Increasingly, the staff available for these units must devote the larger share of their time to meeting the mass needs of undergraduate students in course-related undertakings. It is recommended, therefore, that a nominal sum from research overhead funds be allocated to establish one or more positions as Research librarian, to perform extended literature searching, bibliography compilations, and abstracting pertinent articles and reports for specific research project personnel.

During the biennium, there have been requests for the library to offer a special translation service for foreign language publications, particularly Russian scientific journals. At present, however, this appears to be not only prohibitive in cost, but somewhat outside the library's traditional responsibility. The library has recently subscribed to selected Russian periodicals which are now available in translated editions, but even these are so costly as to present serious implications, in terms of the present book budget.

Physical Facilities—In the area of physical plant improvements, a number of minor changes have been effected during the biennium, but little progress can be reported on meeting the major space needs of the library, which have now become critical. Four years ago, new quarters were finally completed for the Agriculture Library on the St. Paul Campus, and in 1955, the new Library at the Duluth Branch was opened for regular service. On the Minneapolis Campus, the current biennium has seen improvement in lighting in the central library building, and in such departmental libraries as Chemistry and Engineering.

Use of Library Materials—Statistics of circulation, which presumably record the actual use of books and other materials by library patrons, are at best only an inaccurate measure of the extent to which the patrons of a large library system are being served. Our last biennial report cited the trend toward "open shelf service" in several major units of the Library. Still, the more material we put on open shelves for convenience of readers, the less complete and accurate will be our statistics of recorded circulation. Many of the reports from various units in the University Library, however, seem to indicate a significant increase in the use of the collections during the past biennium. This increase may be explained partly as a natural result of the enrollment increase, and yet some of it also seems to indicate a more intensive use of library material in connection with expended research activities and new graduate programs.

The total number of home loans for the library system in 1955-56 was 339,087, representing an increase of 71,501 loans over the previous year. Special loans from the Reserve Room appear to have increased approximately 22 per cent over last year, while loans from the Periodical Desk, totaling 145,709, represent a 6 per cent increase over 1954-55. In spite of the continued inconvenience of the present location of the Biomedical Library for its patrons across Washington Avenue, the recorded use of material from this collection increased 53 per cent during the second year of the biennium. It can confidently be predicted that as soon as a new Biomedical Library can be constructed, the use of its resources will increase at least 100 per cent because of increased accessibility. The Engineering Library, likewise, reports an increase of almost 58 per cent in home loans over the last year's figures.

Newspaper Files—One major project which received long-awaited attention during the biennium was a systematic review of our newspaper holdings, necessitated by the development of the Ph.D. program in Journalism. Following a careful study of newspaper files available on microfilm, many important runs of basic titles were acquired as permanent replacements for bulky, unmanageable, unbound subscriptions which had accumulated during the past

several years. In addition, microfilms of a number of important early runs of notable newspapers were obtained with income from the Herschel V. Jones Fund to strengthen our resources for historical research in Journalism. In the course of this special project, standing orders for future microfilms of outstanding American newspapers were placed, to assure continued completeness of contemporary files. In addition, we now have access to current microfilm copies of one hundred selected foreign newspapers as well as thirty American titles, being acquired cooperatively by research libraries at the Midwest Inter-Library Center, in Chicago. Since these MILC holdings generally supplement and extend rather than duplicate our local newspaper collections, they greatly enhance our potential resources for investigation in this field.

The James Ford Bell Collection—During the biennium, notable progress was made in developing the James Ford Bell Collection which is now well on the way toward becoming the world's outstanding special library on the history of trade. While the resources of the J. F. Bell Trust together with Mr. Bell's personal interest in building this collection have been primarily responsible for this achievement, it can be reported that the University Library, to a modest extent, has been able to assist in this growth. Several individual donors have also shared in this development by making it possible for specific items to be acquired. Through such publications as *Book Collecting and Scholarship*, *Copy of a Letter of the King of Portugal . . .*, *Maps and Atlases: Selections from the James Ford Bell Collection*, *Antilia and America*, and *The James Ford Bell Collection: A List of Additions, 1951-54*, the biennium has seen the reputation of this collection spread, to the benefit of the University, throughout the scholarly world.

Personnel Losses and Recruitment—During 1954-55 the services of the University Libraries had a reasonably full complement of personnel, even though some difficulty was experienced in filling specific positions which opened up through normal turnover. In the Spring of 1956, however, an unprecedented loss of career people within a period of a few months, presented a very serious recruiting problem which has not yet been entirely met. Following a rapid succession of individual terminations for the usual personal reasons, the library suddenly suffered its severest loss of all on April 24, in the decease, by heart attack, of Harold G. Russell, Assistant Director, after more than 36 years of devoted service to the University. With his death, the Library lost a thorough scholar, a wise administrator, a loved and respected friend of the staff, and a counselor to four successive University Librarians. Because of his deep and personal knowledge of the University of Minnesota Library and its resources, it will be impossible to fill his exact place. His influence, however, in the ideals of service which he conveyed by example to his many students and associates over the years, will long benefit the library through those who have known him or have been trained under his supervision.

By retirement, during the biennium, the Library also lost the valued services of Miss Margaret Trimble, of the Acquisitions Department, in 1955, and Miss Elizabeth Henderson, and Miss Gladys Miller, of the Reference Department, in 1956.

In conclusion, it should be reported that it is the individual members of the library staff primarily who, through their devoted service in the face of increasingly difficult problems, during the biennium, have made this record of achievement. Their help and understanding, individually and as a group, is deeply appreciated. Thanks are also expressed to the University Administration and to the Senate Library Committee, for without their continued understanding, support and assistance much of the progress which has been effected during the past two years might not have been possible.—E. B. STANFORD, director.

OFFICE OF ADMISSIONS AND RECORDS

Policy and Procedure—The Office of Admissions and Records continued in its efforts to personalize its dealings with students, to make its experienced

people more readily available to individuals seeking assistance, and to devise means of dealing mechanically with routine matters. As the statistics show, enrollments rose sharply in both years of the biennium, taxing the office to the limit in performing its usual functions with little increase of staff. At the same time, new responsibilities were assigned to the unit, thus extending the over-all work load.

All printed forms and form responses used with students were reviewed and refined and those which related to matters of considerable importance were generally incorporated into paragraphs for use in letters which could be mechanically prepared although individually addressed. Several changes in the personnel organization in the office were made to facilitate the face-to-face assistance offered to students who came with difficult or special questions. In this respect, the office took note of its student personnel and counseling functions as it dealt with more and more successful University applicants as well as with vastly increased numbers of rejectees. Although timely, this policy faced the complicating circumstances of work gaining in magnitude and complexity and a turnover of staff, particularly at the beginning clerical levels, which continued unabated. Nevertheless, staff positions were increased by only three per cent over the number for the final year of the preceding biennium.

Assistance to Students in Connection with Military Service—With closing of the University's Bureau of Veterans Affairs, additional responsibilities for the Korean veterans were placed in this office. The informing of the many such student-veterans on their procedures and best courses of action at the University was facilitated by the preparation of several special leaflets designed to answer the most common questions. Since the Korean veterans, largely under the benefits of Public Law 550, are not identified in the tabulations which follow (inasmuch as they pay their own fees as regular students), it is important to note that they tended to average just over 3,100 through 1954-55 and between 4,700 and 5,000 during 1955-56. The office continued to provide Selective Service Boards with information on students who were in attendance under educational deferment. The registrants dealt with numbered about 3,500 at any given instant.

Special Surveys and Research Reports—The office began the regular collection of term-by-term faculty load reports for use by the President's office. Also, by administrative request, it took over and continued compilation of the all-University book and supply requirements list for use by all bookstores regularly patronized by the student body. Numerous research projects came to the office. Two such major University activities drew heavily on staff time and energies during the biennium. One of these was the California and Big Ten Cost and Statistical Study for which the Room Scheduling Office contributed basic data on instruction and staff. The other was the 1956 Report to the Legislative Interim Commission on State Building Needs. Here again the office not only provided much of the background data on present buildings and their utilization but also identified the pattern of building utilization among the colleges of the University. It coordinated the forecasts of student enrollment, as for the University Self Survey, and devised formulas for estimating the need for further building areas to accommodate increased numbers of students in the various instruction-related services.

Committee Work Related to the Office—The administrative heads of the different sections of the office continued to give large portions of their time to service on committees of all kinds: of the Senate, administrative, or special ad hoc groups. Relationships with prospective students, and with the staffs of secondary schools of the state received particular attention. Among its policy considerations, the Board of Admissions investigated the admission of students with advanced standing from high school, in accord with the national study along this line. The increased work of the University Scholarship Committee, and emphasis on scholarships nationally, brought scholarship recipients more and more to the attention of the staff. The Board of Review (the residency board) dealt with unprecedented numbers of complex residence determinations, most often the cases of young married Korean veterans recently moved into the state and completing their education here. Approximately 350

different individuals were considered by the Board during the biennium, in the course of resolving the most controversial residence questions.

Annual Enrollment—The years 1954-56 witnessed an acceleration of the enrollment increases which had begun during the previous biennium. Further increases are expected throughout the foreseeable future since collegiate enrollments are just beginning to reflect the growth in the nation's birth rate which started in the middle 1930's and has continued almost unabated to the present time. The University served record-breaking totals of 75,005 different persons in 1954-55 and 82,107 in 1955-56 (Table V). Of these, 28,825 during 1954-55 and 31,990 during 1955-56 were collegiate students enrolled during the academic year or in Summer Session (Table I). In comparison, during the second year of the preceding biennium, 1953-54, the University served 67,529 different persons, including a collegiate enrollment of 26,340.

Enrollment by Colleges—(Tables I, IIA, IIB, VI)—Enrollment increased or held its own in all divisions of the University with the exceptions of the College of Pharmacy, Course in Medical Technology, School of Veterinary Medicine, and University College. The substantial drop in enrollment in Pharmacy was related to the institution of the five-year curriculum in the fall of 1954. Beginning then, freshmen in the pre-Pharmacy year registered in the arts college.

Men and Women—Enrollments of both men and women students increased during the biennium, men slightly more than women. The student body composition continues to approximate 70 per cent men and 30 per cent women.

Student Veterans—(Table IA)—The 1954-56 biennium marked the virtual closing out of the educational benefit programs for World War II veterans. Veterans constituted 4 per cent of the collegiate student body during 1954-55 and 3 per cent during 1955-56. These proportions are in contrast to those of the years immediately following World War II when the veteran component reached a high of 52 per cent.

Out-of-State Enrollment—(Tables XA and XB)—Nonresident enrollment, including registrants in the Graduate School, increased somewhat in numbers during both years of the biennium but at a less rapid rate than the total University enrollment. During the year 1955-56, the proportion of nonresidents in the entire student body was slightly less than the 14 per cent figure which prevailed during the previous biennium and the first year of this biennium.

The Graduate School and the School of Public Health had the greatest percentages of nonresidents. The student body in the Graduate School, including Mayo Foundation fellows, was approximately 46 per cent nonresident in both years of the biennium. The School of Public Health had 56 per cent nonresidents in 1954-55 and 48 per cent in 1955-56.

The number of foreign students increased during both years of the biennium. There were 666 different ones enrolled in 1954-55 and 714 at some time in 1955-56.

New Matriculants—The effect of the increased birth rate on college attendance was evident in the numbers of new students entering the University. The trend toward an increase in new matriculants which began during the previous biennium accelerated sharply during 1954-56. There were 4,937 freshmen and 2,159 new advanced standing students enrolled in 1954-55 and 5,892 freshmen and 2,341 new advanced standing individuals during 1955-56. Total new matriculants increased from 6,157 in the last year of the preceding biennium to 7,096 in 1954-55 and to 8,233 in 1955-56. This last figure is surpassed in University history only by the related total for the first post-World War II year of 1946-47 (Tables VIIIA, VIIIB, IXA, IXB, Fig. 1).

Source of Matriculants—Approximately 93 per cent of the students coming directly from high schools during the biennium were from Minnesota high schools. The percentage of these students who were from the public high schools of Minneapolis and St. Paul declined during the biennium from 44 to 38 per cent. Minneapolis accounted for 26 per cent of the total. Increasing

percentages of the new freshman students are coming from Minnesota locations outside of the commuting area of the Twin Cities.

Of the new advanced standing students at the University, 56 per cent in 1954-55 and 59 per cent in 1955-56 were admitted after earlier work in educational institutions in Minnesota.

Conferred Degrees—The University granted 4,465 degrees during 1954-55 and 4,598 during 1955-56 (Tables VIIA, VIIB, and Fig. 2). The biennium witnessed a reversal of the year-by-year decline in the number of degrees conferred which had prevailed since the peak year of 1949-50. It is anticipated that there will generally be increases during each biennium for all the foreseeable future.

Summer Session—For the first time in six years, there was a significant increase in Summer Session enrollment during the biennium (Table I). There were 9,422 individuals enrolled during one or both terms of the 1954 Summer Session and 9,887 during 1955. The enrollment for the Second Session appears to be stabilized at about 40 per cent of the total for the summer.

Extension Division—The evening class enrollment (Table IVA) increased sharply in both years of the biennium, surpassing even the previous high of 12,458 set in 1948-49. There were 13,550 students enrolled in 1954-55 and 18,452 in 1955-56. Extension short course enrollments also increased significantly, with 2,590 registered in 1954-55 and 3,077 in 1955-56. Correspondence study enrollment dropped to 4,945 in 1954-55 but was back up to 5,552 in 1955-56. The Center for Continuation Study (Table IVB) had an enrollment of 9,347 in 1954-55 and established a record high of 9,956 in 1955-56.

Subcollegiate Enrollments—The subcollegiate enrollment (Table III and Fig. 3, Schools) was 2,181 in 1954-55 and 2,155 in 1955-56. Both of these totals are above those of the previous biennium. The University High School, University Elementary School, and all but one of the schools of agriculture increased or held their own in enrollment during the biennium. There was no change in the enrollment at the University Nursery School and Kindergarten.

Total enrollment in short courses conducted by the schools of agriculture (Table III) increased over the previous biennium. There were 16,915 registrants in 1954-55 and 15,295 in 1955-56.

Tables and Charts—Among the tables and statistics, Table V is the most useful to many readers, since it summarizes the number of different students instructed at every level each year. The accompanying charts show enrollment trends. In Figure 3 an attempt is made to depict significant data with respect to composition of the student body. Figures 1 and 2 show trends in new matriculants and degree awards. Figure 4 contrasts college year enrollment with fall term attendance through the years. Tables follow.—ROBERT EDWARD SUMMERS, dean

TABLE I. COLLEGIATE ENROLLMENT BY COLLEGES AND SCHOOLS, 1955-56

College or School	Year 1954-55			Year 1955-56			Gain	Loss
	Men	Women	Total	Men	Women	Total		
General College								
Second year	562	185	747	761	180	941	194	.....
First year	1,076	257	1,333	1,257	301	1,558	225	.....
Adult specials	24	5	29	32	12	44	15	.....
Totals	1,662	447	2,109	2,050	493	2,543	434	.....
University College								
Senior	24	17	41	22	19	41	.....	.....
Junior	15	15	30	14	16	30	.....	.....
Sophomore	1	.....	1	2	2	4	3	.....
Adult specials	7	1	8	2	1	3	5
Totals	47	33	80	40	38	78	5

DIVISIONS OF ACADEMIC ADMINISTRATION

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TABLE I.—Continued

College or School	Year 1954-55			Year 1955-56			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Science, Literature, and Arts								
Senior	630	288	918	716	286	1,002	84	.....
Junior	719	299	1,018	910	333	1,243	225	.....
Sophomore	1,410	689	2,099	1,699	751	2,450	351	.....
Freshmen	1,416	774	2,190	1,569	875	2,444	254	.....
Adult specials	257	174	431	254	164	418	.....	13
Totals	4,432	2,224	6,656	5,148	2,409	7,557	901	.....
Institute of Technology								
5th year	291	1	292	314	1	315	23	.....
4th year	349	1	350	448	2	450	100	.....
3rd year	562	2	564	668	5	673	109	.....
2nd year	751	7	758	837	10	847	89	.....
1st year	814	10	824	1,076	8	1,084	260	.....
Adult specials	59	3	62	124	3	127	65	.....
Totals	2,826	24	2,850	3,467	29	3,496	646	.....
Agriculture, Forestry, and Home Economics								
Seniors	134	108	242	163	104	267	25	.....
Juniors	149	99	248	184	117	301	53	.....
Sophomores	272	152	424	329	164	493	69	.....
Freshmen	299	143	442	427	163	590	148	.....
Adult specials	47	34	81	58	32	90	9	.....
Totals	901	536	1,437	1,161	580	1,741	304	.....
Law School								
Seniors	74	.....	74	66	2	68	.....	6
Juniors	46	1	47	55	1	56	9	.....
Sophomores	95	2	97	107	2	109	12	.....
Freshmen	147	3	150	157	6	163	13	.....
Adult specials	2	1	3	4	.....	4	1	.....
Totals	364	7	371	389	11	400	29	.....
Medical School								
Seniors	113	4	117	111	6	117	.....	.....
Juniors	113	9	122	108	7	115	.....	7
Sophomores	109	5	114	117	4	121	7	.....
Freshmen	120	5	125	119	6	125	.....	.....
Adult specials	1	.....	1	4	.....	4	3	.....
Totals	456	23	479	459	23	482	3	.....
Medical Technology								
Seniors	3	29	32	.....	16	16	.....	16
Juniors	1	20	21	2	27	29	8	.....
Adult specials	2	11	13	1	11	12	.....	1
Totals	6	60	66	3	54	57	.....	9
Occupational Therapy								
Seniors .....	.....	22	22	.....	20	20	.....	2
Juniors .....	.....	23	23	2	20	22	.....	1
Totals .....	.....	45	45	2	40	42	.....	3
Physical Therapy								
Seniors	1	6	7	5	11	16	9	.....
Juniors	6	12	18	6	19	25	7	.....
Adult specials	1	.....	1	2	.....	2	1	.....
Totals	8	18	26	13	30	43	17	.....
School of Public Health								
Seniors	51	54	105	51	45	96	.....	9
Juniors .....	.....	24	24	.....	30	30	6	.....
Sophomores .....	.....	29	29	.....	29	29	.....	.....
Adult specials	30	33	63	36	43	79	16	.....
Totals	81	140	221	87	147	234	13	.....

TABLE I.—Continued

College or School	Year 1954-55			Year 1955-56			Gain	Loss
	Men	Women	Total	Men	Women	Total		
School of Nursing								
Third year	2	134	136	.....	97	97	.....	39
Second year	.....	78	78	1	87	88	10	.....
First year	.....	50	50	1	91	92	42	.....
Affiliates	.....	141	141	.....	145	145	4	.....
Adult specials	.....	11	11	.....	6	6	.....	5
Totals	2	414	416	2	426	428	12	.....
School of Dentistry								
Seniors	90	.....	90	82	3	85	.....	5
Juniors	86	3	89	76	.....	76	.....	13
Sophomores	78	1	79	92	.....	92	13	.....
Freshmen	98	.....	98	101	.....	101	3	.....
Adult specials	1	.....	1	.....	.....	.....	.....	1
Totals	353	4	357	351	3	354	.....	3
Dental Hygiene								
Second year	.....	24	24	.....	53	53	29	.....
First year	.....	55	55	.....	38	38	.....	17
Totals	.....	79	79	.....	91	91	12	.....
Pharmacy								
Seniors	63	3	66	39	4	43	.....	23
Juniors	41	4	45	40	3	43	.....	2
Sophomores	33	3	36	.....	.....	.....	.....	36
Freshmen	2	.....	2	23	2	25	23	.....
Adult specials	5	.....	5	3	.....	3	.....	2
Totals	144	10	154	105	9	114	.....	40
College of Education								
Seniors	276	548	824	309	599	908	84	.....
Juniors	235	457	692	268	464	732	40	.....
Sophomores	120	282	402	131	349	480	78	.....
Freshmen	92	241	333	85	291	376	43	.....
Adult specials	138	282	420	174	273	447	27	.....
Totals	861	1,810	2,671	967	1,976	2,943	272	.....
Business Administration								
Seniors	342	11	353	432	16	448	95	.....
Juniors	468	25	493	473	24	497	4	.....
Adult specials	43	2	45	42	1	43	.....	2
Totals	853	38	891	947	41	988	97	.....
Graduate School								
Mpls., St. P. and Duluth	2,642	571	3,213	2,906	631	3,537	324	.....
Mayos	722	36	758	615	25	640	.....	118
Totals	3,364	607	3,971	3,521	656	4,177	206	.....
Veterinary Medicine								
Seniors	46	.....	46	39	1	40	.....	6
Juniors	41	1	42	48	.....	48	6	.....
Sophomores	48	.....	48	43	1	44	.....	4
Freshmen	47	2	49	47	.....	47	.....	2
Adult specials	.....	.....	.....	1	.....	1	1	.....
Totals	182	3	185	178	2	180	.....	5
Duluth Branch								
Seniors	253	83	336	242	81	323	.....	13
Juniors	230	87	317	293	91	384	67	.....
Sophomores	320	112	432	350	151	501	69	.....
Freshmen	491	247	738	642	292	934	196	.....
Adult specials	102	86	188	104	76	180	.....	8
Totals	1,396	615	2,011	1,631	691	2,322	311	.....

TABLE I.—Continued

College or School	Year 1954-55			Year 1955-56			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Totals academic year	17,938	7,137	25,075	20,521	7,749	28,270	3,195	
Less duplicates	637	271	928	767	268	1,035	107	
Net totals academic year	17,281	6,866	24,147	19,754	7,481	27,235	3,088	
Summer Session								
First term	4,497	2,857	7,354	4,959	2,938	7,897	543	
Second term	3,228	1,667	4,895	3,653	1,899	5,552	657	
Totals	7,725	4,524	12,249	8,612	4,837	13,449	1,200	
Less duplicates	2,324	1,133	3,457	2,853	1,289	4,142	685	
Net totals Summer Session	5,401	3,391	8,792	5,759	3,548	9,307	515	
Mayo Graduates	601	29	630	554	26	580		50
Net totals, Summer Session (including Mayo)	6,002	3,420	9,422	6,313	3,574	9,887	465	
Grand totals	23,283	10,286	33,569	26,067	11,055	37,122	3,553	
Less duplicates	3,513	1,231	4,744	3,917	1,215	5,132	388	
Net grand totals, collegiate	19,770	9,055	28,825	22,150	9,840	31,990	3,165	

TABLE IA. VETERAN ENROLLMENT BY COLLEGES AND SCHOOLS, 1954-56

College or School	Year 1954-55			Year 1955-56			Gain	Loss
	Men	Women	Total	Men	Women	Total		
General College								
Second year	5	1	6	4	1	5		1
First year	10		10	3		3		7
Adult specials	2		2					2
Total	17	1	18	7	1	8		10
University College								
Seniors	1		1					1
Juniors								
Sophomores					1	1	1	
Adult specials	1		1					1
Totals	2		2		1	1		1
Science, Literature, and Arts								
Seniors	18	1	19	5	1	6		13
Juniors	11	1	12	14	1	15	3	
Sophomores	22	1	23	17	2	19		4
Freshmen	10	1	11	9	1	10		1
Adult specials	14	1	15	6	1	7		8
Totals	75	5	80	51	6	57		23
Institute of Technology								
Fifth year	23		23	10		10		13
Fourth year	13		13	10		10		3
Third year	18		18	16		16		2
Second year	18		18	11		11		7
First year	10		10	8		8		2
Adult specials	2		2	1		1		1
Totals	84		84	56		56		28
Agriculture, Forestry and Home Economics								
Seniors	9	1	10	8		8		2
Juniors	10	1	11	5	1	6		5
Sophomores	18		18	10		10		8
Freshmen	1	2	3	6		6	3	
Adult specials	7		7	2	1	3		4
Totals	45	4	49	31	2	33		16

TABLE IA.—Continued

College or School	Year 1954-55			Year 1955-56			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Law School								
Seniors	3		3	1		1		2
Juniors	1		1	2		2	1	
Sophomores	5		5	1		1		4
Freshmen	4		4	4		4		
Adult specials								
Totals	13		13	8		8		5
Medical School								
Seniors	5		5	1		1		4
Juniors	1		1	2		2	1	
Sophomores	3		3	1		1		2
Freshmen	1		1	1		1		
Adult specials				1		1	1	
Totals	10		10	6		6		4
Medical Technology								
Seniors		2	2		1	1		1
Juniors				1		1	1	
Adult specials								
Totals	11	2	2	1	1	2		
Occupational Therapy								
Seniors								
Juniors				1		1	1	
Adult specials								
Totals				1		1	1	
Physical Therapy								
Seniors								
Juniors								
Adult specials		1	1					1
Totals		1	1					1
School of Public Health								
Seniors	1	2	3	4	1	5	2	
Juniors		1	1					1
Sophomores								
Adult specials	1		1	2	1	3	2	
Totals	2	3	5	6	2	8	3	
School of Nursing								
Third year		2	2		1	1		1
Second year		1	1					1
First year								
Affiliates								
Adult specials								
Totals		3	3		1	1		2
School of Dentistry								
Seniors	5		5	4		4		1
Juniors	5		5	4		4		1
Sophomores	7		7	2		2		5
Freshmen	2		2					2
Adult specials								
Totals	19		19	10		10		9
Dental Hygiene								
Second year					1	1	1	
First year								
Adult specials								
Totals					1	1	1	

TABLE IA.—Continued

College or School	Year 1954-55			Year 1955-56			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Pharmacy								
Seniors	4		4					4
Juniors	2		2					2
Sophomores		1	1					1
Freshmen								
Adult specials								
Totals	6	1	7					7
College of Education								
Seniors	16	4	20	10	3	13		7
Juniors	17	3	20	4		4		16
Sophomores	5	1	6	1		1		5
Freshmen	3		3	1		1		2
Adult specials	10		10	9	1	10		
Totals	51	8	59	25	4	29		30
Business Administration								
Seniors	21		21	11		11		10
Juniors	11		11	4		4		7
Adult specials	3	1	4	3		3		1
Totals	35	1	36	18		18		18
Graduate School								
Mpls., St. P. and Duluth	231	6	237	181	9	190		47
Mayos	373	3	376	314	3	317		59
Totals	604	9	613	495	12	507		106
Veterinary Medicine								
Seniors	5		5	4		4		1
Juniors	9		9	1		1		8
Sophomores	2		2	2		2		
Freshmen	2		2	1		1		1
Adult specials								
Totals	18		18	8		8		10
Duluth Branch								
Seniors	18		18	13		13		5
Juniors	11		11	8		8		3
Sophomores	13		13	2	1	3		10
Freshmen	6		6	7		7	1	
Adult specials	8		8	4		4		4
Totals	56		56	34	1	35		21
Net totals	1,037	38	1,075	757	32	789		286
Less duplicates	25	2	27	8	2	10		17
Net totals	1,012	36	1,048	749	30	779		269
Summer Session								
First term	853		853	560	28	588		265
Second term	628		628	419	23	442		186
Totals	1,481		1,481	979	51	1,030		451
Less duplicates	443		443	337	18	355		88
Net totals, Summer Session	1,038		1,038	642	33	675		363
Mayo Foundation	307		307	280	3	283		24
Net totals, Summer Session (including Mayo)	1,345		1,345	922	36	958		387
Grand totals, collegiate	2,357	36	2,393	1,671	66	1,737		656
Less duplicates	586	15	601	491	17	508		93
Net grand totals, collegiate veterans	1,771	21	1,792	1,180	49	1,229		563

TABLE IIA. COLLEGIATE ENROLLMENT BY QUARTERS, 1954-1955

College or School	First Summer Session			Second Summer Session			Fall			Winter			Spring			Total Individual Registration*		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
	General College	108	21	129	92	13	105	1,322	381	1,703	1,291	362	1,653	1,230	336	1,566	1,723	456	2,179
University College	8	14	22	9	13	22	41	27	68	37	24	61	35	25	60	53	38	91
Science, Literature, and the Arts Institute of Technology	826	550	1,376	677	334	1,011	3,602	2,002	5,604	3,585	1,841	5,426	3,413	1,710	5,123	4,961	2,654	7,615
Institute of Technology	492	5	497	377	3	380	2,642	23	2,665	2,490	24	2,514	2,338	20	2,358	2,949	28	2,977
Agriculture, Forestry, and Home Economics	109	147	256	82	33	115	749	487	1,236	765	444	1,209	806	524	1,330	975	620	1,595
Law School	14		14	6		6	362	8	370	354	9	363	334	6	340	342	7	349
Medicine	340	17	357	19	1	20	455	23	478	450	22	472	450	22	472	450	23	473
Medical Technology		9	9	1	5	6	6	55	61	5	52	57	4	47	51	6	57	63
Nursing and affiliates	2	221	223	2	212	214	2	288	290	2	290	292	1	247	248	2	480	482
Occupational Therapy		23	23		22	22		46	46		44	44		42	42		42	42
Physical Therapy	1		1	1		1	7	19	26	7	17	24	6	17	23	9	17	26
Public Health	29	120	149	28	96	124	81	105	186	79	104	183	79	103	182	84	276	360
Dentistry	34		34	23		23	352	4	356	351	4	355	345	4	349	353	4	357
Dental Hygiene		4	4		2	2	1	78	79		76	76		69	69		79	79
Pharmacy	18	5	23	11	5	16	137	11	148	134	8	142	136	9	145	147	12	159
Education	458	960	1,418	317	471	788	676	1,480	2,156	713	1,467	2,180	625	1,383	2,008	1,332	2,669	4,001
Business Administration	150	7	157	117	6	123	640	32	672	710	30	740	695	26	721	883	46	929
Veterinary Medicine	2		2				184	3	187	180	3	183	180	3	183	170	3	173
Graduate:																		
Mpls.-St. Paul-Duluth	1,563	441	2,004	1,149	263	1,412	2,183	456	2,639	2,119	421	2,540	2,106	421	2,527	3,738	953	4,691
Mayos	601	29	630	601	29	630	612	31	643	590	28	618	576	27	603	726	37	763
Duluth Branch	343	313	656	317	188	505	1,174	529	1,703	1,172	517	1,689	1,087	434	1,521	1,632	922	2,554
Totals	5,098	2,886	7,984	3,829	1,696	5,525	15,228	6,088	21,316	15,034	5,787	20,821	14,446	5,475	19,921	20,535	9,423	29,958
Less duplicates	41	55	96	36	23	59	151	76	227	218	97	315	190	88	278	765	368	1,133
Net totals	5,057	2,831	7,888	3,793	1,673	5,466	15,077	6,012	21,089	14,816	5,690	20,506	14,256	5,387	19,643	19,770	9,055	28,825

* This represents a net count of individuals with duplicates deducted.

TABLE IIB. COLLEGIATE ENROLLMENT BY QUARTERS, 1955-1956

College or School	First Summer Session			Second Summer Session			Fall			Winter			Spring			Total Individual Registration*		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
	General College	141	25	166	103	17	120	1,684	445	2,129	1,657	377	2,034	1,460	325	1,785	2,130	509	2,639
University	8	8	16	5	5	10	25	27	52	31	25	56	32	35	67	35	37	72
Science, Literature, and the Arts	999	589	1,588	804	360	1,164	4,304	2,197	6,501	4,209	2,015	6,224	3,957	1,872	5,829	5,749	2,901	8,650
Institute of Technology	564	4	568	433	1	434	3,279	28	3,307	3,065	26	3,091	2,929	26	2,955	3,569	32	3,601
Agriculture, Forestry, and Home Economics	128	139	267	141	45	186	1,091	598	1,689	982	492	1,474	968	583	1,551	1,224	668	1,892
Law School	60	.....	60	57	.....	57	393	10	403	361	8	369	341	8	349	387	11	398
Medicine	335	18	353	1	.....	1	459	24	483	453	24	477	450	22	472	447	23	470
Medical Technology .....	.....	5	5	.....	.....	.....	2	46	48	2	43	45	4	40	44	2	51	53
Nursing and affiliates	1	246	247	1	236	237	2	310	312	2	303	305	2	243	245	3	526	529
Occupational Therapy .....	.....	20	20	.....	20	20	2	41	43	2	42	44	2	39	41	1	36	37
Physical Therapy .....	.....	1	1	.....	.....	.....	13	28	41	12	27	39	11	26	37	11	30	41
Public Health	26	118	144	29	85	114	82	106	188	82	100	182	77	95	172	87	259	346
Dentistry	40	3	43	28	1	29	353	4	357	347	3	350	340	3	343	338	3	341
Dental Hygiene .....	.....	5	5	.....	4	4	.....	92	92	.....	87	87	.....	77	77	.....	90	90
Pharmacy	5	1	6	5	.....	5	103	9	112	103	9	112	96	9	105	104	8	112
Education	462	941	1,403	346	580	926	787	1,678	2,465	737	1,509	2,246	720	1,493	2,213	1,427	2,845	4,272
Business Administration	231	9	240	190	8	198	707	31	738	710	32	742	733	32	765	971	46	1,017
Veterinary Medicine	2	.....	2	.....	.....	.....	181	3	184	177	2	179	173	2	175	168	2	170
Graduate:																		
Mpls.-St. Paul-Duluth	1,591	466	2,057	1,212	299	1,511	2,402	499	2,901	2,267	444	2,711	2,331	466	2,797	3,908	1,029	4,937
Mayos	554	26	580	554	26	580	571	22	593	552	22	574	521	24	545	653	30	683
Duluth Branch	366	340	706	298	238	536	1,344	602	1,946	1,363	568	1,931	1,257	504	1,761	1,857	1,066	2,923
Totals	5,513	2,964	8,477	4,207	1,925	6,132	17,784	6,800	24,584	17,114	6,158	23,272	16,404	5,924	22,328	23,071	10,202	33,273
Less duplicates	54	48	102	38	19	57	200	108	308	206	106	312	201	117	318	921	362	1,283
Net totals	5,459	2,916	8,375	4,169	1,906	6,075	17,584	6,692	24,276	16,908	6,052	22,960	16,203	5,807	22,010	22,150	9,840	31,990

* This represents a net count of individuals with duplicates deducted.

THE PRESIDENT'S REPORT

TABLE III. SUB-COLLEGIATE ENROLLMENT, 1954-56

School or Course	Year 1954-55			Year 1955-56			Gain	Loss
	Men	Women	Total	Men	Women	Total		
School of Agriculture, St. Paul								
Seniors	65	15	80	74	10	84	4	.....
Juniors	123	18	141	117	27	144	3	.....
Freshmen	2	1	3	1	.....	1	.....	2
Unclassed	19	10	29	18	6	24	.....	5
Total	209	44	253	210	43	253	.....	.....
Northwest School and Station, Crookston								
Seniors	91	15	106	80	22	102	.....	4
Juniors	88	22	110	108	13	121	11	.....
Sophomores	97	12	109	107	18	125	16	.....
Freshmen	98	13	111	70	11	81	.....	30
Unclassed .....	.....	.....	.....	1	.....	1	1	.....
Total	374	62	436	366	64	430	.....	6
West Central School and Station, Morris								
Seniors	57	19	76	58	20	78	2	.....
Juniors	63	23	86	67	14	81	.....	5
Sophomores	77	17	94	76	20	96	2	.....
Freshmen	87	22	109	78	18	96	.....	13
Unclassed	5	1	6	3	4	7	1	.....
Total	289	82	371	282	76	358	.....	13
North Central School and Station, Grand Rapids								
Seniors	21	.....	21	24	.....	24	3	.....
Juniors	24	.....	24	36	.....	36	8	.....
Sophomores	27	.....	27	21	.....	21	.....	6
Freshmen	22	.....	22	14	.....	14	.....	8
Unclassed	5	.....	5	1	.....	1	.....	.....
Total	99	.....	99	96	.....	96	.....	3
Southern School and Station, Waseca								
Seniors	23	4	27	31	9	40	13	.....
Juniors	34	5	39	30	8	38	.....	1
Sophomores	28	9	37	39	10	49	12	.....
Freshmen	32	8	40	29	6	35	.....	5
Unclassed	11	.....	11	5	.....	5	.....	6
Total	128	26	154	134	33	167	13	.....
University High School, Minneapolis								
Nursery School and Kindergarten, Minneapolis	45	45	90	40	40	80	.....	10
Elementary School, Minneapolis	77	70	147	70	71	141	.....	6
Laboratory School, Duluth	108	90	198	101	98	199	1	.....
Net totals, schools	1,551	630	2,181	1,522	633	2,155	.....	26
Short Courses, School of Agriculture, St. Paul								
Aircraft Spraying and Dusting	151	.....	151	53	.....	53	.....	98
Alumni Institute	180	220	400	250	250	500	100	.....
American Assoc. of Vet. Bact. ....	.....	.....	.....	30	.....	30	30	.....
American Farm Research .....	.....	.....	.....	200	.....	200	200	.....
Animal Breeding for European Visitors	23	1	24	.....	.....	.....	.....	24
Animal Nutrition	220	1	221	244	3	247	26	.....
Bankers Ag. Credit Conf.	122	.....	122	105	.....	105	.....	17
Beef Cattle-Grassland Field Day	162	.....	162	201	1	202	40	.....
Beekeepers Short Course	42	2	44	35	6	41	.....	3
Berry Growers	76	4	80	81	8	89	9	.....
Boys State	321	.....	321	316	.....	316	.....	5
Canners and Fieldmen	127	.....	127	162	.....	162	35	.....
Concrete Drain Tile Mfg.	76	.....	76	.....	.....	.....	.....	76
Cottage Cheese Mfg. ....	.....	.....	.....	35	1	36	36	.....
Dairy Herd Improvement	48	3	51	49	4	53	2	.....
Dairy Industry .....	.....	.....	.....	400	.....	400	400	.....
Dairy Products	417	.....	417	411	.....	411	.....	6
Dept. of Public Welfare Conference .....	.....	17	17	.....	.....	.....	.....	17

TABLE III.—Continued

School or Course	Year 1954-55			Year 1955-56			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Dome Club		35	35					35
Editors	89	10	99	118	32	150	51	
Fair Management	104	15	119	68	31	99		20
Farm and Home Week	2,520	1,680	4,200	2,000	1,500	3,500		700
Farm Bureau Women	52	145	197					197
Farm Drainage	92		92					92
Farm Income Tax	570	73	643	426	60	486		157
Farm Machinery				82		82	82	
Farm Shop Organization	35		35					35
FFA Convention	2,500		2,500	1,200		1,200		1,300
Flock Selecting and Pullorum Testing Agents	110	4	114	135	6	141	27	
Flower Arranging and Judging	10	252	262	23	306	329	67	
4-H Club Week	424	625	1,049	438	592	1,030		19
Hardware Lumber Graders				13		13		13
Home Econ. Career Day					200	200	200	
Home Econ. Teacher Conf.		324	324					324
Horticulture	165	221	386	123	167	290		96
Itasca U. of Scouting				37		37	37	
Light Horse	62	17	79					79
Lumbermen's 4-Week	48		48	49		49	1	
L-P Gas	156		156	204	2	206	50	
Livestock Marketing Clinic	140		140	109		109		31
Milk and Cream Grading School				41		41		41
Minn. State Fire School	244		244	269		269	25	
Parents' Day	84	87	171	150	150	300	129	
Rabbit Breeders	31	16	47	20	9	29		18
Regional Meeting, Minn. Library Association	10	60	70					70
Regional Swine Breeding Lab				58		58	58	
Reprod. Prob. of Cattle				15		15	15	
Retail Seed Dealers	43		43					43
Rose Growers	115	238	353	39	63	102		251
School Lunch Workshop				47	508	555	555	
Soils and Fertilizer	400		400	404	1	405	5	
State Rural Youth	145	118	263	129	96	225		38
Swinefeeders' Day	157	2	159	209	1	210	51	
Tree Protection				127	4	131	131	
Vegetable Growers				68	2	70	70	
Veterinarians	92		92					92
Weavers' Workshop		14	14					14
Weed and Seed Inspection	138		138	132		132		6
Totals	10,501	4,184	14,685	9,305	4,003	13,308		1,377
Northwest School of Agriculture, Crookston								
4-H Club	375	240	615	191	361	552		63
Women's Week		83	83		53	53		30
West Central School and Station, Morris								
4-H Club	240	405	645	242	387	629		16
Women's Week		365	365		318	318		47
North Central School and Station, Grand Rapids								
4-H Club	182	215	397	137	180	317		80
Homemakers' Camp		65	65		58	58		7
Southern School and Station, Waseca								
Special Welding	60		60	60		60		
Total Short Courses	11,358	5,557	16,915	9,935	5,360	15,295		1,620
Net Totals, School and Short Courses	12,909	6,187	19,096	11,457	5,993	17,450		1,646

TABLE IVA. EXTENSION ENROLLMENT, 1954-1956

Department or Course	Year 1954-55			Year 1955-56			Gain	Loss
	Men	Women	Total	Men	Women	Total		
General Extension	7,862	5,688	13,550	10,986	7,466	18,452	4,902	
Extension Short Courses								
Anatomy and Medical Terms	34	105	139	22	104	126		13
Archaeology of Biblical Lands	30	33	63	10	12	22		41
Audiology Programs in Industry	2	16	18					18
Basic Science for X-Ray Tech.	10	66	76	16	178	194	118	
Better Letter Course	178	24	202	90	9	99		103

TABLE IVA.—Continued

Department or Course	Year 1954-55			Year 1955-56			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Business Theory for Secretaries								
Unit I				1	84	85	85	
Unit II					85	85	85	
Unit III				1	60	61	61	
Unit IV					51	51	51	
Central Labor Union Labor								
Class	25	1	26					26
Collective Bargaining	56	5	61	29	3	32		29
Commercial Flower Grower				48	2	50	50	
Communication in Ind.						99	99	
Criminal Invest. Basic	12		12	39		39	27	
Criminal Invest. and Traffic,								
Advanced	71		71	44		44		27
Specialized	67		67	23		23		44
Criminal Law								
Advanced	29		29					29
Basic	22		22	54		54	32	
Criminal Law, Procedure and								
Invest.—Basic	29		29					29
Criminal Procedure								
Advanced	107		107					107
Basic				20		20	20	
Criminal Procedure and Traffic	30		30					30
Discussion and Conference				50		50	50	
Dynamics of Posture and Poise				2	28	30	30	
Effective Communication	106		106					106
Efficient Reading	96	36	132	63	10	73		59
Engineering Refresher								
Part I	105		105					105
Part III-IV	89		89	21		21		68
Flight Theory and Aircraft Engines								
Term I				78	2	80	80	
Term II				54	1	55	55	
Term III				76		76	76	
Term IV	24	1	25	83	5	88	63	
French for Children				7	12	19	19	
French for Travel					4	4	4	
German for Children				6	6	12	12	
German for Travel				2		2	2	
Instrument Rating	33		33					33
Labor Management Relations	103	3	106	51		51		55
Labor Stake in International								
Affairs				12	11	23	23	
Leadership Training	131	8	139	106	6	112		27
Learning Meaning of Dem. thru					6	6	6	
Phys. Ed.								
Man and Scientific Quest	180	71	251	151	22	173		78
Master Piano Class	1	11	12					12
Meteorology of Pilots								
Ground School								
Term III	37	5	42					42
Navigation and Use of Com-								
putors	46	5	51					51
Parliamentary Procedure and								
Public Speaking	11	1	12					12
Police Operations—Basic	154		154					154
Physical Educ. Prog. Inst.	7	58	65	11	61	72	7	
Public Speaking					13	13	13	
Progress—Real or Imag.				73	44	117	117	
Radio Navigation—Term I	52	2	54					54
Religion and World Politics				76	156	232	232	
Review of Structural Analysis								
and Design in Steel, Concrete								
and Timber	24		24					24
Train. Course for Arch.	22		22					22
Spanish for Children				7	10	17	17	
Spanish for Travel				3	2	5	5	
Sports Clinic				2	20	22	22	
Television Prod. and Pl.				8		8	8	
Training in Effective Speaking				26		26	26	
Union Adm.				192	22	214	214	
Union Labor Training	39	6	45					45
Union Leadership	7		7	48	1	49	42	
Vocabulary Building	3	17	20					20
Your Ideas: Their Growth and								
Communication				92	3	95	95	

DIVISIONS OF ACADEMIC ADMINISTRATION

TABLE IVA.—Continued

Department or Course	Year 1954-55			Year 1955-56			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Your Trip to Latin Amer.				14	30	44	44	
Your Trip to Europe	20	124	144	36	168	204	60	
Total Short Courses	1,992	598	2,590	1,846	1,231	3,077	487	
Correspondence Study	2,454	2,491	4,945	2,854	2,698	5,552	607	
Grand Total, Extension	12,308	8,777	21,085	15,686	11,395	27,081	5,996	
Less Duplicates	103	245	348	137	203	340		8
NET GRAND TOTALS	12,205	8,532	20,737	15,549	11,192	26,741	6,004	

TABLE IVB. CENTER FOR CONTINUATION STUDY ENROLLMENT, 1954-1956

Course	Year 1954-55			Year 1955-56			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Advanced Safety Eng.	46		46	54		54	8	
Aggressive Casework in Med. and X-Ray Settings	11	29	40				42	40
Alcohol Education	6			24	18	42		
Alcoholism for Nurses	6	34	40					40
Allergy and Chest Diseases	26	2	28					28
Anesthesiology	48	2	50					50
Art for Schools in Smaller Communities	2	37	39					39
Art in Elem. Schools	2	52	54	1	56	57	3	
Assessors School	196	15	211	204	14	218	7	
Association Executive				28	6	34	34	
Audio-Visual Inst.	53	19	72	120	28	148	76	
Bacteriology for Med. Tech.				16	75	91	91	
Bituminous Conference	195		195	205		205	10	
Business Management in Public Health	10		10	24		24	14	
Campus Safety	31		31					31
Cancer Detection	34		34	20	1	21		13
Cardiovascular Disease	71	1	72	45	1	46		26
Care of Aged in Institutional Homes	52	71	123	40	92	132	9	
Cause of Death Coding				4	16	20	20	
Child-Caring Inst.				28	84	112	112	
Child Development and Comm. Study for Religious Ed.				21	41	62	62	
City Engineers	40		40					40
City Managers School	11		11	20		20	9	
Clin. Chem. for Gen. Phys.				8		8	8	
Clinical Dietetics		101	101		100	100		1
Clinical Hematology	13		13					13
Clinic Managers				75	7	82	82	
Clinical Microscopy and Parasitology for M.T.	7	102	109					109
Concrete Conference	190		190	160		160	101	30
Consumer Problems Inst.				57	44	101	101	
Coop. Educ. and Organiz.	38	4	42					42
Councilmen-Mayors	15		15	32	1	33	18	
Counseling of College Students	23	17	40	30	7	37		3
County Highway Eng.	76		76	74		74		2
Creative Arts					22	22	22	
Creative Dramatics Workshop				15	29	44	44	
Current Dev. and Res. in Psych.				49	24	73	73	
Curriculum and Superv.				52	40	92	92	
Dental Assistants		109	109		66	66		43
Dental Health Educ.		26	26					26
Dentistry for Child	7		7	17		17	10	
Designing School Bldg. for Today's Educ. Needs	107		107					107
Drilling	109		109	81		81		28
Education of Child with Neuro. Impairments	21	81	102					102
Educ. Prob. of Health Agen.				18	11	29	29	
Effective Comm. in Ind.	26		26					26
Effective Organization for Comm. Serv.					43	43	43	
Electrocardiography	49		49	64		64	15	
Elem. School Principals				164	178	342	342	

TABLE IVB.—Continued

Course	Year 1954-55			Year 1955-56			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Emergency Surgery for Gen. Physician	85	2	87	91		91	4	
Employment Security	17	17	34					34
Endocrinology for Gen. Phys.				24	2	26	26	
Endodontia	8		8	8		8		
Exceptional Children in Minnesota				31	61	92	92	
Executive Secretaries of County Welfare Boards	67	20	87	66	20	86		1
Expectant Parent Clinic for Nursing Inst.					49	49	49	
E.E.N.T. for Gen. Phys.				45	1	46	46	
Finance Officers School	54	8	62	30	8	38		24
Fractures of Gen. Phys.	71		71	62		62		9
Fundamental Adv. in Int. Med. for Internists	104	4	108	92		92		16
Funeral Director's Apprentices	31	13	44	34	11	45	1	
Gastroenterology for General Physicians				75		75	75	
Graduate Nurse Inst. on Prof. Aspects for Prep. for Marriage and Family Planning		80	80					80
Group Work Executives and Prog. Directors	15	17	32	20	13	33	1	
Gynecology	45	4	49					49
Home Economics at University Level		82	82					82
Homemaker, Family, Comm.					64	64	64	
Home Safety for Family		43	43					43
Hospital Administrators	38	67	105	47	65	112	7	
Hospital Recreation				49	27	76	76	
Hospital Nursery Pract.		40	40					40
Improvement of Instruction in Arithmetic				34	87	121	121	
Income Tax Trust for Public Accountants	245	5	250					250
Indian Rights and Resources	69	25	94					94
Improvement of Inst. in Social Studies				12	67	79	79	
Industrial Relations	260	8	268	264	10	274	6	
Industrial Relations Labor Conference	114	5	119	115	11	126	7	
Infectious Diseases for Gen. Physicians	47	1	48					48
Insurance	10	29	39					39
Insurance Agents				47	3	50	50	
Insurance Buyers Clinic	45	1	46	20	2	22		24
In-Service Educ. for Nurses					50	50	50	
Inst. for Nurses on Current Concepts of Comm. Dis. Control Program with Emphasis on School Aged Child					156	156	156	
Junior H.S. Problems				104	29	133	133	
Labor Relations				83	6	89	89	
Lake Superior Geology	125		125					125
Language Arts	57	562	619					619
Law Enforcement Officers Dealing with Juvenile Offenders	85	11	96	78	20	98	2	
Legal Course on Income Taxation				46	2	48	48	
Licensed Pract. Nurses	1	74	75					75
Managing Our Fish and Wildlife Resources				79	1	80	80	
Marching Band	36	3	39					39
Maternity and Child Health					165	165	165	
Mental Health of School Age Child		52	52					52
Merchandising Forum	36	5	41	28	2	30		11
Mid-Continent Regional Park and Recreation	95	13	108					108
Minnesota Government and Politics	35	110	145	39	65	104		41
Minnesota Indians	4	93	97					97
Minnesota Traffic Court				51		51	51	
Minnesota Vocational Coordinators Conf.	58	13	71					71
Mining Symposium	407		407	450		450	43	
More Effective Comm. for Employment and Sec. Personnel				27	21	48	48	

TABLE IVB.—Continued

Course	Year 1954-55			Year 1955-56			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Mortuary Management	39		39	44		44	5	
Motor Vehicle Fleet Supv.				25		25	25	
Music for Schools in Small Communities	2	34	36	7	47	54	18	
National Conf. on Priorities for Nurs. Services for School Aged Children				13	34	47	47	
National Inst. of Mental Health Neurology and Neurosurgery				25	1	26	26	
New Development in Nursing Home Care	17	66	83	33	132	165	82	
Nursing Education					85	85	85	
Nursing Care of Patients with Cardiovascular Dis.					127	127	127	
Nursing Service Adm.	1	127	128		198	198	70	
Nurs. Serv. Adm. on Prep. for Team Leadership		150	150					150
Nurs. Serv. Adm. Superv. for Supervisors		124	124	42	42			82
Nutrition Ed. in Basic Nursing Curriculum	1	115	116					116
Obstetrics	44	4	48	48	3	51	3	
Occupational Nurses	2	103	105		85	85		20
Office Procedures	50	2	52					52
Office Psychotherapy in Psychosomatic Prob.				24	4	28	28	
Operating Room Nursing		61	61		44	44		17
Oral Surgery	15		15	16		16	1	
Orthodontics	33		33	7		7		26
Parents of Deaf Children of Pre-School Age	9	20	29	1	22	23		6
Parent and Family Life Education	5	92	97	11	97	108	11	
Pastoral Counseling	104	1	105	109		109	4	
Outstanding Achievements of Our University					23	23	23	
Pediatrics	75	4	79	82	10	92	13	
Periodontia Problems	50		50	14		14		36
Pharmaceutical Problems				112	13	125	125	
Physicians and Schools	23	6	29	22	6	28		1
Physiology of Periodontal Structure	10		10					10
Pre-School Materials				1	118	119	119	
Pre-Service and In-Service Teachers Training	32	8	40					40
Probation and Parole Wkrs.	84	19	103					103
Problems in Juvenile Delinquency	44	2	46	40	3	43		3
Problems of the Smaller Manufacturer	36	4	40					40
Proctology	19		19	21		21	2	
Psychiatric Prin. in Gen. Practice	45	3	48					48
Public Accountants				146	5	151	151	
Public Health in Nursing Curriculum		60	60					60
Public Library Materials for Adults				7	78	85	85	
Public School Law	127	5	132	126	1	127		5
Public Works Adm.				30		30	30	
Purchasing Agents	85	1	86	85		85		1
Purposes, Functions and Pract. in Curr. and Supv.	52	32	84					84
Radiographic Technician	8		8	6		6		2
Radiology	17	1	18	22		22	4	
Radiology for Spec.	252	10	262	245	8	253		9
Rationale for Treatment of Periodontal Disease				10		10	10	
Radiographic Tech. for D.H.				9		9	9	
Records Adm.	58	24	82					82
Reg. Audio-Visual—Rochester				22	15	37	37	
Religion in Curr. of State University	40	3	43					43
Rural Community Nurses		18	18					18
School Lunch Cook-Manager				4	37	41	41	
Sewer School	117		117	74		74		43
Social Studies in Elem. Schools				2	13	15	15	
Soil Mechanics and Found. Engineering	75		75	92		92	17	
Steel Workers Inst.				63		63	63	

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TABLE IVB.—Continued

Course	Year 1954-55			Year 1955-56			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Study and Practice of Oral Medicine	72		72	63		63		9
Summer Labor	18	4	22	49	5	54	32	
Surgery for Gen. Phys.	96	1	97	106		106		9
School Architects				92	5	97		97
Red Cross Leadership				20	34	54		54
Police Administration				37		37		37
Radiographic Interpretation				7		7		7
Teachers in Area of Practical Nursing		36	36					36
Team Process in Rehab.	33	50	83					83
Techniques in Elem. Arith.		46	46					46
Techniques in Gen. Pract.				33		33	33	
Television Prod. and Plan	4	29	33					33
Telev. Tech. for Vol. Leaders				7	42	49	49	
Tuberculosis Control for Lay Persons	14	69	83	3	59	62		21
Textile Fiber Teacher Training Clinic				47	24	71		71
Trauma				112	1	113	113	
Use of Minnesota Multiphasic Personality Inventory for Clin. Psych.	49	20	69					69
U.S. Foreign Policy				62	16	78	78	
University and World Affairs Adult Ed.				24	2	26	26	
Vol. Leadership Training for Comm. Service	10	32	42					42
Water and Sewage				46		46		46
Wastes Engineering	39		39	46		46		7
Water School	113		113	85		85		28
Workshop for Ed. Sec.					125	125		125
You and World Health	10	44	54					54
Totals	5,808	3,539	9,347	6,360	3,596	9,956	609	

TABLE V. ENROLLMENT SUMMARY, 1954-1956

	Year 1954-55			Year 1955-56			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Collegiate Students	19,770	9,055	28,825	22,150	9,840	31,990	3,165	
Sub-Collegiate	12,909	6,187	19,096	11,457	5,993	17,450		1,646
TOTALS	32,679	15,242	47,921	33,607	15,833	49,440	1,519	
Less Duplicate								
Net Totals	32,679	15,242	47,921	33,607	15,833	49,440	1,519	
Extension	12,205	8,532	20,737	15,549	11,192	26,741	6,004	
Center for Continuation Study	5,808	3,539	9,347	6,360	3,596	9,956	609	
Grand Totals	50,692	27,313	78,005	55,516	30,621	86,137	8,132	
Less Duplicates	1,910	1,090	3,000	2,686	1,344	4,030	1,030	
Net Grand Totals	48,782	26,223	75,005	52,830	29,277	82,107	7,102	

TABLE VI. COMPARATIVE ENROLLMENT FIGURES, 1954-1956

Instructional Unit	1954-1955			1955-1956			Gain		Loss	
	M	W	T	M	W	T	M	W	M	W
General College	1,662	447	2,109	2,050	493	2,543	388	46		
University College	47	33	80	40	38	78		5		7
Science, Literature, and Arts	4,432	2,224	6,656	5,148	2,409	7,557	716	185		
Institute of Technology	2,826	24	2,850	3,467	29	3,496	641	5		
Agr., For., Home Ec., and Vet. Medicine (including Schools of Ag.) and Ag. Short Courses	13,540	6,310	19,850	12,362	6,158	18,520			1,178	152
Law School	364	7	371	389	11	400	25	4		

TABLE VI.—Continued

Instructional Unit	1954-1955			1955-1956			Gain		Loss	
	M	W	T	M	W	T	M	W	M	W
Medicine (including Med. Tech., Nursing, Phys. and Occup. Therapy and Public Health)	553	700	1,253	566	720	1,286	13	20		
Dentistry (incl. Dent. Hyg.)	353	83	436	351	94	445		11	2	
Pharmacy	144	10	154	105	9	114			39	1
Education (including High School, Nursery and Kindergarten, and Elementary Grades)	1,313	2,226	3,539	1,401	2,393	3,794	88	167		
Business Administration	853	38	891	947	41	988	94	3		
Graduate School (including Mayos)	3,364	607	3,971	3,521	656	4,177	157	49		
Duluth Branch	1,396	615	2,011	1,631	691	2,322	235	76		
Summer Session (net)	6,002	3,420	9,422	6,313	3,574	9,887	311	154		
Totals	36,849	16,744	53,593	38,291	17,316	55,607	1,442	572		
Less Duplicates	4,170	1,502	5,672	4,684	1,483	6,167	514			19
NET TOTALS	32,679	15,242	47,921	33,607	15,833	49,440	928	591		
Extension										
General Extension	7,862	5,688	13,550	10,986	7,466	18,452	3,124	1,778		
Short Courses	1,992	598	2,590	1,846	1,231	3,077		633	146	
Correspondence	2,454	2,491	4,945	2,854	2,698	5,552	400	207		
Totals	12,308	8,777	21,085	15,686	11,395	27,081	3,378	2,618		
Less Duplicates	103	245	348	137	203	340	34			42
NET TOTALS	12,205	8,532	20,737	15,549	11,192	26,741	3,344	2,660		
Center for Continuation Study	5,808	3,539	9,347	6,360	3,596	9,956	552	57		
Summary:										
Totals, Resident Students	32,679	15,242	47,921	33,607	15,833	49,440	928	591		
Totals, Extension Students	12,205	8,532	20,737	15,549	11,192	26,741	3,344	2,660		
Totals, C.C.S.	5,808	3,539	9,347	6,360	3,596	9,956	552	57		
Grand Totals	50,692	27,313	78,005	55,516	30,621	86,137	4,824	3,308		
Less Duplicates	1,910	1,090	3,000	2,686	1,344	4,030	776	254		
Net Grand Totals	48,782	26,223	75,005	52,830	29,277	82,107	4,048	3,054		

TABLE VIIA. DEGREES CONFERRED, 1954-1956

College and Degree	Year 1954-55			Year 1955-56		
	Men	Women	Total	Men	Women	Total
Science, Literature, and the Arts						
B.A. <i>summa cum laude</i>	3	7	10	3	6	9
B.A. <i>magna cum laude</i>	29	22	51	15	9	24
B.A. <i>cum laude</i>	39	32	71	54	30	84
B.A.	421	156	577	388	134	522
B.S. <i>magna cum laude</i>						
B.S. <i>cum laude</i>						
B.S.		5	5	1	4	5
B.S. in Library Science <i>cum laude</i>						
B.S. in Library Science	1	6	7	3	2	5
Associate in Liberal Arts	47	37	84	42	45	87
Institute of Technology						
B.S. with high distinction	12		12	7		7
B.S. with distinction	22		22	30		30
B.S.	10		10	14		14
Bachelor of Aeronautical Engineering with high distinction						
Bachelor of Aero Engineering with distinction	5		5	2		2
Bachelor of Aeronautical Engineering	13	1	14	14		14
Bachelor of Agricultural Engineering with high distinction						

TABLE VIIA.—Continued

College and Degree	Year 1954-55			Year 1955-56		
	Men	Women	Total	Men	Women	Total
Bachelor of Agricultural Engineering with distinction	1		1			
Bachelor of Agricultural Engineering	7		7	5		5
Bachelor of Architecture with high distinction	1		1	1		1
Bachelor of Architecture with distinction	6		6	1		1
Bachelor of Architecture	27		27	13		13
Bachelor of Civil Engineering with high distinction	1		1	2		2
Bachelor of Civil Engineering with distinction	4		4	4		4
Bachelor of Civil Engineering	40		40	27		27
Civil Engineer	1		1			
Electrical Engineer	1		1			
Bachelor of Electrical Engineering with high distinction	2		2	4		4
Bachelor of Electrical Engineering with distinction	12		12	12		12
Bachelor of Electrical Engineering	38		38	48		48
Bachelor of Engineering Mathematics or Applied Mathematics with distinction				1		1
Bachelor of Engineering Mathematics or Applied Mathematics	1		1	1		1
Bachelor of Industrial Engineering with high distinction						
Bachelor of Industrial Engineering with distinction	2		2	1		1
Bachelor of Industrial Engineering	13		13	14		14
Mechanical Engineer	1		1			
Bachelor of Mechanical Engineering with high distinction	1		1	1		1
Bachelor of Mechanical Engineering with distinction	8		8	6		6
Bachelor of Mechanical Engineering	55		55	83		83
Bachelor of Chemical Engineering with high distinction				2		2
Bachelor of Chemical Engineering with distinction				4		4
Bachelor of Chemical Engineering	11		11	14		14
Bachelor of Chemistry with distinction	2		2			
Bachelor of Chemistry	4		4	2		2
Bachelor of Physics with distinction						
Bachelor of Physics	3		3	3		3
Bachelor of Geological Engineering	2		2	5		5
Metallurgical Engineer						
Bachelor of Metallurgical Engineering with distinction						
Bachelor of Metallurgical Engineering	1		1	7		7
Aeronautical Engineer				1		1
Bachelor of Geophysics	1		1			
Bachelor of Mining Engineering with distinction	1		1			
Bachelor of Mining Engineering	4		4	6		6
Bachelor of Petroleum Engineering with distinction						
Bachelor of Petroleum Engineering	2		2	1		1
Agriculture, Forestry and Home Economics						
B.S. with high distinction (Agriculture)	2		2			
B.S. with distinction (Agriculture)	5		5	3		3
B.S. (Agriculture)	35		35	32		32
B.S. with high distinction (Fish and Wildlife)	1		1	1		1
B.S. with distinction (Fish and Wildlife Management)				2		2
B.S. (Fish and Wildlife Management)	8		8	5		5
B.S. with distinction (Food Technology)						
B.S. (Food Technology)						
B.S. with high distinction (Forestry)						
B.S. with distinction (Forestry)	1		1	5		5
B.S. (Forestry)	21		21	29		29
B.S. with high distinction (Home Economics)		2	2		1	1
B.S. with distinction (Home Economics)		7	7		5	5
B.S. (Home Economics)		26	26		31	31
B.S. with high distinction (Science Spec.)						
B.S. with distinction (Science Specialization)				1		1
B.S. (Science Specialization)						
Veterinary Medicine						
Doctor of Veterinary Medicine	45		45	41	1	42

TABLE VIIA.—Continued

College and Degree	Year 1954-55			Year 1955-56		
	Men	Women	Total	Men	Women	Total
B.S. with high distinction				2		2
B.S. with distinction	9		9	5		5
B.S.	33		33	13		13
Agriculture and Education						
B.S. with high distinction (Ag. Ed.)				2		2
B.S. with distinction (Ag. Ed.)	4		4	5		5
B.S. (Ag. Ed.)	14		14	27		27
B.S. with high distinction (Home Ec. Ed.)		2	2		2	2
B.S. with distinction (Home Ec. Ed.)		8	8		17	17
B.S. (Home Economics Education)		36	36		30	30
Agriculture and Business Administration						
Bachelor of Agricultural Business Administration	2		2	6		6
Law School						
Master of Laws						
Bachelor of Laws	74		74	63	1	64
Bachelor of Science in Law	54	2	56	56	1	57
College of Medical Sciences						
Master of Nursing Administration		1	1		8	8
Master of Public Health	18	11	29	21	11	32
Master of Hospital Administration	16	1	17	23	1	24
Doctor of Medicine	112	5	117	109	6	115
B.S. (Medicine)	70	2	72	54	3	57
B.S. in Nurs. Adm. with high distinction					7	7
B.S. in Nurs. Adm. with distinction					2	2
B.S. in Nursing Administration						
B.S. with high distinction (Medical Tech.)		1	1		1	1
B.S. with distinction (Medical Tech.)	1	6	7		1	1
B.S. (Medical Tech.)	2	21	23	1	9	10
B.S. with high distinction (Occupational Therapy)					3	3
B.S. with distinction (Occupational)		4	4		7	7
B.S. (Occupational Therapy)		20	20		7	7
B.S. with high distinction (Physical Therapy)						
B.S. with distinction (Physical Therapy)		2	2	1	4	5
B.S. (Physical Therapy)	1	4	5	3	5	8
B.S. with high distinction (Public Health Nursing)		2	2			
B.S. with distinction (Public Health Nursing)		10	10		12	12
B.S. (Public Health Nursing)		18	18		20	20
B.S. in Professional Nursing with high distinction		3	3			
B.S. in Professional Nursing with distinction		19	19			
B.S. in Professional Nursing	1	40	41			
Graduate in Nursing						
B.S. in Nursing		2	2	1	52	53
B.S. in Nursing with high distinction					7	7
B.S. in Nursing with distinction					10	10
Dentistry						
Doctor of Dental Surgery	88	1	89	80	3	83
Graduate Dental Hygienist		22	22		40	40
Bachelor of Science in Dentistry	79	1	80	59		59
Pharmacy						
B.S. in Pharmacy	50	2	52	35	2	37
Education						
Master of Education	37	22	59	25	19	44
B.S. with high distinction	1	19	20	3	24	27
B.S. with distinction	14	85	99	19	94	113
B.S.	122	283	405	150	332	482
B.S. in Library Science	2	9	11	3	3	6
School of Business Administration						
B.B.A. with high distinction	8		8	8		8
B.B.A. with distinction	27	2	29	30	4	34
B.B.A.	234	11	245	252	7	259
B.S. in Economics with distinction	2		2	3		3
B.S. in Economics with high distinction	1		1			
B.S. in Economics	6		6	12		12
University College						
B.S. magna cum laude						
B.S. cum laude		1	1			
B.S.	8	2	10	7	2	9
B.A. magna cum laude	1		1			
B.A. cum laude		1	1		2	2
B.A.	10	11	21	6	3	9
General College						
Associate in Arts	149	34	183	181	52	233
Graduate School						
Master of Arts	255	114	369	252	125	377

TABLE VIIA.—Continued

College and Degree	Year 1954-55			Year 1955-56		
	Men	Women	Total	Men	Women	Total
Master of Fine Arts	5	1	6	1	1	2
Master of Forestry	3		3	4		4
Master of Arts in Public Administration	8		8	9		9
Master of Business Administration	12		12	8		8
Master of Science	93	18	111	100	18	118
M.S. in Aeronautical Engineering	7		7	12		12
M.S. in Agricultural Engineering	4		4			
M.S. in Chemical Engineering	4		4	13		13
M.S. in Civil Engineering	17		17	23		23
M.S. in Electrical Engineering	14		14	12		12
M.S. in Mechanical Engineering	7		7	17		17
M.S. in Mining Engineering	1		1	2		2
M.S. in Anesthesiology	3		3	3		3
M.S. in Dental Surgery	3		3			
M.S. in Industrial Engineering	3		3	3		3
M.S. in Dentistry	2		2	4	2	6
M.S. in Dermatology and Syphilology	2	1	3	3		3
M.S. in Medicine	17		17	33		33
M.S. in Metallurgical Engineering	1		1	2		2
M.S. in Neurology	1		1	3		3
M.S. in Neurological Surgery						
M.S. in Neurosurgery	4		4			
M.S. in Obstetrics and Gynecology	2		2	1		1
M.S. in Ophthalmology	4	1	5	6		6
M.S. in Orthopedics						
M.S. in Orthopedic Surgery	2		2	4	2	6
M.S. in Otolaryngology				1		1
M.S. in Pathology	3		3		1	1
M.S. in Pediatrics	3		3	5		5
M.S. in Physical Medicine and Rehabilitation	1		1			
M.S. in Physiology						
M.S. in Plastic Surgery	1		1	2		2
M.S. in Proctology	2		2	1		1
M.S. in Psychiatry						
M.S. in Radiology	4		4	7		7
M.S. in Surgery	15		15	22		22
M.S. in Urology	1		1	3		3
Master of Social Work	14	13	27	9	16	25
Doctor of Philosophy	197	18	215	198	27	225
Ph.D. in Cancer Biology						
Ph.D. in Dermatology and Syphilology						
Ph.D. in Medicine	1		1	1		1
Ph.D. in Neurology						
Ph.D. in Neurosurgery						
Ph.D. in Ophthalmology						
Ph.D. in Pathology	2		2	1		1
Ph.D. in Radiology	1		1	1		1
Ph.D. in Surgery	4		4	4		4
Ph.D. in Physiology						
Ph.D. in Obstetrics and Gynecology						
Ph.D. in Physical Medicine				1		1
Duluth Branch						
B.A. cum laude	8	4	12	10	4	14
B.A.	116	10	126	107	15	122
B.S. cum laude	11	7	18	7	11	18
B.S.	52	54	106	44	74	118
Associate in Arts	19	6	25	11	9	20
Mortuary Science						
Associate in Mortuary Science	40		40	35		35
GRAND TOTALS	3,191	1,274	4,465	3,211	1,387	4,598

TABLE VIIIB. CERTIFICATES CONFERRED, 1954-1956

School, Division, or Course	Year 1954-55			Year 1955-56		
	Men	Women	Total	Men	Women	Total
General College						
Certificate in Dental Assistants		17	17		25	25
Nursing						
Certificate in Practical Nursing		11	11		22	22
Certificate in Psychiatric Nursing		3	3			
Public Health						
Certificate in Public Health Nursing		41	41		38	38

Table VIIB.—Continued

College and Degree	Year 1954-55			Year 1955-56		
	Men	Women	Total	Men	Women	Total
Graduate						
Certificate in Graduate Social Work		1	1			
Certificate of Specialist in Education	1		1			
Extension						
Business Certificate						
Junior	20	3	23	12	1	13
Senior	18		18	21	2	23
Engineering Certificate						
Junior	15		15	17		17
Senior	14		14	14		14
Industrial Engineering Certificate						
Junior	9		9	10		10
Senior	4		4	9		9
Industrial Relations Certificate	3		3	7		7
Liberal Education Certificate	7	6	13	1		1
Liberal Arts Certificate				4	3	7
Public Administration Certificate	4		4	5		5
School of Agriculture, St. Paul						
Diplomas	60	3	63	57	8	65
Certificate in Practical Nursing and Home Management		11	11		6	6
Food Technicians Certificate		1	1		3	3
Special Certificate for Swedish Exchange Students—6 Months	8		8	7	1	8
3 Months				3		3
Special Certificate for Dairy Herd Management	2		2	2	1	3
North Central School of Agriculture, Grand Rapids						
Diplomas	20		20	24		24
Special Certificate	3		3			
Northwest School of Agriculture, Crookston						
Diplomas	87	18	105	94	8	102
Southern School of Agriculture, Waseca						
Diplomas	19	4	23	30	9	39
West Central School of Agriculture, Morris						
Diplomas	53	19	72	59	19	78
University High School, Minneapolis						
Diplomas	36	37	73	45	36	81
TOTALS	383	175	558	421	182	603

TABLE VIIIA. STUDENTS ENTERED FROM HIGH SCHOOLS, 1954-1955

Entrants From	General College	S., L., and A.	Inst. of Tech.	A., F., and H.E.	Nursing	Dental Hygiene	Pharmacy	Education	Duluth	Total
Minneapolis Public Schools	357	570	146	60	8	6	0	107	0	1,254
St. Paul Public Schools	175	196	77	30	1	6	0	36	0	521
Other Minnesota High Schools	364	811	257	240	7	16	0	94	555	2,344
Minnesota Private Schools	109	186	57	26	3	2	0	24	29	436
Total, from Minnesota	1,005	1,763	537	356	19	30	0	261	584	4,555
Other States	54	144	58	36	2	4	0	20	38	356
Foreign Countries	1	4	8	2	0	0	0	0	4	19
TOTAL	1,660	1,911	603	394	21	34	0	281	626	4,930
Special Students	0	0	0	0	0	0	0	0	7	7
GRAND TOTALS	1,660	1,911	603	394	21	34	0	281	633	4,937

THE PRESIDENT'S REPORT

TABLE VIII. STUDENTS ENTERED FROM HIGH SCHOOLS, 1955-1956

Entrants From	General College	S., L., and A.	Inst. of Tech.	A., F., and H.E.	Nursing	Dental Hygiene	Pharmacy	Education	Duluth	Total
Minneapolis Public Schools	422	568	177	56	5	4	.....	150	2	1,384
St. Paul Public Schools	191	247	89	39	6	3	.....	32	.....	607
Other Minnesota Schools	411	969	366	357	12	12	.....	116	668	2,911
Minnesota Private Schools	134	206	62	43	1	.....	.....	18	36	500
Total, from Minnesota	1,158	1,990	694	495	24	19	.....	316	706	5,402
Other States and Territories	46	154	41	29	3	6	.....	17	38	334
Foreign Countries .....	.....	8	8	1	1	.....	.....	.....	10	28
TOTAL	1,204	2,152	743	525	28	25	.....	333	754	5,764
Special Students	80	30	7	1	1	.....	.....	1	8	128
GRAND TOTALS	1,284	2,182	750	526	29	25	.....	334	762	5,892

TABLE IXA. SUMMARY OF STUDENTS ENTERED WITH ADVANCED STANDING, 1954-1955

Entrants From	General College	University	S., L., and A.	Inst. of Tech.	A., F., and H.E.	Law	Medicine	Medical Tech.	Public Health	Occup. Therapy	Phys. Therapy	Nursing	Dentistry	Dental Hygiene	Pharmacy	Education	Business	Vet. Medicine	Duluth	Total
Institutions in Minnesota	59	.....	283	140	77	27	21	.....	22	.....	5	15	17	2	2	137	61	.....	89	957
Institutions in Other States	30	1	254	68	53	8	9	4	40	.....	3	12	25	5	2	106	26	14	64	724
Institutions in Foreign Countries .....	.....	.....	17	2	5	1	.....	.....	2	.....	.....	.....	.....	.....	1	1	1	.....	1	31
Totals	89	1	554	210	135	36	30	4	64	.....	8	27	42	7	5	244	88	14	154	1,712
Special Students	3	.....	148	19	13	1	.....	1	31	.....	.....	8	.....	.....	.....	158	10	.....	55	447
GRAND TOTALS	92	1	702	229	148	37	30	5	95	.....	8	35	42	7	5	402	98	14	209	2,159

TABLE IXB. SUMMARY OF STUDENTS ENTERED WITH ADVANCED STANDING, 1955-1956

Entrants From	General College	University	S., L., and A.	Inst. of Tech.	A., F., and H.E.	Law	Medicine	Medical Tech.	Public Health	Occup. Therapy	Phys. Therapy	Nursing	Dentistry	Dental Hygiene	Pharmacy	Education	Business	Vet. Medicine	Duluth	Total
Institutions in Minnesota	52	1	340	172	85	31	13	5	28	.....	7	24	20	5	6	161	52	.....	125	1,127
Institutions in Other States	31	4	251	93	45	22	10	3	32	.....	2	13	21	8	1	113	40	10	46	745
Institutions in Foreign Countries .....	.....	.....	11	3	2	.....	.....	.....	1	.....	.....	1	.....	.....	.....	5	1	.....	.....	24
Totals	83	5	602	268	132	53	23	8	61	.....	9	38	41	13	7	279	93	10	171	1,896
Special Students	1	.....	139	54	25	2	1	2	43	.....	.....	6	.....	.....	.....	150	15	1	1	445
GRAND TOTALS	84	5	741	322	157	55	24	10	109	.....	9	44	41	13	7	429	108	11	172	2,341

TABLE XA. SUMMARY OF GEOGRAPHICAL DISTRIBUTION OF STUDENTS OF COLLEGIATE GRADE
(OTHER THAN SUMMER SESSION), 1954-1955

	General College	University	S., L., and A.	Inst. of Tech.	A., F., and H.E.	Law	Medicine	Medical Tech.	Public Health	Occup. Therapy	Phys. Therapy	Nursing	Dentistry	Dental Hygiene	Pharmacy	Education	Business	Graduate	Vet. Medicine	Duluth	Duplicates	Total	
Counties in Minnesota																							
Hennepin	1,190	43	3,110	1,059	336	152	161	21	27	14	5	108	71	20	51	1,219	383	750	14	8	340	8,742	
Ramsey	504	10	1,122	519	169	62	85	11	17	7	2	21	34	11	21	420	132	386	16	4	121	3,553	
Other Minnesota Counties	378	20	1,906	1,039	819	136	185	24	53	18	9	178	163	30	70	786	309	901	97	1,807	394	8,928	
Totals	2,072	73	6,138	2,617	1,324	350	431	56	97	39	16	307	268	61	142	2,425	824	2,037	127	1,819	855	21,223	
Other States and Territories	36	7	481	214	107	21	37	10	102	6	9	108	83	17	11	236	65	1,309	57	43	69	2,959	
Foreign Countries	1	.....	37	19	6	.....	11	.....	22	.....	1	1	6	1	1	10	2	538	1	9	4	666
No Information .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	87	.....	140	.....	227
GRAND TOTALS	2,109	80	6,656	2,850	1,437	371	479	66	221	45	26	416	357	79	154	2,671	891	3,971	185	2,011	928	25,075	

TABLE XB. SUMMARY OF GEOGRAPHICAL DISTRIBUTION OF STUDENTS OF COLLEGIATE GRADE
(OTHER THAN SUMMER SESSION), 1955-1956

	General College	University	S., L., and A.	Inst. of Tech.	A., F., and H.E.	Law	Medicine	Medical Tech.	Public Health	Occup. Therapy	Phys. Therapy	Nursing	Dentistry	Dental Hygiene	Pharmacy	Education	Business	Graduate	Vet. Medicine	Duluth	Duplicates	Total	
Counties in Minnesota																							
Hennepin	1,453	41	3,469	1,284	361	161	160	23	55	17	7	85	70	32	32	1,364	432	832	14	20	387	9,912	
Ramsey	573	12	1,286	645	198	69	77	9	23	8	3	36	27	13	19	441	142	431	13	10	151	4,035	
Other Minnesota Counties	465	20	2,270	1,315	1,041	140	197	15	43	12	21	176	156	28	53	886	327	995	95	2,219	443	10,474	
Totals	2,491	73	7,025	3,244	1,600	370	434	47	121	37	31	297	253	73	104	2,691	901	2,258	122	2,249	981	24,421	
Other States and Territories	49	5	498	227	130	29	41	10	94	5	11	124	96	18	10	233	77	1,331	56	52	48	3,096	
Foreign Countries	3	.....	33	25	11	1	7	.....	19	.....	1	7	5	.....	.....	19	10	577	2	21	6	741
No Information .....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11	.....	.....	.....	12
GRAND TOTALS	2,543	78	7,557	3,496	1,741	400	482	57	234	42	43	428	354	91	114	2,943	988	4,177	180	2,322	1,035	28,270	

BUREAU OF INSTITUTIONAL RESEARCH

Organization and Administration—The 1954-56 biennium for the Bureau of Institutional Research was a period of transition in leadership. Robert J. Keller had resigned the directorship of the Bureau at the end of the 1953-54 year and was replaced by John B. Morris, formerly university examiner at the University of Mississippi. To assist Dr. Morris, John E. Stecklein was appointed to the newly created post of Assistant Director. At the end of the 1954-55 fiscal year, however, Dr. Morris resigned his position to return to the University of Mississippi, and Dr. Stecklein was named Acting Director of the Bureau for the 1955-56 year. As the biennium closed, Dr. Stecklein was given the rank of Associate Professor and Director of the Bureau, effective as of July 1, 1956.

Senate Committee on Institutional Research—The membership of the Bureau's All-University advisory body—the Senate Committee on Institutional Research—changed very little during the 1954-56 biennium. Professors Gerald T. Evans and Leonard W. Wheat were replaced by Professor Wallace Armstrong and Dean Thomas W. Chamberlin, respectively. Professor Elio D. Monachesi continued to chair this committee during the entire two-year period. Other members of the committee were Russell M. Cooper, Ole Gisvold, Ruth Harrington, Dale B. Harris, Robert J. Keller, Wilbur L. Layton, Ralph G. Nichols, Lloyd H. Reyerson, R. Edward Summers, and students Marlene Gesell (1954-56), Phillip Parsons (1954-55), Paul Gardner (1954-55), Wilmar Beals (1955-56), and Patricia Berg (1955-56). Ex-officio members were Cyril J. Hoyt, Malcolm M. Willey, John B. Morris (1954-55), and John E. Stecklein.

Bureau Offices and Personnel—The Bureau of Institutional Research again shared offices, personnel, and facilities with the Bureau of Educational Research. The two bureaus are collectively known as the Office of Educational Research.

Continuing Studies—Several studies, initiated prior to the 1954-56 biennium, were carried on or completed during the 1954-56 period. The survey of faculty characteristics, begun in 1952, was carried to the point of Hollerith card punching and preliminary analysis during 1954-55. As the biennium closed, the preliminary report of this study had been completed and was ready for distribution in mimeograph form.

Three studies concerning the status and use of foreign language at the University of Minnesota, conducted in cooperation with the Foreign Language Study Committee of the College of Science, Literature, and the Arts, resulted in a 73-page multilithed report which was prepared for the committee for such distribution as they considered advisable.

The three-fold study on training, duties, and responsibilities of practical nurses in Minnesota—a cooperative project with the Minnesota Nurses Association, under grant from the American Nurses Association—was completed in August 1955. Bound 128-page multilithed reports were distributed to all participating hospitals in the state of Minnesota, to the sponsoring American Nurses Association, and to interested nursing groups throughout the country.

Other studies carried on from the 1952-54 biennium included additional work on the study of course additions, modifications and deletions for a subcommittee of the Senate Committee on Education, continuing analysis and development of the Aliferis Music Achievement Test series—validation analysis of the college entrance form, pilot administration and item analysis of the college midpoint form, and preliminary material gathering for the graduate form—and refinement and application of an attitude scale used in the study of attitudes of medical students toward psychiatry that was previously reported in the volume, *A University Looks at Its Program*.

New Projects—During the last half of the 1954-56 biennium, three new major studies were conducted by the Bureau: (1) an evaluation of general education in the general studies program in S.L.A., (2) an evaluation of the summer session program, and (3) data gathering for the University of Minnesota's participation in the California-Western Conference Cost and Statistical Study.

A special committee appointed by Dean McDiarmid to study general education in the College of Science, Literature, and the Arts requested the Bureau to assist (1) in comparing achievement of students who took course work in general studies courses with those who took course work in the traditional subject matter departments, and (2) in the development of a questionnaire to objectively determine the attitudes of the faculty towards specific general education objectives and the place of general education in S.L.A. In the first study, analyses were made of the academic characteristics of students who took work predominantly in general studies with those who took work predominantly in the traditional subject matter departments. Then, using the Sophomore General Culture Test results, comparisons were made of the achievement of these two groups. Results were reported to the committee. In the second project, several months were devoted to the development and refinement of a faculty questionnaire but, when it was ready for printing and distribution, the committee decided against its use.

In an effort to determine whether the functions of the summer session are the same as or different from the functions of the regular academic program, a comprehensive study of the summer session program was initiated at the request of Dean E. W. Ziebarth. This study is being based on the 1956 summer session (session I and session II). It will involve: (1) an analysis of student evaluations of the program and of the characteristics of students who attended either one or both of the 1956 sessions; (2) a detailed analysis of the extra-curricular activities of the summer session student body; (3) an analysis of faculty evaluations of various phases of the summer session program; and (4) a comprehensive study of the curricular offerings of the summer session. At the end of the biennium questionnaires used in projects 1 and 2 had been developed and were at the printers.

As a participating member of the California-Western Conference Cost and Statistical Study (jointly conducted by Purdue, Indiana, Michigan State, Iowa, Minnesota, California, Pennsylvania State, Washington, and Vanderbilt Universities and Wabash College) the University of Minnesota was obligated to gather cost data concerning three phases of its program: physical plant, instruction, and administration. The Bureau was asked to gather data on staff instructional and administrative activities. During the last six months of the biennium, information was gathered by personal interviews with department heads in every instructional department in the University—Minneapolis, St. Paul, and Duluth campuses—concerning the allocation of professional activities of each departmental teaching staff member, such as research, administration, professional services, counseling, etc. The collection of these data was just completed at the close of the biennium. Information received from the University of Minnesota and the other participating institutions is being summarized and analyzed at the study headquarters at Purdue University. A report is expected about December 1956.

Miscellaneous Projects—In addition to the previously mentioned research studies, Bureau staff members were called upon for consultation on individual research projects and for the conduct or supervision of research studies of limited scope. Bureau staff consulted with members of various academic departments on such studies as the design for an experiment to determine the effects of class size upon student achievement in Economics 24; a survey of salaries paid to physical education staff members in Western Conference Universities; a prediction study for the School of Nursing (to predict success on the state board nursing examinations); development of methods of evaluating the psychiatry student in his psychiatric clinic experience; the comparison of two methods of vocational counseling; a study to determine possible relationship between frequency of course meetings and student achievement; enrollment study and forecasted enrollments in Minnesota colleges for selected years beginning with 1955; and the development of an evaluation program for use with the summer Institute for High School Teachers of Biology at the Lake Itasca Forestry and Biological Station.

The examinations services offered by the Bureau continued to expand during the 1954-56 biennium. Five issues of the *Bulletin on Classroom Testing*, written by the Bureau's Examinations Consultant, were distributed to interested staff members of the University during the biennium. Bulletins No. 3,

"What Is a Good Test"; No. 4, "How to Write Multiple-Choice Test Items"; No. 5, "How to Write True-False Test Items"; No. 6, "How to Write Matching Test Items"; and No. 7, "How to Measure More Than Facts with Multiple-Choice Items" were distributed to over 800 faculty members at the three campuses and experiment stations, as well as to other colleges and universities throughout the country. These bulletins offered suggestions in a non-technical language which would be helpful in writing examination questions.

The Examinations Consultant continued to offer his services as a resource person for departmental seminars dealing with problems of classroom testing, and for individual consultation on specific testing matters. During the last year, an additional service has been offered on a trial basis to a limited number of departments—a free analysis of tests. This service was designed to provide staff members with a careful analysis of the type of objectives measured by the test, detailed item analysis of the test items, and where possible, a careful study of the subject content emphasis of the test. An additional service performed in this area has been the advisement and consultation of staff members in the development of special kinds of tests or testing programs. It is anticipated that an increased demand for these services will develop with the coming enrollment increases which will eventually require most of the time of a full-time appointee.

Future Plans—During the last half of the biennium, the possibility of the Bureau of Institutional Research taking on the additional function of administrative research was considered. Although the Bureau has traditionally avoided purely administrative research, projects such as the survey of physical education salaries mentioned above were sometimes carried out at the special request of the President's Office. Because it seemed likely that the President's need for such research would increase, it appeared advisable to set up a formal research unit under the jurisdiction of the Bureau to perform such research—a unit which would not change or interfere in any way with the traditional research patterns of the Bureau. At the same time it was felt that improved coordination, efficiency, and continuity of administrative research would result if such activities were centralized. Just prior to the end of the biennium, therefore, the decision was made to set up an administrative research wing in the Bureau of Institutional Research. This wing, to become active July 1, 1956, will not encroach in any way upon the traditional educational research activities of the Bureau. It will be guided by the Director of the Bureau, but will have a separate staff and a separate operating budget. Staffing has been provided to the extent of a full-time research fellow, a half-time research assistant, and a secretary.

Because of the additional activities which will result from the administrative research unit, and because the Director hopes to bring the Bureau staffing up to its normal level from its under-manned condition during the latter half of the 1954-56 biennium, there exists at this time an acute need for additional private and semi-private office space for the higher ranking Bureau staff members. It is essential that the person who will serve as major assistant to the director in the design and development of general educational research projects should have an office which is sufficiently private to enable him to meet staff members for consultations and to do his most efficient work. Similarly, the individual in charge of the administrative research wing, dealing as he undoubtedly will be with material and information often of a confidential nature, should have a private or semi-private office. Finally, it is important that the examinations consultant have an office that will be free from interference and that will provide an atmosphere conducive to the development of a professional and confidential attitude for staff members who seek his assistance.

If the above critical office space needs are met, there is every reason to believe that the coming biennium, replete with all of the intensely interesting problems related to the anticipated increased enrollments, will be an increasingly productive and active period for the Bureau of Institutional Research. Every effort has been made to maintain the fine working relations which the Bureau has enjoyed during previous bienniums with the several colleges and departments on all three campuses of the University. With cooperation such

as that previously enjoyed, the efforts of the Bureau should prove to be increasingly useful and informative.—JOHN E. STECKLEIN, *director*

MINNESOTA STUDENT UNIONS

This biennium might rightfully be called the two "P's"—Pressure and Preparedness. It is with this key note that the three unions (which were built for a much smaller enrollment) have found a marked increase in pressure in the use of facilities. Students were again found eating bag lunches in the stairways of Coffman Memorial Union and many program events were attended by capacity crowds. The addendum chart will bear out the increased program and services provided to the students, staff, faculty, and guests of the University.

The Department of Minnesota Student Unions participated in the University Ten Year Self-Survey in order to better prepare itself for the predicted increase in enrollment. It is already evident that this study is modest and will have to be revised upward in order to provide for the minimum facilities and program which will undoubtedly be double the program originally planned with the opening of Coffman Memorial Union in 1940.

The University Board of Regents, upon the joint recommendation of the University of Minnesota Union Board of Governors and the St. Paul Campus Union Board of Governors, approved a recommendation for a \$1.00 increase in the Union fee. This increased fee will provide for (1) renovation of Coffman Memorial Union over the next fifteen-year period, (2) the amortization of a \$400,000 loan for the completion of the new St. Paul Campus Union, and (3) for the financing of the much needed expansion of Coffman Memorial Union. It is with this foresight of preparedness by the students, faculty, and staff, that this biennium closes.

Coffman Memorial Union—One of the highlights of the last biennium was the fifteenth anniversary of Coffman Memorial Union. During this celebration attention was again focused on the purpose, service and program that has been provided by the Coffman Memorial Union during the 15 years of operation. President J. L. Morrill was made an honorary member of the Union Board of Governors. A week of special events and a huge birthday cake helped commemorate this eventful week.

WMMR, the closed circuit radio station sponsored by the Union Board received permission to go commercial. For the first time the station was able to expand to the St. Paul Campus and it is hoped that during the next biennium they will be able to reach the fraternities and sororities which will give WMMR a potential of over 9,000 listeners.

Such major events as Homecoming Dance, Sno Week, and Stardust, were attended by capacity crowds. Benny Goodman and his famous band made the first appearance of his road trip at the University of Minnesota and played to "standing room only."

A new innovation in program was the development of the Creative Society which provided the opportunity for students with various talents to perform before the student body. A number of one act plays as well as the musical "Carousel" were given in Coffman Memorial Union. Sno Week, in cooperation with the University Figure Skating Club, presented a combined musical and ice show in Williams Arena the winter of 1955.

With the increased need for space for bag lunch commuters at noon a program was worked out whereby the students could use the main ballroom for bag lunch eating and see and hear student entertainment.

In cooperation with the Humanities Department a program called the Humanities Forum was opened to all students on campus.

During the spring quarter 1956, a bridal show was sponsored by Charm, Inc., a committee of the Union Board, with an amazing total of over 1,200 jamming the main ballroom.

"Coffman Capers" (the annual program sponsored by the Union Board during orientation Welcome Week) was voted the outstanding night during the past two years by the incoming freshmen.

The Outings Area of the Union Board has expanded considerably under the Rovers Committee. Numerous weekend trips were taken both within the State and to other locations.

The Union Board, in an endeavor to improve its efficiency, brought the Constitution and By-Laws up-to-date and recommended and received approval from the Board of Regents to change the number of appointed positions from six to nine and retain six all-campus election positions. A special committee made a study of clarification of the positions of the Board in relationship to other groups, Boards, and staff on campus. An expansion and development committee was formed to consider present and future development needs.

With the removal of the post office boxes and the transfer of the Art Craft Workshop to the old commuters lunchroom, two new areas were provided for commuters which were named the North Star and the Ski-U-Mah rooms respectively. This had a marked increase in morale in the use of these facilities by the commuters. A new mural was painted in the annex of the Main Ballroom and plans were adopted for the refurnishing and redecorating of the Main Lounge.

St. Paul Campus Union—Under the direction of the late Dr. Walter C. Coffey, President Emeritus, a total of \$166,842.00 was raised through a fund drive. At the close of the biennium, \$957,000.00 is on hand, including \$557,000.00 of accumulated funds, and the \$400,000.00 loan authorized by the Board of Regents, for the construction of the new St. Paul Campus Union. Architect's plans are now being completed with the hope that construction of the new building will be accomplished during the next biennium.

Operating with its limited facilities and space, the St. Paul Campus Union has continued to grow and provide increased services and programs. The program included such innovations as the formal dance on the St. Paul Campus which was well received by students, a student-faculty hobby show which created much interest, and a new program entitled "Now Hear This" which encompassed such topics as debates by the two major political parties on farm support subsidies.

There was an active graduate student program with meetings held every second Sunday evening. Foreign students used the limited kitchen facilities to prepare their home dishes and to give a night of culture and entertainment to the campus.

Each year the Union sponsored a talent show as a part of Minnesota Royal. The Toastmasters under the sponsorship of the Union Board won the annual King Boreas trophy.

Operating 312 days of the year the Union continued to be called upon for greater services, meetings, and use of facilities.

Village Union—With approximately 1,400 residents at the University Village, the Union (with its Union Board) again served the community effectively. An average of 245 organizational meetings were held each year with an attendance of over 6,000. This does not include the frequent use by the individual Village residents who patronize the soda fountain, make use of the meeting rooms, or use the study room.

The annual Kiddy Carnival, the Exchange Sale, Blue Birds, Scouts, Red Cross First Aid, Knitting Club, and Craft Workshop are but a few of the typical activities regularly scheduled and sponsored by the Village Union Board during the last biennium. The Union Board held an open house which 250 alumni and guests attended, visiting the Union and six designated living units. Couples Bridge, Village dances, and other social activities were held for the adult members of the University and Grove East Village.

The University Village Play Center, a coordinated project of the Union and the Institute of Child Welfare, provided an opportunity each quarter for some 30 children of the two Villages to participate in a Play Center School activity. Over 65 families were able to take part and take advantage of the adult education program which was under the direction of the Play Center Mothers and sponsored by the Village Union Board of Governors. Such topics as "Discipline," "Emotional Development," and "Children's Humor," were all part of the meetings of parents who had children in the Play Center School.

The Union Board initiated a Welcome Week Program and carried on many activities such as the adult Christmas Party, family nights, hamburger fries, and other events which helped to provide the Village with interesting entertainment and make it a better place to live.

Summer Program—The Coffman Memorial Union continued to play a major part in the total summer session program. The Billiard Room, Terrace Reading Room, and for the first time in a number of years, the Art Craft Workshop, were all open for use. Friday Nite Dances played an important part in the summer program with the Folk and Square Dance sessions held on Monday on the mall in front of the Union also being well attended.

During this biennium, lawn parties, bicycle rentals, and croquet tournaments were held.

On the St. Paul Campus the Union assisted with a watermelon-corn feed and square dance, the proceeds of which went to a Folk Arts Scholarship. The lounges of the three unions and the outdoor terrace of Coffman Memorial Union again proved popular for both the casual and busy summer session student.

Over-All Department—Undoubtedly, the most frequently used building on the Minneapolis Campus is Coffman Memorial Union. In 1955 winter quarter the average daily traffic count was 10,412 with an average of 58,637 per week.

Alumni groups, academic departments, student groups, as well as those groups invited by the University, have made exceptionally heavy use of the facilities during the past biennium. Over 6,700 delegates registered for the American Chemical Society Conference which was headquartered in Coffman Memorial Union. This is one of the largest conferences held on campus and one of the largest ever held in Minneapolis, a nationally known convention location.

With the increased enrollment the three unions felt the pressure of increased use of the facilities and have served the University in many ways beyond the scope of the attendance charts.

During this biennium the department sponsored a total of 1,808 programs with an attendance of over 228,900. In addition, for this same period the Unions served 8,059 organizations by providing rooms and facilities for over 432,900 individuals who attended non-Union sponsored meetings.

These figures do not include groups using the Campus Club nor rooms provided by the Food Service for luncheons nor individuals using the Cafeteria, Grill, nor the Gopherette.—GORDON L. STARR, *director*

UNIVERSITY HEALTH SERVICE

The general health of students on the campus has been good during the biennium. There were no epidemics occurring. There was one death from suicide.

It is significant that, despite the fact there were no unusual occurrences of illness among students, more utilization was made of the out-patient facilities of the Health Service than in any previous biennium. The Health Service is already beginning to face problems of space shortage with the increasing enrollment of students. By 1960, with a predicted enrollment for the Minneapolis and St. Paul campuses of over 28,000 students, the Health Service facilities will be entirely inadequate to carry on even the present program.

On September 16, 1954, a health educator was added to the Health Service staff. It had been felt for some time that a person trained in health education could contribute greatly in improving the health teaching in all parts of the Health Service program. The addition of the health educator to the staff has proved to be most valuable.

On January 1, 1955, a safety supervisor was added to the staff of the Division of Environmental Health of the Health Service to assist with the development of a safety program for the campus. This responsibility was assumed by the Health Service at the request of the All-University Committee on Industrial Safety and has become a part of the overall environmental health program.

In December, 1955, the State Health Department made poliomyelitis vaccine available to physicians for vaccination of anyone who had not reached his twentieth birthday. The Health Service immediately obtained vaccine from the State Health Department and offered it to students under 20 years of age. Over 2,000 students requested and were given the first dose of vaccine, and approximately 500 received the second dose of vaccine. Poliomyelitis vaccine is now available through commercial channels and may be given to any age group. The Health Service will have vaccine available for those students who wish it.

Health problems in foreign students continue to be greater than among other students. Tuberculosis is still one of the most serious conditions among foreign students. Provision of care for foreign students with tuberculosis has been simplified since the National Jewish Hospital in Denver, Colorado, has offered to give medical care without charge to foreign students with tuberculosis. Because of this available facility the special health fee charged foreign students not having adequate health insurance has been reduced from \$8 per quarter to \$5 per quarter.

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 of health examinations, medical and hospital care, individual health counseling and instruction and the supervision of the environmental health of the campus has been continued. The addition of a health educator to the staff has broadened and improved the educational aspects of the program. This biennium has seen a marked growth and broadening of the environmental health program. The expanding radiation control program necessitated the addition of a health physicist to the staff. A safety supervisor has also been obtained.

Health Examinations—Complete health examinations were given to over 23,000 students during the biennium. Not only has the number of required medical examinations at entrance increased owing to increasing enrollment, but also the number of periodic health examinations increased at an even greater rate.

Medical Care—During this biennial period, over 172,000 visits were made to the Health Service dispensary for medical care. In 1955-56 the number of visits to the dispensary exceeded by 10,000 those made in 1946-47 when the University had its highest enrollment. In this biennium 91 per cent of the students enrolled in the University made one or more voluntary visits to the Health Service dispensary.

Hospital Care—The number of students hospitalized and the rate per 1,000 students continues to increase. At the same time, the average length of stay in the Hospital was slightly over three days, the lowest in the history of the Health Service.

Mental Hygiene—The use of the mental hygiene clinic is limited by the available staff. During the biennium, 956 new patients and 246 former patients have been cared for in the mental hygiene clinic for a total of 1,202 students. In 1955 a part-time clinical psychologist was added to the staff of the mental hygiene clinic. The use of group psychotherapy has been continued, with 20 groups meeting during the biennial period. While the majority of students seen in the mental hygiene clinic present relatively mild problems, it has been the impression during the past two years that the number of students with more severe psychiatric problems has increased. As in past years, almost half of the students referred to the mental hygiene clinic came from physicians in the Health Service. About 30 per cent seek help voluntarily, 10 per cent are referred by counselors, and the others from faculty, friends or other sources.

Tuberculosis Control—The tuberculosis case-finding program, which is an integral part of the entrance and periodic health examination program, has continued. All students are given a tuberculin test and a 70-millimeter photofluorographic examination of the chest. All new faculty and non-academic

employees who are given pre-employment examinations have this same photofluorographic examination with whatever follow-up is necessary with larger chest films.

During the biennium, 24,921 photofluorograms were done on students and 2,003 on staff. Routine health examinations revealed 18 cases of active tuberculosis among students, of whom 7 were foreign students, and 3 cases in staff members. There were 166 students and 66 staff members with arrested tuberculosis under observation in the Health Service during the biennium.

Special Diet Table—Meals have been provided at the special diet table in the Health Service for students with severe dietary problems. The special diet table not only makes it possible for some students to continue in school who otherwise would find it difficult or even impossible, but also serves as an important means of health education for these students. During this biennium the Health Service has cooperated with the Laboratory of Physiological Hygiene in providing special diets for certain research projects in which students have served as volunteers. The types of special diet required by students have been varied, the largest percentage being low calory diets for the obese. In addition to students eating at the special diet table, dietary counseling by a physician and dietitian was given to more than 1,000 students who needed help with dietary problems.

Special Services—Consultation service in all of the medical specialties has continued to be available to students in the Health Service. The largest number of consultations were in the fields of ophthalmology, dermatology and internal medicine.

As a public service to the people of Minnesota, the Health Service has continued to serve as the one center in the state where yellow fever vaccination may be obtained. During the biennium, over 700 persons have been vaccinated against yellow fever.

Health Education—With the addition of a health educator to the Health Service staff in 1954, the educational aspects of the health program have been greatly strengthened. In cooperation with the orientation program of the Dean of Students office, the health educator has developed an orientation to the Health Service for new students during the two-day orientation period. He has served as the Health Service representative on the All-University Congress Health Service Liaison Committee, and has worked closely with the Editor and staff of the Minnesota Daily. A health examination guide to be used by students at the time of the entrance physical examination has been developed and has proved effective in familiarizing students with the various parts of the medical examinations, their meaning and significance.

St. Paul Campus—Tables VI and VII present the out-patient and hospital services on the St. Paul Campus. During this biennium, there has been a marked increase in the out-patient services over previous years. There was a slight increase in the number of students hospitalized, compared to the year 1953-54.

Faculty Examinations—During the biennium 419 medical examinations were given to new members of the academic staff and to those promoted to positions implying tenure. This is a 16 per cent increase over the previous biennium.

Civil Service Examinations—Medical examinations were given to 1,666 individuals applying for positions on the regular payroll of the Civil Service staff. This is 42 more than in the previous biennium. Twenty-three individuals were found to have disabilities preventing employment for the type of work for which they applied.

Environmental Health—The scope of this program and the opportunity to provide assistance and service to University students and staff has continued to increase at an accelerating rate.

On January 1, 1955, the newest of the environmental health activities, namely, industrial and general safety, got underway on a full-time basis with the employment of an excellently qualified person to fill the position of safety

supervisor. His activities during the past 18 months have been University-wide in scope and well received by administration, staff and students. Among these activities are the following:

The safety supervisor has worked closely with the Physical Plant department in the control of work injuries. A program of monthly meetings of shops foremen has produced concrete gains through emphasis on safe equipment and safe methods of work.

The safety supervisor has participated actively in the safety program in University Hospitals. Working with the Fire Safety Committee at the Hospitals he assisted in the preparation of a text for their fire training manual which was published in the spring of 1956. He also has met every month with the Nursing Service department's safety committee to consider patient and visitor safety.

The safety supervisor has participated in safety planning at Rosemount Research Center and has been working closely with students and faculty in certain areas where special problems exist, such as in the chemistry laboratories, certain engineering laboratories, etc.

The program of radiological protection, which was made the responsibility of the Health Service in July, 1953, has expanded rapidly and continues to function in large part on a request basis. Radioactive isotopes are being used in 25 or more departments of the University in addition to widespread use for therapy or research in University Hospitals. The 67 MEV linear accelerator which is now in operation has added greatly to the program. New projects, such as the 10-kilocurie Cobalt 60 irradiation source, and the atoms for agriculture grants, will require further assistance and surveillance. Area monitoring, waste collection and storage, medical examination and consultation services for design and operation of facilities are all part of the day-by-day activity of the program.

With the presently felt increases in enrollment and further contemplated rapid increases the continuing programs of housing inspection and food service inspection take on increasing significance. This division has worked closely with the Office of the Dean of Students and with city and state officials in an attempt to maintain standards of sanitation and safety for both off-campus housing and University housing. During the past year, more than 20 per cent of the off-campus dwelling units inspected were found to be so hazardous as to require recommendations for the disapproval of the units for further student occupancy. Property owners call on the division more and more for assistance relative to needed improvement as they make plans to purchase or remodel rental property.

A particularly fruitful development is the opportunity for the Division of Environmental Health and Safety of the Health Service to review building programs and preliminary plans for new University buildings. The experience of working closely with many departments affords an excellent background as to the design features which should be incorporated in new construction with respect to environmental health and safety. The Office of the Advisory Architect, Physical Plant Department and practicing architects have been most cooperative.

Opportunities have also been available to give service in the fields of industrial health, water supply and waste disposal, swimming pool sanitation, insect and rodent control and, in effect, nearly every aspect of the University's physical environment that may be detrimental to the health and safety of students and staff.

The effectiveness of a program of environmental health and safety is dependent on the close cooperation and understanding, not only of students and staff, but of the Physical Plant Department, the Purchasing Department, University Services, and many others. Excellent cooperation has been received from all departments in carrying out this program.

Research—The follow-up studies on former students of medicine and nursing in relation to tuberculin tests and X-rays has been completed and published. A study on the immunization of students against diphtheria and tetanus is ready for publication. Other studies on the treatment of infectious mononucleosis and height and weight of college students, are underway.—
RUTH E. BOYNTON, dean

THE PRESIDENT'S REPORT

TABLE I. NUMBER OF COMPLETE MEDICAL EXAMINATIONS GIVEN

Year	Entrance	Periodic	Total
1946-47	10,419	3,394	13,813
1947-48	6,823	4,259	11,082
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

TABLE II. VISITS TO THE HEALTH SERVICE (MINNEAPOLIS CAMPUS)
FOR MEDICAL ATTENTION

Year	Number of Visits*	Average Number of Visits per Student (Academic Year)
1946-47	81,715	3.11
1947-48	76,663	3.03
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

* 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 CAMPUS)

Year	Number of Patients	Rate per 1,000 Students (Academic Year)	Number of Hospital Days	Average Stay in Days	Comments
1946-47	1,502	57.2	6,425	4.3	No epidemic
1947-48	1,470	58.1	6,411	4.4	No epidemic
1948-49	1,428	55.3	5,151	3.6	No epidemic
1949-50	1,355	56.8	5,499	4.1	Mild influenza
1950-51	1,189	64.2	4,364	3.7	No epidemic
1951-52	919	56.0	3,252	3.5	No epidemic
1952-53	1,199	73.3	4,063	3.4	No epidemic
1953-54	1,137	68.8	3,835	3.4	No epidemic
1954-55	1,249	71.5	3,909	3.1	No epidemic
1955-56	1,491	75.7	4,839	3.2	No epidemic

TABLE IV. SPECIAL DIET TABLE—KIND AND NUMBER OF CASES

Type of Diet	1954-55		1955-56	
	Number on Diet	Per Cent	Number on Diet	Per Cent
Allergy	5	5.2	7	5.5
Bland	13	13.6	17	13.4
Diabetic	7	7.3	11	8.6
High Calorie	10	10.4	7	5.5
High Calorie Liquid	1	1.0	1	0.8
High Protein	1	1.0	.....	.....
Hypoglycemia .....	.....	.....	1	0.8
Low Calorie	53	55.1	77	60.6
Low Calorie Bland	2	2.1	.....	.....
Low Fat	1	1.0	2	1.6
Low Residue	2	2.1	1	0.8
Low Salt—Low Calorie	1	1.0	.....	.....
Pregnancy .....	.....	.....	1	0.8
Sippy .....	.....	.....	2	1.6
Total	96	100.0	127	100.0

TABLE V. AVERAGE NUMBER OF PATIENTS SERVED DAILY

Quarter	1954-55	1955-56
	Average Number	Average Number
Fall	21.2	27.8
Winter	37.3	33.1
Spring	20.7	46.7

TABLE VI. ST. PAUL CAMPUS HEALTH SERVICE: OUT-PATIENT DEPARTMENT

Year	Medical Attention	Total Immunizations	Total Services Rendered
1946-47	3,234	1,541	4,775
1947-48	3,833	1,563	5,396
1948-49	4,259	1,879	6,138
1949-50	4,625	1,865	6,490
1950-51	3,793	1,509	5,302
1951-52	2,675	809	3,484
1952-53	2,660	817	3,477
1953-54	2,503	1,091	3,594
1954-55	2,428	1,701	4,129
1955-56	3,025	2,148	5,173

TABLE VII. STUDENT HOSPITAL CARE (ST. PAUL CAMPUS)

Year	Number of Patients	Number of Hospital Days	Average Stay in Days	Comments
1946-47	105	313	3.0	No epidemic
1947-48	103	365	3.5	No epidemic
1948-49	69	227	3.3	No epidemic
1949-50	185	665	3.6	Mild influenza
1950-51	54	174	3.2	No epidemic
1951-52	37	112	3.0	No epidemic
1952-53	98	199	2.0	No epidemic
1953-54	20	64	3.2	No epidemic
1954-55	38	161	4.2	No epidemic
1955-56	48	144	3.0	No epidemic

UNIVERSITY PRESS

The Press continued to make good progress during the biennium. The number of new titles published annually increased by about 30 per cent and the annual sales income by almost 50 per cent. And behind these increases lay a dramatically intensified program of manuscript solicitation and book promotion. The Press was able during the period to expand and extend newspaper, magazine, radio, and television coverage of Press books and authors. Space advertising, too, was doubled in amount and diversified in placement, with a new emphasis on direct appeal to the specialized audiences for university press books through advertising in scholarly journals and convention programs. Virtually all Press advertising, in both special and general media, was designed as much to call attention to the Minnesota imprint and thus attract manuscripts as to serve the more common purpose of selling books.

Whether as a result of this policy or not, the manuscripts submitted to the Press from outside the University rose appreciably in both number and quality. The Committee on the Press was therefore able to choose more discriminatingly among them and to achieve a healthier balance between on-campus and off-campus authors. A number of Press books won awards or other marks of distinction. *Educating Women for a Changing World* won for its author, Kate Hevner Mueller, the \$1,000 Educator's Award offered by Delta Kappa Gamma for the most significant contribution to education written by a woman during the period 1954-1956. Paul Sharp's *Whoop-Up Country* was named the best 1956 book of nonfiction on the American West by the Western Writers of America. *Whoop-Up Country* also won an award of merit from the American Association for State and Local History as the book which made the most important contribution to state and local history in the Western region for 1955. Ernest Osgood's *Day of the Cattleman* was chosen for inclusion in the Phoenix paperback line of the University of Chicago Press and Helen Clapesattle's *The Doctors Mayo* was issued as a Cardinal paperback by Pocket Books. Bertolt Brecht's *Parables for the Theater* was issued in paperback reprint edition by the Grove Press. Three books published during the biennium won special awards for excellence in design and typography: Hochbaum's *Travels and Traditions of Waterfowl*, Pacifici's translation of *Copy of a Letter of the King of Portugal Sent to the King of Castile Concerning the Voyage and Success of India*, and *Book Collecting and Scholarship*. Publicity and promotional material issued by the Press also won honors during the biennium, receiving four citations in the 1954 and 1955 competitions of the Minnesota Press Women.

The expansion of Press activities in recent years has all been accomplished without an increase in personnel. It was therefore decided to stabilize production for a time at the present level of 30 to 40 books a year.

In the late spring of 1956 the space problems of the Press were resolved by plans to move from Nicholson Hall into more commodious quarters at 2037 University Avenue. The Press staff was well aware that much time for some months thereafter must be given to devising new procedures and policies for coping with the problems inevitably to arise from the less central location.

Following is the list of Press publications for the biennium.

BOOKS PUBLISHED

July 1, 1954-June 30, 1956

A City Is More Than People: A Study of Fifteen Minnesota Communities. Robert J. Holloway. University of Minnesota Studies in Economics and Business No. 17. Published: July 23, 1954. Price: \$2.00. viii plus 64. 9 figures. Paper. 6 x 9. Edition: 1500.

Grouping and Promotion in the Elementary School. Walter W. Cook. Series on Individualization of Instruction, Bulletin No. 2. 5th printing issued: August 26, 1954. Price: \$1.25. 65 pages. 3 illustrations. Paper. 6 x 9. Edition: 1030.

The Ferns and Fern Allies of Minnesota. Rolla M. Tryon, Jr. Published: August 30, 1954. Price: \$4.00 cloth; \$2.75 paper. xx plus 160. 212 illustrations. 85 maps. 5½ x 8½. Edition: 2,000 paper, 500 cloth.

A Study of Participation in College Activities. E. G. Williamson, W. L. Layton, and Martin L. Snoke. Minnesota Studies in Student Personnel Work No. 5. Published: August 30, 1954. Price: \$2.25. xii plus 99. paper. 6 x 9. Edition: 2,019.

- Benito Pérez Galdós and the Creative Process.* Walter T. Pattison. Published: September 1, 1954. Price: \$3.50. x plus 146. Cloth. 5½ x 8½. Edition: 1,000.
- Renunciation as a Tragic Focus: A Study of Fine Plays.* Eugene H. Falk. Published: September 1, 1954. Price: \$3.00. xviii plus 98. Cloth. 5½ x 8½. Edition: 1,000.
- Prison, Probation, or Parole? A Probation Officer Reports.* Paul W. Keve. Published: September 10, 1954. Price: \$3.75. viii plus 263. Cloth. 5½ x 8½. Edition: 5,000.
- Stratigraphy and Structure of the Mesabi Range.* David A. White. Minnesota Geological Survey Bulletin No. 38. Published: September 13, 1954. Price: \$2.50. xii plus 92. 19 illustrations. Cloth. 6¾ x 9½. Edition: 1,000.
- Leadership and Executive Development: A Bibliography.* Harland Fox, Scott D. Walton, Wayne K. Kirchner, and Thomas A. Mahoney. Industrial Relations Center Bulletin No. 14. Published: September 21, 1954. Price: \$1.50. 60 pages. Paper. 6 x 9. Edition: 1,500.
- Viking Times to Modern.* Erick W. Fleisher and Jorgen Weibull. Published: September 24, 1954. Price: \$4.50. 116 pages. 60 illustrations. Cloth and paper. 7¾ x 10. Edition: 2,000.
- The Day of the Cattleman.* Ernest S. Osgood. Reprinted: October 1, 1954. Price: \$4.50. xii plus 283. 12 illustrations. Cloth. 5½ x 8½. Edition: 1,500.
- Educating Women for a Changing World.* Kate Hevner Mueller. Published: October 8, 1954. Price: \$4.75. x plus 302. Cloth. 5½ x 8½. Edition: 3,000.
- Improve Your Reading: A Manual of Remedial Reading Exercises.* Frances Oraland Triggs. 10th printing issued: October 13, 1954. Price: \$1.50. 127 pages. Paper. 6 x 9½. Edition: 5,000.
- The Doctors Mayo.* Helen Clapesattle. 2nd edition, condensed. Published: October 21, 1954. Price: \$4.75. xiv plus 426. 32 illustrations. Cloth. 6 x 8¾. Edition: 7,500.
- Business Without Boundary: The Story of General Mills.* James Gray. Published: October 27, 1954. Price: \$4.75. xiv plus 343. 32 illustrations. Cloth. 6 x 9. Edition: 6,000.
- Book Collecting and Scholarship.* Published: November 5, 1954. Price: \$5.00. x plus 67. Cloth and paper. 5¾ x 7½. Edition: 2,000.
- Masterworks of the Orchestral Repertoire: A Guide for Listeners.* Donald N. Ferguson. Published: November 12, 1954. Price: \$7.50. xxii plus 662. 82 illustrations. Cloth. 6 x 9¾. Edition: 3,000.
- Counseling and the College Program.* Ralph F. Berdie, editor. Minnesota Studies in Student Personnel Work No. 6. Published: November 23, 1954. Price: \$1.50. 58 pages. 1 illustration. Paper. 6 x 9. Edition: 1,000.
- St. Paul and Epicurus.* Norman W. DeWitt. Published: November 26, 1954. Price: \$4.00. x plus 201. Cloth. 6 x 9. Edition: 2,000.
- Child Care and Training.* Marion L. Faegre and John E. Anderson. 7th edition, revised, 4th printing December 1, 1954. Edition: 3,000. 5th printing September 30, 1955. Edition: 5,000. Price: Trade \$3.25; Text \$2.50. 310 pages. 23 illustrations. Cloth. 5¼ x 7¾.
- Clinical Versus Statistical Prediction: A Theoretical Analysis and a Review of the Evidence.* Paul E. Meehl. Published: December 17, 1954. Edition: 1,500. 2nd printing April 19, 1956. Edition: 1,000. Price: \$3.00. x plus 149. Cloth. 5½ x 8½.
- The Catholics and German Unity, 1866-1871.* George G. Windell. Published: December 22, 1954. Price: \$5.00. xii plus 312. Cloth. 6 x 9. Edition: 1,500.
- Ninety Days of Lawmaking in Minnesota.* Minnesota League of Women Voters. 2nd edition issued: January 5, 1955. Price: 25c. 16 pages. Paper. 6 x 9. Edition: 3,000.
- The Micmac Indians of Eastern Canada.* Wilson D. Wallis and Ruth Sawtelle Wallis. Published: January 19, 1955. Price: \$7.50. xv plus 515. 49 illustrations. Cloth. 6 x 9. Edition: 1,500.
- The Use of Books and Libraries.* Harold Russell, R. H. Shove, and Blanche Moen. 8th edition, revised, issued: February 4, 1955. Edition: 3,000. 2nd printing March 6, 1956. Edition: 3,000. Price: \$1.50. vi plus 93. 8 illustrations. Paper. 6 x 9.
- The Manuscript Poems of E. A. Housman.* Tom Burns Haber, editor. Published: February 17, 1955. Price: \$4.50. xiv plus 146. 2 illustrations. Cloth. 5½ x 8½. Edition: 3,000.
- Red Scare: A Study in National Hysteria, 1919-1920.* Robert K. Murray. Published: February 23, 1955. Price: \$4.75. xiv plus 337. 10 illustrations. Cloth. 5½ x 8½. Edition: 3,000.
- The Nation and the States, Rivals or Partners?* William Anderson. Published: March 2, 1955. Price: \$3.75. xviii plus 263. Cloth. 6 x 9. Edition: 3,000.
- The Ten-Year Story of the IRC.* Roberta J. Nelson. Industrial Relations Center Bulletin No. 15. Published: March 15, 1955. Price: \$1.00. iv plus 40. Paper. 6 x 9. Edition: 5,000.
- A Bibliography on South American Economic Affairs: Articles in Nineteenth-Century Periodicals.* Tom B. Jones, Elizabeth Anne Warburton, and Anne Kingsley. Published: March 15, 1955. Price: \$5.50. xvi plus 146. Paper. 8½ x 11. Edition: 1,000.
- New Perspectives in Counseling.* Vivian Hewer, editor. Minnesota Studies in Student Personnel Work No. 7. Published: March 15, 1955. Price: \$1.50. vi plus 60. Paper. 6 x 9. Edition: 1,000.
- Tinker Speed of Reading Test.* Miles A. Tinker. Published: March 15, 1955. Price: 50c per specimen set of Form A and Form B and manual. 8½ x 11. Edition: 5,000 tests, 250 manuals.
- The Geology of the Cuyuna District, Minnesota: A Progress Report.* Frank F. Grout and J. Fred Wolf. Minnesota Geological Survey Bulletin No. 36. Published: April 1, 1955. Price: \$3.00. xiv plus 144. 9 illustrations. Cloth. 6 x 9¼. Edition: 1,000.
- Social Norms and Roles.* Ragnar Rommetveit. Published: April 15, 1955. Price: \$2.50. xi plus 167. Cloth. 5¼ x 8¾. Edition: 150.

The Art of Child Placement. Jean Charnley. Published: April 25, 1955. Price: \$4.50. xxi plus 265. Cloth. 5½ x 8½. Edition: 3,000.

The Minnesota Department of Taxation: An Administrative History. Lloyd M. Short, Clara Penniman, and Floyd O. Flom. Studies in Administration No. 3. Published: May 9, 1955. Price: \$3.00. viii plus 176. 5 illustrations. Paper. 6 x 9. Edition: 500.

Industrial Relations Research: Ten Years of Progress. Donald G. Paterson and Dale Yoder. Industrial Relations Center Bulletin No. 16. Published: May 16, 1955. Price: \$1.00. vi plus 49. Paper. 6 x 9. Edition: 3,000.

Our Long Heritage: Pages from the Books Our Founding Fathers Read. Wilson O. Clough, editor. Published: May 18, 1955. Price: \$4.50. xvi plus 297. Cloth. 6 x 9. Edition: 2,000.

History and the Social Web: A Collection of Essays. August C. Krey. Published: June 6, 1955. Price: \$4.00. ix plus 269. Cloth. 5½ x 8½. Edition: 2,000.

Trees and Shrubs of the Upper Midwest. Carl Otto Rosendahl. (Revised edition of *Trees and Shrubs of Minnesota.* Carl Otto Rosendahl and Frederic K. Butters.) Published: June 10, 1955. Price: \$6.00. viii plus 411. 162 illustrations. Cloth. 6¾ x 10. Edition: 3,000.

Political Prairie Fire: The Nonpartisan League, 1915-1922. Robert L. Morlan. Published: July 25, 1955. Price: \$5.75. xii plus 408. 9 illustrations. Cloth. 6 x 9. Edition: 2,000.

Fifty Years of Thomas Mann Studies: A Bibliography of Criticism. Klaus W. Jonas. Published: July 29, 1955. Price: \$5.00. xxi plus 217. Cloth. 6 x 9. Edition: 1,000.

The Second Man and Other Poems. Louis O. Coxé. Published: August 22, 1955. Price: \$2.75. 66 pages. Paper over board. 5½ x 8½. Edition: 1,000.

The Populist Revolt. John D. Hicks. Second printing issued: August 26, 1955. Price: \$6.00. 473 pages. 9 illustrations. Cloth. 5½ x 8½. Edition: 1,500.

Stuttering in Children and Adults: Thirty Years of Research at the University of Iowa. Wendell Johnson, editor. Published: September 16, 1955. Price: \$5.00. xviii plus 472. 10 figures. Cloth. 6 x 9. Edition: 2,000.

Further Speculations by T. E. Hulme. Sam Hynes, editor. Published: October 7, 1955. Price: \$4.50. xxxiv plus 226. 1 illustration. Cloth. 5½ x 8½. Edition: 1,000.

Vocational Interests Eighteen Years After College. Edward K. Strong, Jr. Published: October 7, 1955. Price: \$3.75. xiv plus 207. 2 illustrations. Cloth. 6 x 9. Edition: 2,000.

A Manual for the Identification of the Birds of Minnesota and Neighboring States. Thomas S. Roberts. 4th edition, revised, issued: October 7, 1955. Price: \$3.50. 293 pages. 123 illustrations. Cloth over paper. 6¾ x 9¼. Edition: 2,000.

Copy of a Letter of the King of Portugal Sent to the King of Castile Concerning the Voyage and Success of India. Sergio J. Pacifici, translator. Published: October 20, 1955. Price: \$5.00. viii plus 28. 2 illustrations. Cloth and paper. 5½ x 8½. Edition: 1,000.

The James Ford Bell Collection: A List of Additions, 1951-1954. John Parker, compiler. Published: October 20, 1955. Price \$3.00. vi plus 69. Cloth. 7½ x 10. Edition: 500.

Occupational Mobility in American Business and Industry, 1928-1952. W. Lloyd Warner and James Abegglen. Published: November 2, 1955. Price: \$5.50. xxi plus 315. 6 x 9. Edition: 2,000.

The Poetic Workmanship of Alexander Pope. Rebecca Price Parkin. Published: November 2, 1955. Price: \$4.00. vii plus 239. Cloth. 5½ x 8½. Edition: 1,000.

Land of Their Choice: The Immigrants Write Home. Theodore C. Blegen, editor. Published: November 21, 1955. Price: \$5.75. xix plus 563. Cloth. 6 x 9. Edition: 3,000.

Whoop-Up Country: The Canadian-American West, 1865-1885. Paul F. Sharp. Published: November 21, 1955. Price: \$5.00. xiv plus 347. 34 illustrations. 2 maps. Cloth. 5½ x 8½. Edition: 3,000.

The Calvo Clause. Donald Shea. Published: December 1, 1955. Price: \$5.50. xvi plus 323. Cloth. 5½ x 8½. Edition: 1,000.

Human Relations in Interracial Housing. Daniel M. Wilner, Rosabelle Price Walkley, and Stuart W. Cook. Published: December 20, 1955. xvi plus 167. Cloth. 6 x 9. Edition: 1,500.

The Origins of the British Labour Party. J. H. Stewart Reid. Published: December 20, 1955. Price: \$4.50. xiv plus 258. Cloth. 6 x 9. Edition: 2,000.

Vocational Interest Measurement: Theory and Practice. John G. Darley and Theda Hagenah. Minnesota Library on Student Personnel Work. Published: December 27, 1955. Price: \$5.00. xvii plus 279. 35 illustrations. Cloth. 6 x 9. Edition: 3,000.

The New Japan: Government and Politics. Harold S. Quigley and John E. Turner. Published: January 9, 1956. Price: \$5.00. viii plus 456. 7 charts. Cloth. 6 x 9. Edition: 2,000.

Travels and Traditions of Waterfowl. H. Albert Hochbaum. Published: January 16, 1956. Price: \$5.00. xii plus 301. 75 illustrations. Cloth. 6¾ x 10. Edition: 3,000.

The Geology and Underground Waters of Southern Minnesota. George A. Thiel. Minnesota Geological Survey Bulletin No. 31. 2nd printing issued: February 1, 1956. Price: \$3.50. xviii plus 506. 91 illustrations. Paper. 6¾ x 9¼. Edition: 500.

The Three R's Plus: What Today's Schools Are Trying to Do and Why. Robert H. Beck, editor. Published: March 16, 1956. Price: Trade \$5.00, Text \$3.75. x plus 392. 2 illustrations. Cloth. 6 x 9. Edition: 5,000.

My Sixty Years with Rural Youth. T. A. Erickson, assisted by Anna North Coit. Published: March 23, 1956. Price: \$2.75. xiii plus 162. 39 halftones. Cloth. 5½ x 8½. Edition: 5,000.

Origins of Personnel Services in American Higher Education. Eugenie Andruss Leonard. Minnesota Library on Student Personnel Work. Published: April 3, 1956. Price: \$3.00. vi plus 150. Cloth. 6 x 9. Edition: 1,000.

The Industrial Relations Center, University of Minnesota. Industrial Relations Center Bulletin No. 17. Published: April 4, 1956. Price: \$1.00. 40 pages. Paper. 6 x 9. Edition: 6,500.

The New Apologists for Poetry. Murray Kreiger. Published: April 17, 1956. Price: \$4.00. xiv plus 225. Cloth. 5½ x 8½. Edition: 3,000.

Small Business Is Big Business. Harry J. Ostlund and Stanley C. Hollander. University of Minnesota Studies in Economics and Business No. 18. Published: April 27, 1956. Price: \$1.00. 34 pages. Paper. 6 x 9. Edition: 1,700.

Physiological Foundations of Neurology and Psychiatry. Ernst Gellhorn. 2nd printing issued: May 9, 1956. Price: \$8.50. xiii plus 556. Cloth. 6 x 9. Edition: 1,000.

An American Takes a Walk and Other Poems. Reed Whittemore. Published: May 11, 1956. Price: \$2.75. vi plus 82. Paper over board. 5½ x 8½. Edition: 1,000.

Early Candlelight. Maud Hart Lovelace. 2nd printing issued: May 25, 1956. Price: \$3.00. 322 pages. Cloth. 5½ x 7½. Edition: 2,984.

The American Experience of Swedish Students: Retrospect and Aftermath. Franklin D. Scott. Cross-Cultural Education Monographs of Social Science Research Council. Published: June 15, 1956. Price: \$3.00. xiv plus 129. Cloth. 6 x 9. Edition: 2,000.

Intergovernmental Relations at the Grass Roots: A Study of Blue Earth County, Minnesota, to 1946. Paul N. Ylvisaker. Intergovernmental Relations Bulletin No. 7. Published: June 15, 1956. Price: \$3.00. xiv plus 186. 10 illustrations. Paper. 8½ x 11. Edition: 750.

Understanding the Union Member. Walter H. Uphoff and Marvin D. Dunnette. Industrial Relations Center Bulletin No. 18. Published: June 26, 1956. Price: \$1.50. iv plus 45. Paper. 6 x 9. Edition: 5,000.

TESTS REPRINTED

July 1, 1954-June 30, 1956

Minnesota Speed of Reading Test for College Students. (Manual) Alvin C. Eurich. Reprinted: July 8, 1954. Edition: 500.

Minnesota Speed of Reading Test for College Students. Form B. Alvin C. Eurich. Reprinted: November 2, 1954. Edition: 25,000.

Minnesota Check List for Food Preparation and Serving. Clara M. Brown. Reprinted: November 17, 1954. Edition: 5,000.

Minnesota Reading Examination for College Students. Melvin E. Haggerty and Alvin C. Eurich. Reprinted: April 20, 1955. Price: \$6.00 per hundred. Edition: Form A-25091, Form B-25096.

The Hunt-Minnesota Test for Organic Brain Damage. Howard F. Hunt. Reprinted: May 19, 1955. Price: \$5.00. Edition: 500 sets and 500 manuals.

Rating Scale for Personal Qualities and Abilities. Clara M. Brown. Reprinted: June 11, 1956. Edition: 10,000.

Minnesota Check List for Food Preparation. Clara M. Brown. Reprinted: June 11, 1956. Edition: 10,000.

MISCELLANEOUS ITEMS PRODUCED FOR SPECIAL DISTRIBUTION

July 1, 1954-June 30, 1956

Maps and Atlases. Distributed by the University Library. Issued: October 22, 1954.

President's Biennial Message. Issued: March 25, 1955. Edition: 50,000.

An Appraisal of the Cold War. James B. Reston. Gideon Seymour Lecture No. 1. Issued: April 26, 1955. Edition: 10,150.

The Future Belongs to the Highly Educated Man. Harry A. Bullis. Issued: October 14, 1955. Edition: 2,000.

The New Opportunity for Historians. Arnold Toynbee. Gideon Seymour Lecture No. 2. Issued: March 8, 1956. Edition: 10,500.

—HELEN CLAPESATTLE, *director.*

MINNESOTA MUSEUM OF NATURAL HISTORY

Exhibits—Work on the last large habitat exhibit, space for which is provided in the present building, is very nearly completed. This depicts early spring life in the Spruce-Balsam forests of northeastern Minnesota and is a companion group to the Hardwood Forest exhibit recently completed. The setting shows the series of falls on the Cascade River along the North Shore of Lake Superior. This absorbs the last of the George H. Christian memorial donation of \$10,000 made to the Museum in 1945. A small habitat exhibit of the Cardinal was completed with money contributed by Mr. and Mrs. William Luwe. More time and effort is now being expended in the preparation of temporary panel exhibits than formerly. In the 12 cases now available for such displays 42 different subjects have been treated, each occupying from one to six units of the space. These augment our permanent exhibits by adding a dynamic element to the display corridors. In addition, 20 series of 48 2" x 2"

slides have been displayed for short periods in the visitor-operated automatic projector in the lobby alcove. An adult beaver was mounted for the Itasca State Park Museum.

Research—Dr. Warner returned from Mexico (sabbatical leave) September 1, 1954, where he had been engaged in field studies on the Odontophorinae (New World Quail). A detailed report on the Genus *Dactylortyx* has been completed and is now in press. Work continues on the remaining genera. Preparation of a book on the natural areas, natural parks and biological research stations in continental Middle America, in cooperation with the Pan-American Institute of Geography and History, was begun with Byron E. Harrell (graduate student) as co-author. A study of the ecological distribution of grassland sparrows in Minnesota was begun. Writing on the ornithology of New Caledonia and the Loyalty Islands continues. Robert Dickerman, research assistant in ornithology, completed as co-author a major revision of the song sparrows of Mexico and began a major study of their ecology, systematics and evolution. The studies on birds of the cloud forests in Mexico by Eugene LeFebvre and Mrs. Joyce Heckenlaible LeFebvre (graduate students) were interrupted by the requirements of military service but will be resumed this fall. Byron E. Harrell is bringing to completion his thesis research on the biogeography of Middle American cloud forests.

Assistant Scientist H. L. Gunderson is continuing a long-term research problem on population and habitat studies on the Red-backed Mouse carried on in the Cedar Creek Study Area, and is initiating (1956) another study on pocket gopher damage to pine plantations in the Sand Dunes State Forest. Dr. Breckenridge completed a 6-year bird population study and some habitat measurements of Least Flycatchers, also within the Cedar Creek Forest during 1955. All these researchers have been aided by Graduate Research funds.

As aids to researchers at other institutions, loans have been made from our collections of 217 mammal specimens, 400 birds, 143 amphibians and 9 reptiles. Also, 3,289 bird eggs, 12 small bird egg collections, and 43 bird skins were donated to the science departments of a number of high schools, colleges, and universities. A total of 121 bird specimens were borrowed for study and 27 were acquired by exchange.

Attendance—Total attendance for the 1954-55 season was 47,775; 1955-56 was 45,330, making a total biennial attendance of 93,105. These figures do not include persons attending non-museum programs in the auditorium. Guided tours were provided for 539 groups, mainly school classes, totaling 18,726 pupils during 1954-56 (246 groups, 8,087 pupils in 1954-55 and 293 groups, 10,639 pupils in 1955-56). The new bus parking area provided just west of the Center for Continuation Center has been a great convenience to these visiting groups and has greatly reduced the danger of traffic accidents, a danger that increased markedly with the new one-way, no-parking regulation on 17th Avenue in front of the Museum.

Lectures—Again the Sunday afternoon free public program series has attracted large crowds. The overcrowding of the auditorium in past years prompted us to attempt predicting attendance and assuring seats for interested patrons by passing out free tickets to the 1954-55 programs. This was a failure in that so many tickets were requested which were never used. Furthermore, the inconvenience caused a slight drop in total attendance which was 12,681, an average of 603 per Sunday. In 1955-56 tickets were no longer issued, and certain more popular programs were not scheduled in order to reduce attendance. During this season the attendance was 10,599 with an average attendance of 504 per Sunday (auditorium capacity, 470).

In addition to this series, staff members gave 109 lectures outside the Museum to total audiences of 25,379 persons during 1954-55, and 121 lectures to 22,174 persons during 1955-56, for a biennial total of 230 lectures to 47,553 persons. This includes the Director's two series of programs given at the invitation of the National Audubon Society. In the first series during February, 1955, 21 programs were given in Texas, Oklahoma, New Mexico, Louisiana, and Arkansas to 7,250 persons, and in the second in October, 1955, 21 programs were given in eastern Canada, Maine and Connecticut to 8,980 persons.

Staff members gave four lectures to Minnesota alumni groups during University Weeks at the request of the Alumni Association.

Photography—During the biennium 810 2" x 2" slides (1954-55, 272; 1955-56, 538) and 194 2½" x 3¾" negatives (1954-55, 76; 1955-56, 118) were added to the Museum's collection. About 2,600 feet of 16 mm. motion pictures were taken (1,000', 1954-55, 1,600', 1955-56). Two additional color-sound films (six completed to date) have been produced with Audio-Visual Education Service cooperation. A 600' film, "Spring Comes to the Subarctic," was the result of the photography carried out in the Churchill area during the University of Minnesota-Wilkie Back River Arctic Expedition of 1953. This received a silver award in the Natural Science Section at the American Film Assembly competition in April, 1956. The second film, "Wood Duck Ways," is an 800'-film depicting the annual cycle of the wood duck. Material for this film has been accumulating from numerous field trips carried on during the past eight years. Income to the Museum through the sale of prints and television rights to films produced in cooperation with Audio-Visual Education Service was \$915.90 after Audio-Visual Education Service production costs were met.

Staff Changes—Jean DeBell resigned her position as Museum Assistant effective at the end of the 1955-56 fiscal year to take a position in the Department of Zoology, University of Puerto Rico. Her position has not been filled. Robert Dickerman has been added to the staff as half-time assistant in ornithology, and his appointment has been extended for 1956-57 on a 12-month basis. Byron Harrell, Alfred Grewe, Dale Chelberg, Franklin Willis, Colleen Nelson and several others served for various periods as part-time Museum Assistants. Herbert Harper, Pershing Hofslund, and Mildred Ericson served during the summer of 1955 as Park Naturalists in State Parks. The same group, with Mildred Ericson being replaced by Richard Barthelemy, served in 1956.

Gifts—With the completion of all transactions connected with the University of Minnesota-Wilkie Back River Arctic Expedition of 1953, the records indicate that the Wilkie Foundation's financial contribution for the support of this field work amounted to \$1,241.86, in addition to the loan of several thousand dollars worth of field equipment and invaluable personal assistance in the field. The relatives and friends (47 individuals) of the late T. C. Roberts, son of the Museum's former director, Dr. T. S. Roberts, donated a memorial fund of \$702 which was used in the building of the very colorful new Ring-necked Pheasant exhibit. Mr. and Mrs. William Luwe of Mankato contributed \$300 for the construction of a Cardinal group in memory of Mrs. Luwe's father, R. C. Farrish. The gift of many hours of time and effort by Mrs. Anne Dodge and Mrs. Helen Fullerton of Wayzata, Minnesota, is gratefully acknowledged. They compiled from many different sources field information on local birds used in The Combined Field Checklist and Migration chart mentioned under *Publications*. James Ford Bell has continued to contribute \$75.00 per month for incidental museum expenses. During the biennium this amounted to \$1,800. This fund is kept available as a checking account in the First National Bank under the name of W. J. Breckenridge, Trustee. Various donors have contributed to the Museum collections 478 birds, 35 bird eggs, 65 mammals, 29 reptiles, 40 amphibians, 14 2" x 2" colored slides, and 83 books.

Publications—During the biennium three scientific reports and one popular article dealing with the University of Minnesota-Wilkie Back River Arctic Expedition of 1953 have been published. In addition 35 popular and scientific articles have appeared in various journals. A small 32-page booklet, The Combined Field Checklist and Migration Chart of Birds of the Minneapolis-St. Paul Region, published in April 1956, appeared to meet a distinct local need in that nearly 4,000 copies were sold and three printings made by June 30, 1956.

Additional Public Services—The Museum's program of cooperation with the Minnesota Division of State Parks was expanded in 1955 and 1956 to include the employment of four naturalists. During these two years the Museum has shared in the expense of these services through two \$1,200 annual grants from the President's Reserve. The work of the naturalists is entirely under Museum supervision. Public acceptance of this service has

been enthusiastic as indicated by the rise in attendance at Itasca Park naturalist-sponsored activities, including Museum attendance from 48,498 in 1948 to 153,217 in 1955. Self-guiding Nature Trails, with mimeographed guide sheets for visitor use, were established by Museum staff members in nine state parks in 1955 and in 11 parks in 1956. Additional park superintendents are requesting this service each year. The portable habitat exhibits were circulated through the Minneapolis Public Schools during the biennium, 2,669 individual loans of a few days to several weeks each being made. Another 173 similar loans were made of these same cases to state parks and county fairs during their otherwise inactive summer periods.

A small sales counter is maintained in the Museum lobby. A few standard natural history manuals, including Museum and University of Minnesota Press publications, post cards of museum groups, museum guide books, film strips preparing school groups for museum visits and a few other educational items are sold as a service to museum visitors. The profit from this (\$904.70, 1954-56) is now being used to augment our publications budget.

Mr. Gunderson and Dr. Breckenridge are continuing their Extension Division courses in "Wild Game of Minnesota" and "Birds of Minnesota," the former in the fall semester, the latter in the spring.

The task of conducting visiting groups has been lightened as well as improved in effectiveness by the use of a slide projector tied in electrically with a tape-recorded 12-minute talk on the ecology of Minnesota. This is given as a preliminary to the conducted tour and frequently several groups are accommodated simultaneously.

Promotion—The services of the Museum were publicized by a booth exhibit in the Education Building at the 1955 Minnesota State Fair. A large panel display invited visitors attending the Minnesota Trades and Industries Exposition at the Minneapolis Auditorium April 11-15, 1956 to visit the Museum exhibits. This same display was used at the Minnesota Academy of Science meeting at Augsburg College on April 24, 1956.

Future Plans—Numerous research projects, educational film productions, lecture programs, conducted tours and other public services are continuing with frequent improvements. Plans are being formulated for a substantial extension to the Museum building. The departments of Anthropology and Geology have been invited to cooperate in the installing of exhibits in the expanded building and more extensive cooperation with the Department of Zoology is planned. This addition is needed not only to house additional public exhibits but will afford research, classroom and auditorium space for present needs as well as for anticipated increases in University enrollment. Preliminary architects' plans are being drawn to serve as a basis for the establishment of a building fund to be contributed by friends of the Museum.

The cooperative naturalist program carried on with the Minnesota Division of State Parks is now in the second year of an experimental expansion from one to four resident naturalists. For these two years our two agencies have divided the salary costs of the naturalists. The Museum's portion has been paid by two special annual grants from the President's Reserve. Reaction to this service has been highly favorable among park patrons. Conferences between representatives of the Division of State Parks and the University are being arranged to study the problem of putting this service on a permanent basis. The present system is unique in the United States and could set a pattern for effective education of this type. It seems highly desirable to keep the direction of such naturalist services under the Museum of Natural History of the University, since its primary function is education, while the Division of State Parks' primary obligation is the physical maintenance of the park system. U. W. Hella, Director of the Division of State Parks and Conservation Commissioner George Selke favor University supervision of naturalist work.—
WALTER J. BRECKENRIDGE, *director*.

DEPARTMENT OF MILITARY SCIENCE AND TACTICS

General History—The Reserve Officers' Training Corps program at the University of Minnesota is authorized by the National Defense Act of 1916

which provides for the establishment and maintenance of military training in civilian colleges and universities; this training leads to a commission in the Army Reserve for qualified graduates and also to a commission in the Regular Army for those students who have been outstanding in their over-all academic work and who have demonstrated leadership ability. While the history of military training at the University of Minnesota dates back to 1869, the Army ROTC as we know it today, was established in 1919 and has been continuous to date, with the exception of the war years of 1942-45, when it was replaced by the Army Specialized Training Program.

General Comments—With the Korean emergency having ended during the period just prior to the one under consideration, there was a further falling-off in the enrollment. This was not confined to the Army ROTC, however; rather, it was felt by all services at the University, and as a matter of interest it was a country-wide factor. The Universal Military Training and Service Act of 1951 and the Armed Forces Reserve Act of 1952 continued to be important factors in influencing the enrollment. In this respect they were augmented by additional legislation known as the Reserve Forces Act of 1955 (Public Law 305—84th Congress). It is believed that the Selective Service influence will continue to be a factor in this connection for the foreseeable future.

The transition from the previous Branch Material Curriculum (where the students began to specialize in an arm or service beginning with the sophomore year) to the General Military Science Curriculum (where each student takes the same course throughout his training at the University and does not specialize in an arm or service until after graduation, when he gets this specialization at a service school) was completed during this period being reported upon and has been well received by the students. Under the provisions of this new program, just as the name implies, the Army ROTC curriculum at this University is now conducted along broad, general lines rather than concentrating on the specialized branches of the service, as had been done in the past. Qualified educators had developed the curriculum, and it was recommended by the Department of the Army and was found acceptable by most of the college and university authorities who considered it. The University of Minnesota accepted the recommendation in good faith and initiated the change at the start of the academic year 1955-56. It is now the accepted program, and as long as the instruction continues to be of a high order and conducted by qualified personnel, and as long as the graduates are ordered to active duty to an Army school where they get a reasonable orientation in their respective branches, the program can be considered as entirely sound.

Enrollment—Table I gives the Army ROTC enrollment for the biennium.

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.	
1954-55	115	103	166	184	568
1955-56	100	68	73	153	394

It should be of interest to note in this connection that students are commissioned at each graduation ceremony conducted by the University. During the period being reported upon, commissions were awarded at all graduations in the following numbers:

Summer	1954	36
December	1954	16
March	1955	14
June	1955	84
Summer	1955	23
December	1955	20
March	1956	10
June	1956	100

Faculty—Table II provides data concerning members of the department who served during this biennium.

TABLE II. MEMBERS OF THE DEPARTMENT OF MILITARY SCIENCE AND TACTICS

Name	Grade	Branch	Reporting Date	Departure Date
Robert T. Connor	Col.	Arty	June 2, 1952	
Jerome K. Hostetler	Lt. Col.	TC	July 2, 1952	Aug. 7, 1955
Thomas D. Williams	CWO	USA	July 2, 1952	Jan. 22, 1955
Harry J. Bryson	Capt.	CE	July 24, 1952	Sept. 5, 1955
Edward W. Smith, Jr.	Major	CE	Aug. 1, 1952	Sept. 2, 1955
Bernard P. Leahy	Major	QMC	June 8, 1953	Aug. 20, 1956
Hubert J. Jensen	Capt.	QMC	Aug. 3, 1953	Jan. 12, 1955
Clarence W. Goldey	Capt.	SigC	Sept. 14, 1953	Aug. 17, 1956
Paul R. Flanagan	Major	Arty	Sept. 18, 1953	
Francis L. Franklin	Capt.	TC	March 7, 1954	
David B. Parsons	Major	OrdC	May 17, 1954	
Jack W. McNamara	Capt.	MSC	May 25, 1954	Aug. 1, 1956
Myles H. Mierswa	1st Lt.	Arty	Sept. 9, 1954	Aug. 28, 1956
Samuel A. Bergin	Capt.	TC	Oct. 7, 1954	May 23, 1956
George L. Haugen	Capt.	CE	Dec. 4, 1955	
Jesse E. Johnston	Lt. Col.	Inf	Jan. 24, 1956	
Richard A. Gessner	1st Lt.	SigC	Feb. 6, 1956	
Clark Edwards	Capt.	Arty	May 9, 1956	

ROTC Graduation—There was a total of 150 students who were commissioned from this program during the academic year 1954-55, and a total of 153 during the academic year 1955-56.

These students were for the most part given commissions in the U.S. Army Reserve. One exception was one cadet who was commissioned at summer camp in 1954, and he requested his commission in the U.S. Air Force Reserve. He was found physically qualified, and since he had requested flight training, his request was granted.

There is another facet of the Army ROTC program which is deserving of mention in this report. This is the Distinguished Military Student classification. Those students who attain high ratings in both their academic and military subjects, and who are considered as outstanding in the field of leadership, either demonstrated or potential, are designated as Distinguished Military Students at the end of their third year in the ROTC. In the event that these students maintain the same high academic standards during their senior year, and assuming that they continue to demonstrate their leadership capabilities, they are graduated as Distinguished Military Graduates, and as such are eligible to make application for appointment in the Regular Army. In 1954 there were 16 who received the Distinguished Military Service designation, and of these 14 were graduated as Distinguished Military Graduates. In 1955 a total of 15 Distinguished Military Students produced 13 Distinguished Military Graduates. This program should be recognized as an excellent approach for the worthwhile student to achieve a commission in the Regular Army, if he is highly enough motivated.

Special Activities—The well established and well known honorary military organizations such as Pershing Rifles and Scabbard and Blade continued to be active during this period.

Company E-2, which is the University of Minnesota designation for the Pershing Rifles organization, deserves special mention in the report for several reasons:

1. This company was the host organization for the two-day period of competition in May of 1955. The other Pershing Rifles organizations which participated in that competition were from the University of Wisconsin, University of Nebraska, State University of Iowa, Iowa State College, and St. John's University. The top honors that year were won by the company from Iowa State College.

2. In 1956 Company E-2 entered a competition by invitation at the University of Illinois. The results were very gratifying, and the Minnesota company won several of the events and placed high in all others.

3. Also in 1956, Company E-2 entered the Pershing Rifles competition this year conducted at the University of Wisconsin. Here the Minnesota Company was very successful and was awarded most of the first places and a majority of the seconds.

4. Mention should be made here that while the Pershing Rifles organization is an Army-sponsored activity, it is open to all three services, and a large measure of our success this year can be attributed to the support from the Air Force ROTC. Approximately one-quarter of the membership this past year was Air Force personnel, and there was one member from the Navy ROTC.

It is fitting in this section to make some mention of the Rifle Team which has been sponsored by the Army ROTC. This team has been improving over the past four years and took second place in Fifth Army competition in 1955 and was awarded the William Randolph Hearst Trophy in recognition of that accomplishment. This same rifle team took second place again in 1956 and was awarded the second William Randolph Hearst Trophy (again a permanent plaque). This team has been doing remarkably well over recent years, due in a large measure to the enthusiasm and interest generated by Major David B. Parsons as the officer in charge, and Master Sergeant William J. Panza as team coach. In this connection also I would make mention of the invaluable support of Dr. Emmett O. Swanson, a Minneapolis dentist who is also a Colonel in the U.S.M.C. Reserve, and who has closely associated with these rifle teams, especially during this two-year period.

In addition to the above, selected students have represented the Army ROTC in such capacities as color guards and ushers at such University functions as convocations, commencement exercises, football games, etc. In this connection, the Army ROTC has been represented each year at the two parades of the St. Paul Winter Carnival, with a group made up mainly from the Pershing Rifles.

Ratings—As a result of the annual formal inspections conducted by representatives of Headquarters, Fifth Army, the Army ROTC at this University has received ratings of "Satisfactory" for the years 1955 and 1956. It is well to point out here that these ratings are always either "Satisfactory" or "Unsatisfactory," and the degree to which a unit is satisfactory is not normally mentioned in the official report. In this connection there is one point that seems to be assuming increasing significance in these reports, and that is the matter of the decreasing enrollment.

Recommendations—This matter of the decreasing enrollment has reached the stage where it can be regarded as a deficiency, and is definitely a matter of great concern. The Korean Conflict was responsible for the rapid growth of the ROTC during the period 1950-54, of course. Now that that conflict has ended for all practical purposes, and because of the very low draft calls in general, much of the stimulus to enrollment has been removed, and the ROTC is acquiring, for the most part, only those students who were motivated before they actually came to school. This is becoming a real serious problem, and it is recommended that the University authorities continue to study it to the extent that no avenue of approach whereby the enrollment can be stimulated shall be overlooked.—ROBERT T. CONNOR, *Colonel, Artillery, P.M.S.&T.*

DEPARTMENT OF NAVAL SCIENCE

During the biennium, the Naval ROTC continued its primary mission of providing, by a permanent system of training and instruction in essential naval subjects, a source from which qualified officers may be obtained for both the regular and the reserve forces of the Navy and the Marine Corps.

This biennium indicated a continuation of the decreased interest in the NROTC program which was evident in the latter half of the 1952-54 period.

Annual enrollment consists of two main groups—the "regular" students and the "contract" students.

The NROTC Regular Program is mainly concerned with high school seniors who wish to attend college. Under this program substantial financial

aid is given to the student by the United States Government for a period of four years in college. Although the annual enrollment has remained stable, the number of applicants has diminished. Nation-wide applications dropped from 36,000 in 1953 to 24,000 in 1954. During this biennium the yearly number of applicants has been about 22,000. This indicates a continued drop in interest in the NROTC since the Korean Truce of 1953.

The NROTC Contract Program has paralleled the Regular Program. In the second half of the biennium 1952-54, this Unit enrolled about 50 per cent of the quota assigned by the Navy Department. Our enrollments for this biennium were:

Fall 1954	quota 70	enrollments 33 for 47%
Fall 1955	quota 85	enrollments 31 for 36%

Thus both the regular program and the contract program continue to indicate low interest in the NROTC, probably as a result of the cessation of hostilities in Korea and the general easing of international tension.

During the biennium, NROTC graduates of the University of Minnesota were commissioned as follows:

Ensign, Line, U. S. Navy	45
Ensign, Line, U. S. Naval Reserve	23
Ensign, Supply Corps, U. S. Navy	10
Ensign, Supply Corps, U. S. Naval Reserve	17
Ensign, Civil Engineer Corps, U. S. Navy	3
Ensign, Civil Engineer Corps, U. S. Naval Reserve	1
Second Lieutenant, U. S. Marine Corps	10
Second Lieutenant, U. S. Marine Corps Reserve	5
Total	114

All students who qualified for regular or reserve commissions were so commissioned and were ordered to active military service within a month of being commissioned.—FRANK BRUNER, *Captain, U. S. Navy, P.N.S.*

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.	
1954-55	93	76	70	117	356
1955-56	98	72	42	70	282

The changes in requirements placed upon the AFROTC program by the Department of the Air Force has resulted in certain changes within the program at this University. The AFROTC program has been designated as the principal source for production of officers for USAF. Specifically, 80 per cent of the entire officer in-put into USAF will be furnished by AFROTC; also approximately 80 per cent of all personnel entering flying training is furnished by AFROTC.

This prime requirement for flying officers has resulted in a decrease in the number of commissions granted through 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. Furthermore, all students now receiving commissions must enter upon active duty for a period of three years (except veterans who have satisfied their service obligation). This requirement has resulted in a decrease in the number of individuals seeking commissions through AFROTC.

Attrition—The problem of attrition in AFROTC, particularly in Air Science I, has assumed considerable proportions. As an example, 208 freshmen

were enrolled in Air Science I at the beginning of the 1955-56 academic year. At the end of the year, only 98 of these students were still in the program. The majority of this attrition is healthy; however, a significant proportion of it represents a real loss of potential to the program. It consists of students who are unable to afford the time required to the program. AFROTC grants 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 Observer
- Category II Technical Specialist
- Category III Administrative
- 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 been further refined and improved. 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 training received thereat. This program has shown great improvement, especially in the summer camps of 1956.

Special Activities—During the 1955-56 academic year, the Singing Squadron was founded and appeared at a large number of public events including a television appearance. This activity was responsible for the receipt of a considerable amount of favorable publicity for the AFROTC program. The Drill Team, Rifle Team, Band, Arnold Air Society and Angel's Flight continued active participation in corps' activities and in public relations type activities.

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
Kermit D. Stevens	Colonel	September 10, 1951	June 3, 1955
Robert D. McCarten	Colonel	June 15, 1955	
Helmer T. Aasheim	Lt. Col.	September 6, 1951	August 24, 1955
Clarke W. Henkle	Lt. Col.	July 21, 1953	July 2, 1956
George A. Welch	Lt. Col.	June 1, 1955	
Frank D. Covell	Major	June 10, 1952	August 5, 1955
Charles W. Fatzinger	Major	May 12, 1954	
Nelson A. Roeller	Major	July 3, 1952	August 13, 1956
Norman L. Widen	Major	June 11, 1951	July 24, 1955
William P. Brown	Captain	February 10, 1951	January 18, 1955
Reid O. Clark	Captain	October 28, 1954	
William B. Schnase	Captain	January 10, 1953	August 8, 1956
Fred C. Wagner	Captain	July 17, 1956	

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 May, 1956, special mention was made of the extra-curricular activities program and of the orientation flying program. These two activities were classed as "outstanding."

Facilities—During the summer of 1955, the entire hallway and corridor of the AFROTC facility was completely rehabilitated resulting in far more attractive and cheerful premises for the detachment and the Corps of Cadets. A decreased enrollment enabled the Department of Air Science to move out of classrooms formerly held in the Aeronautical Engineering Building and to concentrate all classes in the Armory.—R. D. McCARTEN, Colonel, USAF, PAS

DEPARTMENT OF CONCERTS AND LECTURES

In the past two years the Department of Concerts and Lectures has grown and expanded its many varied services to the campus, the state, and where practical and feasible, the surrounding areas. The increase of activity in the various functions of the department at the University, the broadening of the horizon through the re-organization of the University of Minnesota Program Service and the ever-increasing scope of the Drama Advisory Service and Loan Play Library have been included in the program of the Department of Concerts and Lectures.

University Artists Course—During the past biennial, the University Artists Course is proud to have presented many of the world's truly great musicians and dancers in Northrop Auditorium. Following is a recapitulation of the attractions sponsored by this Division of the Department of Concerts and Lectures and the attendance at each concert, together with totaling of receipts.

During 1954-55, concerts were presented by Roberta Peters, Old Vic, Festival Ballet, Eugene Istomin, Alexander Brailowsky, Brian Sullivan and Yehudi Menuhin with other special attractions by Ballet Russe, Parade of Quartets, the Philharmonic Symphony and Three New Stars. Total attendance was 70,355 with an average attendance of 4,397. Total ticket sales amounted to \$129,301.55.

Among the 1955-56 attractions were concerts by Lily Pons, Obernkirchen Choir, Jerome Hines, Ballet Russe, Zino Francescatti, Teresa Stich-Randall, Mozarteum Orchestra, Walter Giesekeing and special attractions by the Scots Guards, Artur Rubinstein, Elijah, Warfield-Price, Parade of Quartets and the Ballet Theatre. Total attendance was 66,789, and the average attendance was 4,453. Total ticket sales was \$109,596.51.

One more attraction was presented in 1954-55 than in 1955-56; this accounts for the decrease in total attendance. Average attendance actually increased 56 people per presentation. Receipts also fell off as a result of this factor, and because individual concert ticket prices for the Old Vic performances were higher than for any concert sponsored during 1955-56.

Perhaps the most important aspect of this operation is that it is entirely self-supporting. The University students, faculty and staff members as well as the general public are given the opportunity to see and hear these great artists at prices they can afford to pay and without subsidization from the University.

Metropolitan Opera—Each spring music lovers of the entire Upper Midwest congregate on the University of Minnesota campus to witness four performances by the world famous Metropolitan Opera company of New York. This definitely is the musical highlight of the year. The University joins forces with the Minnesota Orchestral Association and an Upper Midwest Committee of guarantors and underwriters in sponsoring this Spring Festival of Opera. During 1955-56 the regional aspects of these presentations were expanded. Special local committees were established in 19 cities in the Upper Midwest and Canada. The enthusiasm of these local groups was most heart-warming. They contributed much to stimulating an interest in opera through lectures, meetings, local radio programs, feature articles in their papers, and window displays.

In 1955, the audience heard: Andrea Chenier, Carmen, Barber of Seville, and Tosca. This past season the presentations were: Boris Godunov, Rigoletto, Aida, and Die Meistersinger.

Special Cultural Projects—The University's share of any money made on the Metropolitan Opera is set aside in a special fund to be used for projects to further the cultural development at the University.

All of these expenditures enabled University of Minnesota students, faculty and staff members, and in some cases the general public, to see and hear lectures by outstanding personalities in the field of music. Also, since Northrop Auditorium is the scene of the annual regional Metropolitan Auditions, it was felt that it would be most fitting to let the public hear the winners. A special concert was given during the summer of 1955 featuring Charlotte Reinke, the 1955 auditions winner. In 1956 the finals of the regional auditions were presented to a live audience. The enthusiasm and appreciation of the large audience that attended this competition was most gratifying. The Metropolitan Opera Management also was pleased with the change in procedure. They felt that the competition before an audience gave them a more realistic picture of these singers' capabilities under the pressure of performing before an audience.

Summer Session Recreation—The University of Minnesota has gained recognition throughout the United States for the caliber of the cultural programs presented in Northrop Auditorium each summer. The money for these programs comes from a recreation fee included as part of the summer session tuition. These funds are controlled and administered by the Summer Sessions office but the Department of Concerts and Lectures actually handles the procurement and presentation arrangements. It should be mentioned that the Minneapolis Musicians Union has been most generous and cooperative in contributing two-thirds of the cost of orchestras presented at the summer concerts. Funds to cover these costs come from the Music Performance Trust Fund of the Recording Industry.

Convocations—We regret having to comment on the growing apathy on the part of the students in attending convocations of a serious nature. This steady decline of interest in lectures that require any thought has grown more pronounced each year since the end of the war. The feeling has grown more prevalent on the part of the students that they want either a name attraction or entertainment as featured convocation programs. This is contrary to the original purpose of sponsoring these programs. The intent was to attempt to keep the students informed of current trends and thinking on both domestic and world affairs. Unfortunately our budget is inadequate to present a so-called name attraction each Thursday of the school year. In order to obtain additional funds and provide more of the type of convocations the students want, the Department has sponsored one or two admission convocations each year. During 1954-55 a charge was made for two attractions, Yma Sumac and the Boston Pops Orchestra.

We feel that the attractions presented during the past two years are most impressive. There has been a more liberal number of entertainment programs and some of the big names in the lecture field.

Special Lectures—The Department of Concerts and Lectures has cooperated with the various other departments on the campus in sponsoring lecturers with a special message for the department involved. These lecturers are procured at the request of the department and normally speak on a technical subject to a small and select audience.

Convocations, Lectures and Scientific Conferences—The University of Minnesota augmented the Special Lecture Fund with a special appropriation of \$2,500 in each of the past two years. This money was used to bring to the campus lecturers with messages of special importance in the technical fields.

Needs—In view of the anticipated growth in student enrollment, serious consideration should be given to the construction of a new all-purpose auditorium seating between 1,500 and 2,000 people. At the present time Northrop is overtaxed. There are already more requests for usage than we can accommodate. Unfortunately this campus does not have a medium sized hall to present its lecturers or concerts. Northrop is too big for many attractions and other halls are too small. Naturally, we realize that this new building would

cost a lot of money but we also realize that the University has educational and cultural development responsibility, and a hall of this size will definitely be needed to meet this obligation.

Drama Advisory Service and Loan Play Library—During the past two years this office has become established as the leading force in the state seeking to better the quality and increase participation in non-commercial play production activities. Although a comparative newcomer to the Department of Concerts and Lectures, the Drama Advisory Service and Loan Play Library has met several exciting and varied challenges successfully.

Working with the Minnesota State High School League and the University of Minnesota Theater, a program of workshops, clinics and conferences both on and off the campus has been put into operation, that benefit greatly the teachers responsible for play production in the high schools in the state and college theater directors and leaders in community theater.

In these past two years, the Drama Advisory Service has worked very closely with several community theater groups in the state. The Rochester Civic Theater and the Bloomington Community Theater have repeatedly called on this office for help. In the past two years this service has been asked by the Board of Directors of the Paul Bunyan Playhouse at Bemidji, Minn., for help with the planning and staff of their non-profit summer theater season. This office has aided that group in the initial revision of their operation and helped them toward a solution of their financial and administrative problems.

In the field the supervisor of the service has been called on repeatedly to aid schools in the planning of theater facilities and in the production problems of specific plays. During the past biennium, the Drama Advisory Service in cooperation with the Audio Visual Education Service completed the production of a national award winning film entitled, "Character Make-Up for Men."

In addition to the program of field work carried on by the supervisor many requests for information and advice regarding all major areas of play production were handled by correspondence through this office.

After moving into permanent quarters in Northrop Auditorium in the fall of 1955, a thoroughgoing plan to streamline the Loan Play Library was put into operation that will result in the maintenance of a more current catalogue of scripts and related technical materials. The Loan Play Library maintained in this office consists of over 7,000 scripts and technical books available for reference to high school and college teachers and community theater directors throughout the state. The library is used increasingly by students on the campus for reading and reference.

University of Minnesota Program Service—During this biennium the off-campus program services, involving five sub-divisions which provide concerts, lectures and plays to the schools, colleges and communities of the Upper Midwest, were consolidated into a new division of the Department of Concerts and Lectures which was entitled The University of Minnesota Program Service. From all indications this consolidation will eliminate office duplication, enable reduction and greater utilization of staff and provide more efficient operation. By way of example there is now one Supervisor heading the entire operation instead of two as was the case before last September.

On July 1, 1956, the University of Minnesota Program Service became totally self supporting. No University appropriation or subsidy will be required to provide these off-campus services in the future. The following recapitulation and comparative annual totals give evidence of the value of this reorganization.

TABLE I. CONCERT, THEATRE, AND LECTURE SERVICE

	1953-54	1954-55	1955-56
Number of schools and organizations served	925	943	950
Number of engagements filled	3,692	3,866	3,988
Total receipts	\$203,662.11	\$205,530.34	\$220,471.68

The University of Minnesota Program Service offers to the schools and communities of the state an opportunity to see and hear programs of the highest educational, cultural and entertainment level at the lowest possible cost. This service is divided into five bureaus, each specializing in the presentation of high quality programs for a specific type of Upper Midwest audience. The bureaus are for school assemblies, concerts, lectures, summer attractions, and touring theaters.

DEPARTMENT OF UNIVERSITY RELATIONS

General—During the biennium, the Department of University Relations has continued its program of coordinating departments with public relations responsibilities, maintaining a comprehensive flow of news about the University for its staff members and the public, encouraging usage of radio and television for disseminating detailed facts about the University and its people, preparing special films for public relations usage, cooperating with major fund-raising projects, supervising regular and special functions on the campuses and participating in the formation of University policy.

Coordination of Public Relations—Coordination of public relations work of various departments of the University is achieved through weekly meetings of the Public Information Council. The council is made up of representative members of the Department of University Relations, the University of Minnesota Press, the Department of Physical Education and Athletics, the Agricultural Extension Service, the University Theater, the General Extension Division, KUOM, the Photographic Laboratory, the Audio-Visual Education Service, the Department of Alumni Relations, the Greater University Fund and the World Affairs Center. Occasionally, other University staff members are invited to meet with the council, of which the director of University Relations is chairman, for planning special events, conferences and releases for the general public.

Information and News Programs—Day-to-day news in the forms of press conferences, news releases and personal interviews comes from the University News Services which are located on the Minneapolis, St. Paul and Duluth campuses. The Services have furnished photographs to the newspapers, magazines and television stations and acted as spot-news source contacts for special events. They have compiled, upon request, background information for various news media about the whole University, about its colleges, schools and departments and about individual staff members.

Editorials from Minnesota newspapers were compiled once or twice each year in a mimeographed publication, "As Others See Us," and sent to members of the University Senate Voting membership.

The *Minnesotan*, magazine for staff members, was published 16 times during the biennium and sent to the homes of all full-time staff members. The magazine has been published for eight years and continues to gain popularity as an informative communication inside the University.

The parents of University students received eight issues of *Chats* during the two years, at the end of which a careful analysis of the purposes of *Chats* was completed by the Department and the Publicity Council. Recommendations resulted in the renaming of the publication, *Reports of the University of Minnesota*, and planning to broaden the contents to include information with interest-appeal to parents of metropolitan students as well as those of out-state students.

A monthly *Calendar of Events* was compiled by the Department and sent to several hundred organizations, firms and individuals. The University's *Official Daily Bulletin* was prepared for insertion in each issue of the *Minnesota Daily* and the *Ivory Tower* and as a separate publication when the *Daily* and *Tower* were not published.

Department staff members have continued to assist—as time permitted—other units of the University in preparing special brochures, pamphlets and programs.

Fund-Raising—Minnesota Masons set out in the middle of the biennium to raise \$500,000 for a Masonic Memorial Hospital for the care of terminal patients. The Department, assigned as a liaison, met with the various committees for planning the campaign and, in behalf of the University, was host to a cancer day which was attended by 600 Masons and members of the Order of the Eastern Star.

The Masonic drive brings the total of major fund-raising programs in which the Department is currently involved to four. The three programs begun during the preceding biennium were the Veterans of Foreign Wars campaign to raise \$450,000 for a new Cancer Research Center, the campaign of the Variety Club of the Northwest to secure funds for another floor on the Variety Club Heart Hospital, and the campaign of the Twin Cities Area Educational Television Corporation for some \$400,000 necessary to construct the Station. A somewhat different instance is the Earle Brown project for which the Department has some major responsibilities.

Within six months of the beginning of the new Masonic Cancer Relief Committee of Minnesota drive, the goal of \$500,000 was reached and boosted to a new total of one million dollars. By the end of the biennium, a total of \$639,000 was raised, and members of the committee announced that they expected to have all personal solicitations completed by the end of the calendar year.

Continuing with its duties as liaison with the Veterans of Foreign Wars campaign, the Department met at regular intervals with members of the VFW Cancer committee, prepared information and assisted in all phases of planning and publicizing the campaign. The University was host to another VFW Cancer Day attended by 500 VFW and Auxiliary members from throughout the state. A major dinner speaker was Timothy Murphy, national commander of the organization. A total of \$177,000 had been raised by the end of the fiscal year.

By the spring of 1956, the first houses in an initial group of 185 dwellings were under construction on property which had come to the University as a gift from Earle Brown of Brooklyn Center, Minnesota. The University sold the land for residential development as the Garden City project and will share in the profits as the undertaking develops. Proceeds from the project are expected to be used to construct an Agricultural Short-Course building on the St. Paul Campus to bear the name of Earle Brown. The director of University Relations participated in the development of the transaction.

Marked progress was recorded during the two-year period in another major financial effort, that of encouraging educational television. The director of the Department represented the University in meetings with the superintendents of the Minneapolis and St. Paul school systems and prominent business and civic leaders to raise \$398,049 for the construction of a community television station which will be broadcasting on Channel 2. The organizers incorporated as the Twin Cities Area Educational Television Corporation, and the director of University Relations became a member of the Board of Trustees. The University entered into an agreement with the Corporation to furnish studio space in a temporary building on the St. Paul Campus and for a site on the University golf course for the television tower. It is expected that the University will utilize the station as it begins to operate in the fall of 1957.

Functions and Special Events—The Department served, as it has in the past, as the operating and administrative agency for opening convocations, cap and gown convocations, commencements, the University of Minnesota Week, Charter Day convocations and the President's receptions for graduating classes as well as for special events such as conferences and meetings called for the purpose of presenting Outstanding Achievement Awards to distinguished graduates of the University, the twenty-fifth anniversary of the Department of Aeronautical Engineering, the tenth anniversary of the Industrial Relations Center and the fiftieth anniversary of the College of Education. Advice on matters of policy concerning the functions was given by the Senate Committee on University Functions, chairman of which is the Director of University Relations.

State Fair Booth—Fair booths were planned and prepared during the period by the School of Nursing and the Department of Psychology with representatives of each working on committees appointed by the Director of University Relations.

Policy—The Department continued to have as its major responsibility the task of making the entire University aware of the public relations aspects of University policy and administrative procedures. Many meetings and conferences were called during the two years for careful consideration of public relations implications in making decisions.—WILLIAM L. NUNN, *director*.

—MALCOLM M. WILEY, *vice president*

Division of Business Administration

PHYSICAL PLANT DEPARTMENT

Land

During the biennium, additions were made to the Minneapolis Campus as follows:

Block 31, St. Anthony City Addition—East 100 ft. of Lot 1	6,600 sq. ft.
Block 33, St. Anthony City Addition—West 7 ft. of Lot 3 and the East half of Lot 4 (6,600 sq. ft.); South 48.5 ft. of the North 82 ft. of Lot 6 (3,201 sq. ft.); Front 41.25 ft. of Lots 9 and 10, except the West 7 ft. of Lot 9 (5,156 sq. ft.); and, the North 38 ft. of the South 45½ ft. of Lot 5 (2,508 sq. ft.)	17,465 sq. ft.
Block 35, St. Anthony City Addition—North 85 ft. of East 40 ft. of Lot 1 (3,400 sq. ft.); East 40 ft. of North 120 ft. of Lot 3 (4,800 sq. ft.); North 40 ft. of South 80 ft. of Lot 1 and the North 40 ft. of the South 80 ft. of the East 21 ft. of Lot 2 (3,480 sq. ft.); South 40 ft. of Lots 1 and 2 (5,280 sq. ft.); and, the West 45 ft. of the North 125 ft. of Lot 2 (5,625 sq. ft.)	22,585 sq. ft.
Block 5, Mower's Addition to Minneapolis—Lot 2	6,437 sq. ft.
Block F, Tuttle's Addition to St. Anthony—Rear or Southerly 40 ft. of Lot 5	2,640 sq. ft.
Block 12, University Addition to Minneapolis—Northeast 120 ft. of the Southeast ¾ of Lot 5 (4,950 sq. ft.); Northeast 40 ft. of the Southwest 85 ft. of Lot 6 (2,200 sq. ft.); Rear 40 ft. of Lots 1 and 2 and the rear 15 ft. of Lots 7 and 8 (6,050 sq. ft.); Northeasterly 40' of the Southwesterly 80' of Lots 1 and 2, and the Northeasterly 70 ft. of the Southwesterly 85 ft. of the Westerly 41 ft. of Lot 3 (7,270 sq. ft.); Easterly ½ of Lot 4 and the Westerly ¼ of Lot 5 (6,806 sq. ft.); Southerly 40' of the Northerly 80' of Lot 6 (2,200 sq. ft.); and, the Southerly 40 ft. of the Northerly 85 ft. of Lots 1 and 2 (4,400 sq. ft.)	33,876 sq. ft.
Part of Lot 5, Sec. 23, T29N, R24W, 4th P.M. commonly known as Lot 23, Auditor's Subdivision No. 44 (Hennepin County). This additional property forms the major part of the St. Anthony Falls Hydraulic Laboratory site	33,307 sq. ft.

Additions were made to the Southern School and Experiment Station (Waseca) as follows:

Block 3, Auditor's Addition to R. P. Ward 3rd Addition to the Village of Waseca	35,339 sq. ft.
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Additions are being made to the Cedar Creek Forestry Laboratory in the following sections:

Sections 16 and 21 (in Isanti County); Sections 26, 27, 28, 33, 34, and 35, (in Anoka County); all in T34N, R23W, 4th Principal Meridian.

Sale of Land

The following parcels of right-of-way of the abandoned Inter-Campus Carline at Como Avenue and Eustis Street, St. Paul, were sold:

The West 35 ft. of the East 68 ft. (except the North 20 ft.) of the SE ¼ of the NW ¼ of the NW ¼ of Section 20, T29N, R23W, 4th P.M.—0.514 acres.

The former "Wye" streetcar turn-around R.O.W. in the Northeast corner of the NE ¼ of the SW ¼ of the NW ¼ of Section 20, T29N, R23W, 4th P.M.—0.211 acres.

The following parcels, adjacent to University Grove and the Grove East Village, were sold:

North 110 ft. of Lot 2 (6,409 sq. ft.) and the North 95 ft. of Lot 1 (5,500 sq. ft.), Block 5, St. Anthony Park North Addition to the City of St. Paul—11,909 sq. ft.

South 95 ft. of the North 126.53 ft. of the West 4.23 ft. of Lot 21 (402 sq. ft.); South 100 ft. of the North 130 ft. of the East 68.455 ft. of Lot 21 (6,845 sq. ft.); and, Lot 17 except the South 163.15 ft. and except the North 30 ft. (6,778 sq. ft.); all in Auditor's Subdivision No. 63, St. Paul, Minnesota—14,025 sq. ft.

At the Northwest School and Station at Crookston, a strip of land was sold to the Minnesota Highway Department for widening the highway right-of-way as follows:

A 75 ft. wide strip along the east side of the SE ¼ and along the east side and across the northeast corner of the NE ¼ of Section 24, T150N, R47W, 5th Principal Meridian—12.53 acres.

Buildings and Tunnels

Minneapolis Campus—Contracts were awarded for buildings as follows:

Fraser Hall received an addition consisting of two wings constructed with reinforced concrete and brick veneer. Approximately 28,400 square feet of floor space will be added by this construction. The west wing will house the library stacks and the south wing will contain offices and classrooms.

Total cost of this structure \$600,000.00
 Source of funds State Appropriation

A multi-level parking ramp was constructed on Washington Avenue and Union Street. This reinforced concrete and structural steel column building has open sides and top. The seven parking levels of the structure will hold 472 automobiles.

Total cost of this structure \$432,471.00
 Source of funds Service Improvement Reserve

Mayo Memorial Center was completed and occupied.

Total cost of this structure \$ 12,170,000.00
 Source of funds See P. 247 of 1950-52 Report

Duluth Branch—Contracts were awarded for buildings as follows:

An addition to the Science Building is under construction between the west end of the Science Building and the Student Center. Construction is the same as the original structure, approximately 23,952 square feet of floor space will be available on the three floors.

Total cost of this building \$575,000.00
 Source of funds State Appropriation

The new Humanities Building is under construction, located between the Library and the Physical Education Building. This structure will be of reinforced concrete and masonry construction with brick and stone veneer. It will contain 36,177 square feet.

Total cost of this building \$800,000.00
 Source of funds State Appropriation

Need for a new student activities center was provided by the erection of a Student Center on the new Campus. Also a start was made on providing for new student housing facilities. These buildings are of fireproof construction; reinforced concrete with brick and tile walls. Location of the Student Center, which adds 46,000 square feet, is between the Library and the Science Building. At the dedication in June 1956, the Student Center was officially named the Kirby Student Center in memory of Stephen R. Kirby, the principal donor. The dormitory is west of the Student Center and will house 65 girls.

Total cost of these structures \$1,626,002.00
 Source of funds State Appropriation, St. Louis County Levy,
 Gifts, and Loan.

Waseca—Contracts were awarded for buildings as follows:

A new Boys' Dormitory was constructed to the north of, and adjacent to the old dormitory. It is of reinforced concrete with brick and hollow tile curtain walls. Facilities are provided for 110 students.

Total cost of this structure \$300,000.00
 Source of funds State Appropriation

Cedar Creek Forest—Contracts were awarded for buildings as follows:

A one-story laboratory is under construction at Cedar Creek Forest. Construction is of cinderblock walls and floors of asphalt tile on concrete. This structure will provide 4,500 square feet of laboratory and meeting rooms.

Total cost of this structure	\$ 75,000.00
Source of funds	Max Fleischmann Foundation

Major Improvements and Alterations

Minneapolis Campus—Space for music programs and activities of the College of Education was provided by reconditioning the old Child Welfare Building. This building was renamed Music Education Building.

A photo studio was gained for the Audio-Visual Department by remodeling Room 50, Westbrook Hall.

The Armory first floor corridor was plastered, painted, new lighting installed, a new floor laid and acoustically treated.

Distribution lines for a central bell ringing system were installed in the tunnels as a step toward a uniform bell system.

Remodeling in Jackson Hall, Rooms 7, 8 and 13 of the second floor provided a new electron microscope room, offices, and four laboratories.

Damage due to explosion and fire in Room 443, Chemistry Building, was repaired to rehabilitate the area.

The circulation lobby of the Library is being re-lighted to provide more adequate light intensity.

Space was provided for the Cost Analysis group of the Physical Plant Department by remodeling Room 515 and fan room of the Administration Building.

A sewer tunnel was installed to serve Botany Greenhouse buildings.

Elevator service in Owre Hall is in the process of being improved by replacing the present elevator and extending the operations to the fifth floor.

The sash in the ten high windows in the exhibition pool of Cooke Hall was replaced and the sash in the sixteen windows in the practice pool was repaired and painted.

Equipment necessary to operation of the inter-campus trolley was removed from 15th Avenue Southeast, between University Avenue and Pillsbury Drive, due to replacement by bus service.

Extensive road work was accomplished: Widened road between Nicholson Hall and Westbrook to handle two-way traffic; repaired 17th Avenue expansion joints; widened approach to Northrop to accommodate people at east door; widened 17th Avenue and Pillsbury Drive for bus stop; bituminous lift applied on East River Road from Washington Avenue to University.

The General Zoology and Biology Laboratory, Room 101, was remodeled. Contracts were let for repairs to Zoology Penthouse.

An addition to the Linear Accelerator was constructed.

Complete renovation of the kitchen area in Sanford Hall provided more efficient facilities.

Approximately 8,000 square feet were provided by the remodeling of the old Coca-Cola Building at 2035 University Avenue S.E. for the Oak Street Studio of the Art Department.

Remodeling in a section of the basement of Lyons Laboratory provided space for animal quarters.

Salvage storage facilities were improved by the construction of a concrete block building at the Como Yards.

A start was made on the rehabilitation of the Chemistry Building.

University Hospital has received extensive remodeling.

General remodeling and extensive electrical installations have been done in TNCW to improve the Industrial Education Department facilities.

A balcony which will seat 1,057 people is being added on the north side of the hockey rink in Williams Arena. The fire exits are being improved.

A one-story roof house addition housing a wind tunnel and offices was constructed over the hangar portion of the Aeronautical Engineering Building.

New floor space was gained by closing in the second floor mezzanine level of the Electrical Engineering Building with a pre-stressed concrete slab.

St. Paul Campus—Framing over the autopsy room in Veterinary Anatomy was repaired and a new roof applied.

Work in connection with Coffey Hall elevator replacement was started. A fire alarm system was provided in Brewster and Meredith Halls to add to safety measures.

The outer covering on the Meat House was replaced.

Space for housing sheep was obtained by converting the Horse Barn.

The remodeling of the north shop of the Agricultural Engineering Building has been started.

The Agricultural Engineering Building alterations have been started to house Rhetoric which moved from TSA to make space for the Educational Television Studios.

Faulty functioning of the controls in the mechanical equipment room of the Home Economics Building was corrected by insulating the metal covering on steam valves, piping, and controls.

Feed back from the fume hood ventilating system in the Home Economics Building was eliminated by revising the design.

The Gymnasium roof was repaired and new down spouts installed.

A silo room between the two new silos and the Dairy Barn was constructed to provide all weather access to silage.

New fire exits were cut in Laboratory Rooms 102, 108, 202, 208, 302, and 308 of Snyder Hall.

A new tool house, shop, and storage building was built in the northeast corner of the golf course. The old Shop Building was razed.

Rooms 103 and 110D of Green Hall were remodeled for the School of Forestry.

The driveway to serve the new greenhouse and headhouse was surfaced.

A new concrete floor was installed in the south one-half of the Poultry House.

Silicone treatment was sprayed on the brickwork of the new Library, Veterinary Clinic, Veterinary Science, and Peters Hall.

Tunnel piping is being revised to allow for re-locating the power plant.

A section of the heating tunnel between the gymnasium and the Dining Hall was replaced.

New hot water and circulating hot water lines from the power plant to the central distribution system were installed.

Duluth Campus—The masonry in the Science Building was tuck pointed and waterproofed to prevent seepage.

The old athletic office in the Main Building was remodeled for a speech and hearing clinic.

Recessed display cases were installed and the Science Building corridors were acoustically treated.

Landscaping and utilities for the Physical Education Building were completed.

Utilities, Roads, Sidewalks have been installed for the Student Center, Library and the Women's Dormitory.

Morris—Fire alarm systems were installed in five dormitories. Soil under the Agricultural Engineering Shop, Superintendent's residence, and the Gymnasium was stabilized. A milk room was added on the Dairy Barn. Deteriorated steam and water lines at the West Central School and Station were replaced. A wood quonset addition for seed storage was built on the seedhouse.

Rosemount Research Center—A combustion test cell was constructed for Navy research. Four new pole barns were erected.

Electrical substation and bus duct installations were added to improve supply of electricity.

Waseca—City water was piped to the West Farm. Paving included a service road from the new county road to the School of Agriculture and a cattle feeding and judging area adjacent to the newly constructed pole barn.

The passageway from the boys' dormitory to the Main Building was enclosed.

Zumbra Heights Fruit Breeding Farm—The greenhouse was re-glazed and rehabilitated. A new well was drilled and a new pump is to be installed.

Cedar Creek Forest—Boundary lines, fences, and signs were established to define and protect our area.

Crookston—The sewer system was renovated and new manholes installed; 1,800 feet of water main was replaced.

A new well was dug and a sewer put in the West Farm. Owen Hall received new wiring and lighting. Soil stabilizing was done under Stevens Hall, Home Economics, and Animal Products Buildings.

New screens, storms, and a concrete floor in the basement were the improvements to the Girls' Dormitory.

Northeast Experiment Station—New furnaces were placed in Institution Hall and the Farmhouse.

Grand Rapids—A transformer vault and underground wiring distribution was installed in area north of the Main Building.

Itasca—Construction was started on a new research laboratory.

Major Physical Plant Needs

Minneapolis Campus—The land shortage continues to be a problem and was emphasized in our report to the Legislature Interim Committee. A move across the river to acquire less expensive and more accessible land seems desirable.

There is a great need for major rehabilitation of many buildings and this has also been brought to the attention of the Interim Committee in our report. Physical Plant Maintenance funds have been insufficient over the years until the amount of rehabilitation of the buildings needed has reached major proportions. Mounting labor costs are also increasing the cost of repairs and maintenance.

Competition for technical personnel has been so great a large number of our men have left for better paying positions. It is extremely difficult to attract new applicants for the open positions.

St. Paul Campus—The cost to satisfactorily rehabilitate some of the obsolete structures approaches the cost of new fireproof buildings; therefore it is suggested that they be razed. Most of these buildings are from 50 to 60 years of age. If the need for a new Shop-Storehouse building were filled, it would make possible the complete razing of the old heating plant thereby providing a large parking lot in the middle of the campus.

Duluth Campus—A central heating plant and service tunnels are needed for the new campus because the present heating arrangement of separate plants is too inefficient and costly.

Landscaping of the new campus should be considered immediately to improve the appearance of the campus. Lawns need to be developed, trees planted and roads need to be surfaced.

The possibility of an exchange of Laboratory Buildings for elementary education with the Duluth Board of Education should be given serious consideration. This would give the University the present school building on the new campus site.

The Darling Observatory should be moved from its present location in downtown Duluth to the new campus and located on the top of Rock Hill.

Outlying Stations—There is great need for general rehabilitation of buildings at the sub-stations, particularly at Crookston. A program covering the major items was included in our presentation to the Legislative Interim Committee, and the Committee did officially inspect the Crookston station. There has been over the years insufficient funds available for Physical Plant maintenance and repairs, which has resulted in deferring many needs, with the result that they are now of major proportions.

Storm sewers, drainage, and street and road surfacing are needed at all the sub-stations.

Provisions for new sanitary sewers and sewage disposal are urgent at Grand Rapids. Negotiations are presently under way for sewage disposal, through city sewers, at Crookston.—ROY V. LUND, *supervising engineer*

OFFICE OF CIVIL SERVICE PERSONNEL

Employment Trends—During this 1954-1956 biennium, the University has continued to experience a high demand for personnel and a narrow margin of qualified applicants being available. Overall, there was a total of 8,156 qualified applicants for the 4,642 vacancies giving a ratio of 1.7 applicants available for each vacancy. This did not give a hiring department a good choice, but for all practical purposes dictated who should be hired. Within this general picture there have been significant changes in certain areas. For the first year of the biennium, engineers, while not plentiful, were available. But during the last year there was almost a complete lack of engineer applicants as well as a serious number of resignations. The Physical Plant Department was particularly hard hit. The Secretarial-Clerical and Scientific areas have continued to be critical while other technical and professional areas, e.g. Librarians and Accountants, have continued difficult. Raising of salary schedules to the extent possible and in some cases, hiring above the beginning step have not noticeably eased the difficulty of recruitment because of the extremely tight labor market nationwide. Recruitment of Hospital Orderlies, Hospital Aides and Building Caretakers, however, has eased somewhat over the preceding biennium, partially due to better qualified applicants. Many of the people applying for these types of vacancies, while possessing good personal traits of industriousness, dependability, sobriety, etc. do not have the highly developed technical skills so much in demand in present-day industry and have been forced to seek employment in jobs where emphasis is more upon personal qualities than upon technical skills.

Some important objectives were effected during the biennium. The rate of turnover among Building Caretakers was substantially reduced while the quality of their service was increased. This was accomplished in part through the effective use of a weighted application blank in the selection of employees and requiring each new Building Caretaker to complete a thorough course in custodial training. Greater emphasis was placed upon promotion and transfer of employees, an emphasis calculated to retain, to raise morale among employees and to utilize to a greater degree the skills already in the University work force.

The development of a weighted application blank for Hospital Aides was begun in the hope of identifying those factors contributing to long tenure. By June 30, 1956, the data had been collected. It is hoped that this technique, so helpful in the area of Building Caretakers, will prove as useful in the case of Hospital Aides. Two new general aptitude tests were adopted since the Army Alpha intelligence test went out of print. Norms using University employees as a criterion were drawn up and are in effective use. To aid in the training and rating of employees a new Service Rating form was drawn up and tried out in the Secretarial-Clerical areas. This new employee rating form shows promise of being helpful to departments in evaluating their staff and in determining further on-the-job training needs.

Employee Turnover—University terminations increased from 2,660 during 1952-54 to 3,086 during the 1954-1956 period, an increase of 12 per cent. Although "Low Salary" was cited as a reason for termination in only .9 of 1 per cent of the cases, "Other Employment" was given in 24 per cent of the cases. It can be safely inferred that a large proportion of "Other Employment" terminations resulted from the necessity of obtaining greater salary. Terminations because of pregnancy accounted for 10 per cent of the total, representing no significant change over 1952-1954. Apparently working conditions at the University are generally considered to be good as only 2.2 per cent of the total gave "Working Conditions" as a reason for termination. Experience has shown, however, that terminating employees are often reluctant to state the true

reasons for their leaving. Discharges for incompetence, failure to report for work and other just causes accounted for 6.6 per cent of the total terminations. It is possible that this proportion would have been significantly smaller had the labor market allowed a freer selection of better qualified employees in the first instance. Change of residence accounted for 15 per cent. This is probably reasonable in view of our policy of encouraging the employment of student spouses. People employed in the engineering, nursing and scientific fields also tend to be unusually mobile.

Position Vacancies—There were 4,642 vacancies during the biennium of which 75 remained unfilled as of June 30. These vacancies represented an increase of 350, or 7.5 per cent over the previous period. The most significant increase occurred in the Engineering-Mechanical area, where the number of vacancies increased by 44 per cent. Since only limited numbers of applicants were available, the Employment Office was forced to carefully consider all possibilities and found only 1.1 applicants for each Engineering vacancy. Although the number of Clerical, Administrative and Fiscal vacancies declined (4 per cent), this area alone accounted for 39 per cent of all vacancies. This 4 per cent decline was actually more apparent than real as a large number of clerical positions were filled by students or otherwise given a part-time status, thus no longer being recorded for full-time replacements. A proportion of 1.3 referrals was made for each vacancy. It must be noted that all referrals were not of uniformly high caliber and that candidates technically qualified may be rejected for any of a number of valid reasons.

To aid in reducing turnover and to eliminate some extreme difficulties in recruiting for Secretarial-Clerical vacancies, a Medical-Typist trainee program and a Secretarial trainee program were instituted on a limited scale during the past year. Through these programs we hope to be able to utilize less experienced help rather than having to wait until we are able to recruit persons with the work backgrounds we normally require for these advanced positions. Longer tenure is anticipated through the incentive of frequent pay increases as they are merited.

During 1954-55 an experiment was conducted on the retention of qualified General Mechanic applicants for whom we had no openings at the time of application. With the cooperation of the Custodial Services division of Physical Plant we placed eight such persons as Building Caretakers. Without exception, these men learned their new work rapidly and did outstanding jobs. Within a few months we were able to promote each man to a suitable position where he could use his mechanical skills and aptitudes. All are still with us. Physical Plant feels more than repaid for the services of these men, even for a relatively short period of time.

Employee Recruitment—In view of the tight labor market in most areas, the recruitment of well-qualified people has been the most constant and difficult function for the Employment Division. In order to keep the University staffed, continuing attention and effort has had to be devoted to devising means of attracting people to University positions.

Memos to employees were very successful in several instances, particularly in filling periodic temporary jobs in our bookstores. Special notices and job posters were sent to various departments where it was thought that candidates for specific jobs might be uncovered. Close cooperation and contacts were maintained at all times with the State Employment Service and with public and private schools and placements offices in the Twin City area and throughout the state. Especially productive in the Secretarial-Clerical areas was the continuance of the public secondary school visiting program carried out early each spring. In conjunction with this program recruiting posters and materials were sent out to approximately 600 high schools in Minnesota, Iowa, Western Wisconsin and the Dakotas. Contacts with former employees brought good results. Commercial agencies were utilized upon occasion, but only as a last resort. In an effort to ease the difficult situation with respect to Engineers, the greater utilization of the Engineering Assistant and Senior Engineering Assistant classes was given emphasis. We were thus able to use people not qualified as Engineers but who possessed good inherent aptitudes. These people included some University students. The Medical-Typist Trainee and Secretarial

Trainee program previously cited proved fruitful. In addition to advertising in professional media, Library officials recruited actively for professional Library personnel at national and sectional Library conferences. A program providing for covering several full-time Junior Librarian positions with Graduate Library Assistants working at 50 per cent time was put into motion. A special bulletin listing job vacancies on a bi-weekly basis and distributed widely to public agencies throughout the state was utilized. In view of the somewhat disappointing results of this medium, the bulletin has been temporarily discontinued in favor of more intensive newspaper advertising.

University employees, newspaper advertising and recommendations of friends or relatives proved to be the best sources of total applicants, these accounting for 49.7 per cent of the total for the biennium. Surprisingly, 10.5 per cent of the applicants came in on their own initiative.

For the biennium a total of \$6,938.92 was spent upon newspaper advertising, utilizing primarily "All Editions" (local and out state) Minneapolis Sunday Tribune for broadest possible coverage. This expenditure represents an increase in total of approximately 50 per cent over the previous period. Of the total funds used 62 per cent or \$4,294.76 was spent on advertising vacancies in the Engineering-Mechanical, Secretarial-Clerical and Scientific areas. It is felt that without the rather heavy expenditures incurred for advertising, our recruitment position in the above cited areas would have been hopeless.

Placements—During the biennium, a check was made on the sources of employed applicants. It is with interest and a feeling of gratification that we note that of the 4,552 placements made during the biennium, 13 per cent, or 600 were promotions and that 11 per cent, or 508, were made with former employees who wished to return and whose former University work was of such quality that we were happy to be able to place them again.

Of the total of 3,065 new applicants employed by the University, 667, or 23.5 per cent were recommended by University employees; 353, or 12.4 per cent replied to newspaper advertisements; 282, or 9.9 per cent applied on their own initiative; 199, or 7 per cent were referred by the State Employment Service; 228, or 8 per cent were previous University students and 180, or 6.3 per cent were students' spouses. Although 287, or 10.1 per cent were referred by unions or professional organizations, the bulk of these were skilled tradesmen employed on a temporary basis.

By type of University service, placements in the Secretarial-Clerical area equaled 1768, or 39 per cent of the total of 4552. This area alone accounted for about 2½ times as many placements as each of the next highest areas, Custodial and Food Service with 712, or 15 per cent and Engineering-Mechanical with 710 or 15 per cent. Placements in the Medical, Dental, Hospital area accounted for 651, or 14 per cent of the total while the Scientific area accounted for 473, or approximately 11 per cent.

Employment of Aliens and Relatives—Under a relaxed University policy the employment of aliens and relatives has been continued, but only in such cases where every reasonable effort has been made to attract and hire qualified citizens and non-relatives. As of February 1, 1956, there were 80 aliens employed on a full-time basis. At the time our net total had declined by 20 per cent in two years. Since many of our alien employees are working here through the Visitors Exchange Program and are only temporary employees, the number of permanently employed aliens was probably closer to 60. The Employment Office has taken great care to place such persons only in such positions where circumstances such as time, graduation of husband or wife, or attainment of citizenship will erase the problem. Aliens newly arrived in the United States have practically never been hired during the past biennium with the possible exception of the Clerical-Secretarial areas where the demand has far out-stripped the available supply. Relatives were employed but only under the same restrictions as applied to non-citizens. Relatives were not employed in the same department.

Applicant Testing—The use of objective tests as an aid in selecting the best qualified applicants was continued at an accelerated pace. During the

biennium a total of 6865 applicants were tested, representing an increase of 16 per cent over the preceding biennium. A total of 16,046 tests were administered, 13 per cent more than previous period.

Position Classification Plan—University departments set up 801 new positions during this last biennium. Of these new positions, 21 were classified to a lower level than requested, 6 to a higher level, and 4 into a different class at the same pay level as requested.

Employees and their supervisors submitted 473 requests for reclassification of positions during the 1954-1956 biennium. Of the total of 473 requests, 75 were not approved, 16 were reclassified to a different class than requested, and the remaining 382 were reclassified as requested.

The Personnel Office received requisitions to fill 2467 vacant positions during the last biennium. Seven of these were reclassified to a lower level, two to a different class at the same level, and two to a higher class than requested.

Twenty-eight new classes were set up and approved during this last biennium. However, 22 classes were eliminated during the same period, resulting in a net gain of six additional classes.

During the 1954-1956 biennium general surveys were made (1) of 21 positions in the Student Personnel Worker series, (2) of 11 positions in the Hospital Housekeeper series, (3) of six positions in the General Mechanic Foreman and Research Shop Foreman classes, (4) of 109 positions in the Laboratory Technician and Laboratory Technologist series, and (5) of five positions in the Audio-Visual Education series. Of this total of 206 positions surveyed, 55 were reallocated to a higher class, four to a lower class and two to a different class at the same pay level.

In addition, a study was made by Public Administration Service of some 50 to 75 selected single position classes in the upper pay ranges using a point system to evaluate pre-determined job factors for each position.

Two basic problems in the improvement of the University's Position Classification Plan for the next biennium are: (1) improvement in the accuracy of classifying positions and (2) improvement in the understanding by Civil Service employees in general of the process of job classification.

Pay Plan—During the first year of the last biennium there was a cost of living increase of one step made effective July 1, 1954. The second year of the biennium brought a major change in the basic pay plan of the State Civil Service and, consequently, in the University Civil Service Pay Plan. The 1955 legislature adopted a completely new pay plan designed to overcome several serious shortcomings of the plan then in use. Briefly, the new plan has these general features.

1. The new pay plan presents an orderly progression of salaries. Each salary step in any given range is 4 per cent higher than the step below it. The 4 per cent progression from the bottom to the top of the plan ties in with the cost of living adjustment based on a four point change in the Consumers' Price Index.
2. There is a greater difference between the minimum and maximum of the new ranges than there was in the old.
3. The dollar amounts of the steps in the new ranges will increase from the minimum to the maximum. Thus, as employees remain in the service and become more valuable, merit increases are larger.
4. An entirely new feature in the new pay plan is the provision for extra merit increases above the maximum. An employee after eight years of continuous service, three of which have been at the maximum, is eligible for a one-step merit increase. After he has been at this rate for an additional five years, he is eligible for a second merit increase.

The Minnesota State Civil Service was unable to put the new pay plan into effect on July 1, 1955, as originally intended because of a shortage of funds. It was finally put into effect by both the State Civil Service and the University of Minnesota on January 1, 1956. The old and the new plans were basically different and, therefore, certain salary adjustments were necessary to make the conversion.

Every effort was made to explain to all concerned exactly how salary ranges and specific salary rates would be converted. An article of explanation was published in the *Minnesotan*, the University staff magazine. Public hearings were held on both the Minneapolis and St. Paul campuses to which all employees were invited. Special meetings were also held in the University Hospitals and at the Duluth Branch campus and also at each of the Agricultural Branch Stations to explain the pay plan and answer questions as to changes in salary.

During the 1954-1956 biennium there were 40 reallocations of classes to higher pay ranges resulting from moves made by the State Civil Service. During the same period there were 31 reallocations resulting from study of internal relationships or survey of community pay rates made by the Personnel Office.

In the fall of 1954 the University of Minnesota cooperated with State Civil Service in an extensive salary survey. Returns were received from 845 employers employing 283,000 workers covering 45 "key jobs" and 13 specialized jobs presenting special problems. These data were submitted to the 1955 legislature for their consideration. Work was started on another pay survey in April, 1956, to be used in presenting University Civil Service budget needs to the 1957 legislature.

Employee Training—Supervisor training was carried on in several different ways during the biennium. The administrators of two large service departments of the University planned long-term programs for supervisor development in their organizations. These plans encompassed coaching and counseling of supervisors by the administrators on specific leadership problems, course offerings by staff of the training division, and staff meetings held by the administrators with groups of supervisors. Three major administrators requested and received individual assistance in improving their techniques of coaching and counseling supervisors. Courses in functions of a supervisor and University Civil Service personnel policies were offered by central training division staff and conducted for groups from several departments. The biennium brought increased interest in the subject of management development and supervisor training by executives and supervisors at various levels in some of the largest University administrative departments.

Starting January 1, 1955, an orientation or "Get acquainted with the University" session for new employees of the Minneapolis and St. Paul campuses was offered once a week for the balance of the biennium. This 1½ hour session (which each new full time, permanent employee is invited to attend once) is an effort to help the new worker become acquainted with the teaching, research and service activities of the University as a whole and to understand how his work and the work of his department fits into that of the entire organization. Invitations to this session were included in a new "Welcome" packet of orientation and appointment materials sent to each new worker. The program was conducted on an entirely voluntary basis and out of 1069 new workers invited, 339 attended, or 30.7 per cent. A detailed survey of reactions to the program and problems relating to non-attendance was initiated as the biennium closed. Preliminary results of the survey indicated many of those who did not attend were short-term employees. Approximately 150 supervisors previewed the program when it was first offered and later comments showed that some were stimulated to improve the orienting and training activities carried on within the operating department. The program also seems to have led to an increased interest on the part of supervisors in leadership training for themselves.

The training division increased its activity in the development and conduct of skills training programs for new workers, both in centrally conducted programs and in on-the-job programs conducted within departments. Centrally conducted programs included the University Procedures Training Program, the Budget Preparation Short Course, and the Basic Office Practices Training Course. The University Business Procedures Training Course was revised during the biennium and 79 girls from 41 academic departments and 13 administrative departments completed the course during the biennium. The Budget Preparation Short Course was conducted once during the biennium in the spring of 1955 for 125 persons. The Basic Office Practices Training

Course, on which a great deal of developmental work was done during the first year and a half of the biennium, was put into action during the last few months of the biennium. The course was previewed by 130 supervising secretaries and office managers from the Minneapolis and St. Paul campuses in groups of approximately fifteen. It was then offered on an experimental basis for a group of beginning typists and stenographers representing major college and administrative departments. At the close of the biennium, it appeared that demand for the course would substantially exceed available training time.

Continued assistance was given the Physical Plant Department in the preparation of training materials and training of trainers to conduct the Custodial Skills Training Program. A special one-week institute for the Physical Plant administrators and custodial supervisors from the Duluth Branch was conducted in the fall of 1955 on the Minneapolis Campus, with Minneapolis Campus custodial and representatives of the training division cooperating in its presentation.

The Coffman Union Food Service Training Program was continued from the previous biennium, and new programs were developed in the student residence halls for student food service workers, student janitors and student switchboard operators. Assistance was also given in the development of training programs by the milk and cream department, the audio-visual educational service and the transportation pool.

During the last nine months of the biennium extensive assistance was given the University hospitals in the review of existing training programs and in the exploration of the need for new programs. An urgent problem involving backlog of work and recruiting difficulties in the hospital stenographic pool was solved by the initiation of a training program for Clerk-Typists in medical terminology and the linking of the three phases of this program to training rates of pay. At the same time, the Director of Nursing Services asked for help in reviewing the training programs for general staff nurses and nursing aides and in developing an orientation training program for hospital orderlies. In addition, she identified the need for a new Leadership Training Program for all levels of supervision in the nursing organization. All of these projects were under way in the Nursing Services as the biennium closed.

The Business Manager of the Students' Health Service was given assistance in the development of a custodial training program and custodial work scheduling and inspection systems.

As the biennium closed, the Protection and Safety Department was receiving assistance in the development of a training program for parking lot and garage attendants and for the supervisory personnel in charge of those operations.

The Regents' Scholarship Program and the program under which employees may register in University courses paying their own fees, but arranging for time away to take classes, 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 undertaken during the last year of the biennium and the results were being tabulated as the biennium closed.

Employee and Union Relations—Two meetings were called by the state labor conciliator at the request of Public Building Service and Hospital and Institutional Employees Union Local 113. These meetings followed the withdrawal of the Union from the Fact Finding Commission's meeting in June, 1954, and dealt with the same general subject matter of a contract and a demand by the Union that the University agree to arbitration on all matters in dispute. The University refused to agree on both parts and there has been no further communication from the Union or the State Labor Conciliator during the last 15 months. The three or four individual employee grievances submitted by the Union were all settled with dispatch, there being no appeals.

During the past two years several meetings have been held with the various construction trade unions dealing with policy matters and a few individual problems and grievances. On one instance the Construction Trades Council met with the University Administration to seek a clarification of policy involving one of the crafts.

Civil Service Committee—The members who served on the Committee for the full biennium were: Dean Theodore H. Fenske, Clinton T. Johnson and Professor James W. Stephan.

Others serving were as follows: Professor Henry Hartig succeeded Professor Richard T. Arnold who resigned from the University; Professor John G. Turnbull succeeded Professor Dale Yoder. Professor Herbert G. Heneman, Jr. substituted for Professor Turnbull for the year 1955-1956.

The Committee, which does not meet regularly, held 20 meetings during this period.

Student Employment Bureau—The Student Employment Bureau did the following amount of business during the 1954-1956 biennium. Figures for the preceding 2-year period are also given for comparison:

	Interviews	Applicants	Vacancies	Placements	Earnings
1952-1954	35,751	14,396	14,095	10,464	\$7,189,503
1954-1956	41,205	15,053	14,300	11,759	\$8,331,542

These data reflect the improving economic conditions experienced generally the last two years as well as an enlarging operation caused by steadily rising enrollment. While the number of students enrolled on the Twin City campuses for this biennium was 14.3 per cent above that of the 1952-1954 period, the Bureau's interview load increased 15.3 per cent to an all-time high of 41,205. Interviews for the last two years exceeded enrollment by a margin of 995.

A total of 15,053 individual students made application for employment, which is an increase of 4.6 per cent above the comparable figure for the previous period.

A smaller (1.5 per cent) growth took place in the area of job supply. Vacancies totaled 14,300 of which 11,759 resulted in placements. This represents a gain of 12.4 per cent in the number of jobs filled during the biennium. This increase in placements was relatively much greater than the increase in the number of applicants, indicating a decided improvement in the jobs-per-applicant relationship. Continued expansion of job recruitment activity and student employment promotion among University departments and off-campus employers has paid off by making more jobs available for those who need them to help finance their schooling.

The number of students who secured jobs through this Bureau totaled 8450. This means that over half (56.1 per cent) of those who applied for employment were given work of some kind, either temporary or permanent.

Student earnings for the biennium approximated \$8½ million, an increase of nearly 16 per cent over the amount earned in 1952-1954. Higher pay rates (University rates were adjusted July 1, 1954, and again January 1, 1956) as well as the greater number of jobs involved helped bring this about. In addition to the \$8,331,542 reported, students earned the equivalent of approximately \$400,000 by working for room or board at the University's dormitories and hospitals. This would bring to close to \$8¾ million the combined earnings of students employed by the University and on off-campus placements made through the Student Employment Bureau. It does not include an additional large and unknown amount earned from off-campus work secured through means other than this Bureau, as well as from continued employment in off-campus jobs secured through this Bureau in some previous year. Off-campus earnings are figured only for the year in which placement took effect.

Work Scholarship placements numbered 102, compared with 85 for the preceding 2-year period. By this help, many an outstanding high school graduate has found it possible to come to school.

UNIVERSITY SERVICES

This department is the central office for directing the operations of a number of residence halls, food service units, and other auxiliary services to students and University departments.

During the biennium, a University Services training program was instituted for the purpose of promoting good personnel practices throughout the

departments in an effort to develop most efficient operations and maintain highest standards in customer service. The program contained management training in personnel policies, rules and procedures, and telephone courtesy; supervisor training including problem-solving techniques; orientation training for full-time and student employees; skills, training in specialized areas such as switchboard, cashier, custodial; job analysis; cafeteria line flow analysis; sanitation and safety; human relations training; public relations training; and exit interviews.

University-operated Student Housing—Applications for accommodations in residence halls have considerably exceeded existing facilities. Vacancies as a result have been almost negligible, occurring only when students must necessarily leave the residence hall within the school year and replacements cannot be found because students are committed to other arrangements. A total of 93 extra spaces in Comstock, and 36 in Sanford, were provided, as in recent years, through double-decking some rooms originally constructed as singles. And 193 additional accommodations became available for Fall Quarter 1955, with the completion of the wings on Centennial Hall. Construction cost of the wings was \$736,169, and equipment totalled \$40,884.

With the increasing enrollment trend continuing, and off-campus housing facilities in the area decreasing, the housing problem is becoming acute. Considerable planning has been directed toward expansion of facilities to meet the needs. The "Report of the Regents to the Minnesota Legislative Interim Committee on State Building Needs" projected these needs through 1970. Working drawings have been completed or are in process for the following projects: a residence hall for 550 men on the Minneapolis Campus, wings on Comstock Hall to accommodate 266 women on the Minneapolis Campus, a residence hall with one wing for 150 women and another wing for 157 men on the St. Paul Campus, and additional units to house 60 students on the Duluth Campus. Dining and kitchen areas are not included in any of this planned construction because existing facilities with alterations in some cases, can accommodate the increased numbers.

To make existing facilities more effective in serving the increasing enrollment, a program of plant improvement is being followed. The kitchen in Sanford Hall was completely remodeled, with a new floor, new ceiling, tiled walls, and a new food elevator. Layout in the kitchen was entirely rearranged, and much of the old equipment was replaced with new. Total cost of this project, begun in the summer of 1955 and completed in 1956, was \$49,773. Plans are under way for minor remodeling in the Comstock kitchen, including installation of a cafeteria counter, during the summer of 1957. The more efficient food service area would then be ready for the opening of the wings planned for Fall Quarter, 1958.

High payroll costs made operation of the Centennial and Pioneer snack bars unprofitable, and vending machine service was substituted beginning Fall Quarter, 1954. A variety of machines have given adequate service with favorable financial results. The Laundry Dens in Centennial and Pioneer Halls were closed also, as a result of a more satisfactory arrangement with the concession awarded to a commercial laundry on a percentage basis.

Through cooperation of administration, the residence counseling program, and the student governments, University residences are recognized as offering much more than mere places to eat and sleep. A major purpose of education is the development of the individual's personality so that in his relations with others he will be a useful and effective citizen. The residence halls provide experiences for students not afforded in the classroom, which are of tremendous importance to their successful adjustment and development. Student recognition of these aims resulted in the formulation of a statement of policy on social conduct in Comstock Hall, and enthusiastic participation in an active year of social, recreational, educational, and service functions. Honor point ratios of residence hall students are consistently above the average for the student body. As an outstanding illustration, for Spring Quarter, 1955, 16 per cent of the Comstock residents had an honor point ratio of 2.5 or over as compared with three per cent for the entire student body. Continued interest and enthusiasm of former Comstock residents resulted in their organizing a

Comstock Alumnae Association, chartered by the Minnesota Alumni Association, with the furthering of scholarships as one of their purposes.

The serious shortage of accommodations for married students with families has necessitated using the metal barracks, quonsets, and prefabricated units beyond the period of intended use. Extensive rehabilitation of barracks units to prolong their usability was completed in the summer of 1955. The prefabricated housing was operated with leases terminating each June 15 so the units could be closed if they were unusable. They have proved to be amazingly durable, and as a result the units will continue to be operated until it is uneconomical to repair them. Need for this housing is demonstrated by the fact that in Fall Quarter, 1956, it is estimated that less than 1/2 of the applicants will be housed in the 691 remaining units. Demand for married student housing is increasing so rapidly that it is almost impossible to plan a workable program that would be adequate. As a beginning we have working drawings for the first 100 permanent units consisting of 56 one-bedroom and 44 two-bedroom apartments. We expect to begin construction this fall on a site on the St. Paul Campus adjacent to Thatcher Hall. Until permanent-type units meet the essential demand, the temporary units will be maintained only to the extent necessary to keep them livable.

Thatcher Hall, the permanent apartment building for 38 graduate student families, has a long waiting list of families with children, and couples without children have virtually no chance for accommodation.

Staff Housing—The following table below shows activities of the Staff Housing Bureau for the biennium.

	1954-55	1955-56	Total
Interviews	673	567	1,240
Purchase of homes through complete service of Bureau	1	1	2
Listings—rooms	191	297	488
Listings—rentals	1,009	741	1,750
Rental accommodations other than University-owned arranged directly through Bureau:			
Families	31	30	61
Couples	38	45	83
Single men and women	49	44	93

It is evident that many placements made through the Bureau are not reported by the landlord or the tenant, but the Bureau fills a definite need beyond the number of placements. The interview provides the new staff member with an orientation to housing areas and transportation facilities that makes it possible for him to locate housing much more readily and intelligently.

Kewanee Court, the 29-apartment building for University Civil Service staff, has undergone extensive repairs and is now in very good condition. The incidence of major repairs has occasioned an appraisal of anticipated average annual major repairs in long-term planning. As a result, rentals were increased for the second time within the biennium for the purpose of establishing deferred maintenance funds for such anticipated repairs, and allowing a reasonable return from the endowment property for scholarships as intended.

The 65 residential building lots in University Grove will soon be entirely leased to staff members, and more property will be needed.

In the summer of 1954, nine apartment units were completed for the Duluth Branch faculty and Civil Service staff through remodeling of the former residence of Marshall Alworth. These units have been a material aid in recruitment of staff at the Duluth Campus.

Eating Facilities—Long-range planning has been fundamental in our effort to adapt ourselves to meet the demands of the growing student population. Considerable mobile equipment was purchased to facilitate handling and temporary storing of food; specialized refrigerated equipment was added for storage and display; and automatic vendors for milk, soft drinks, ice cream, candy and cigarettes were increased because of their advantage in providing continual service with a minimum of payroll. Commuters' Lunch Room capacity was increased by relocating this service in the former Post Office box area and Craft Shop. Several major projects are planned for the near future

as a necessary part of the long-term program of modernization and expansion: (1) complete conversion to mechanical disposal of garbage and food waste as close to the point of origin as possible; (2) greatly increased refrigeration capacity, both deep-freeze and conventional, with facilities for storing baked goods to level off peak loads in the Bake Shop; (3) replacement of present black iron heavy-duty cooking equipment with modern stainless steel units; (4) improvement of facilities for holding and supplying food for the cafeteria by pass-through type hot food storage cabinets and refrigerated units directly connecting kitchen supply to cafeteria use.

Shevlin Cafeteria planning has been directed also toward readying it as a first-class kitchen and cafeteria to serve 4,000 customers per day by 1970. The first major step toward complete renovation and modernization and expansion of facilities was the installation of a nearly-new cafeteria counter transferred from Coffman Union Food Service Annex facilities, which had been operated in the temporary building south of Vincent Hall. In addition, antiquated skylights have been removed, fluorescent lighting installed, and re-decorating begun. A total of 36 new tables and 225 new aluminum chairs are on order. For the near future we look forward to a complete renovation and rearrangement of the kitchen, including new floors, tiled walls, and new equipment.

Other Services—The Inter-Campus Bus, in two years' operation since conversion from streetcars, has proved challenging and rewarding with more passengers carried, less miles travelled, and a lower cost per mile in the second year.

The Center for Continuation Study Hall provides guest accommodations for people throughout the state and beyond. The building is in excellent physical condition through continual maintenance, but the one urgent need is an elevator. Almost 50 per cent of the guests are over 40 years of age, and lack of an elevator makes it necessary for them to carry their luggage up as many as three flights of stairs. The elevator should serve employees as well, eliminating for the maids the laborious, inefficient, and costly carrying of hundreds of pounds of linen and supplies up narrow stairways.

Stadium Stands inaugurated several new programs and improvements such as installing 13 milk-vending machines in approved locations on the Minneapolis and St. Paul Campuses. Five soft drink fountains were installed in Williams Arena, replacing bottled beverages. Stand-up counters were constructed in the Stadium. Completion of the construction program providing permanent stands in the areas at ramps 13 and 17, and an additional stand in the hockey side of Williams Arena, has allowed for better handling of customers. More continuity of employment among Stadium Stands personnel, assured through Civil Service policy of accepting a controlled number of full-time University employees, will enable us to institute a training program.

The Milk and Cream Department converted from bottling its products to packaging in paper cartons in the summer of 1955.

The Cold Storage plant is 40 years old, very small in area, obstructed by many partitions, making facilities seriously inadequate for even present needs. A new Cold Storage plant seems imperative as we see the University grow from year to year.

Audio-Visual Education Service, on recommendation of the Senate Committee on Audio-Visual Aids, inaugurated the Audio-Visual Pre-paid Plan in 1955-1956. A total of 28 departments in the Colleges of Education and Science, Literature and Arts volunteered to pre-pay to Audio-Visual Education at the beginning of the fiscal year, amounts on the average of what they had spent for equipment bookings and Film Library rentals for the two preceding years. In return they received unlimited use of equipment from the booking pool and films from the library. The purpose of the plan was to put the use of Audio-Visual materials on a basis of instructional need rather than department budgetary resources. The program increased the average use of films and equipment by participating departments approximately 17 per cent. Final evaluation of the plan will be made after a further year's trial.

Aided by seminars conducted by the Audio-Visual Education Department, academic staff are to an increasing extent doing their own projection.

The engineering division completed design and installation of several major projects: a two-way public address system for the Surgery Department, permitting inter-communication between the surgery suite and the observation dome; a multi-station observation sound system in three teacher-training classrooms in the Institute of Child Welfare; remotely controlled interview recording equipment and monitor listening system for Clinical Psychology interview rooms in the Hospital; a paging system incorporating all units of the Hospital; extensive student performance recording and playback equipment, high fidelity music listening stations, and other teaching facilities for the Music Department. The department instituted an electronic laboratory apparatus repair service.

The University Film Society was discontinued at the close of the 1955-56 season, the program having accomplished its aims. In addition to having provided an opportunity for students to enrich their educational experiences through seeing distinguished contemporary American and foreign motion pictures and selected classics, the Society's purpose was to create an audience in the Twin Cities for films of artistic and social significance, or to demonstrate to local exhibitors that such an audience existed. That this aim has been accomplished is evidenced by the fact that when the programs were initiated there was only one Twin Cities theater showing "art films" and now there are five on a full-time basis. The University would now be able to present little not available elsewhere in the community.

The Artist Service division prepared several noteworthy exhibits, including a 35 foot long display for the Department of Physiology illustrating recent important research carried on by that department which is being used at medical conventions throughout the country; an exhibit prepared for the Medical School dramatizing the danger of rheumatic fever as a childhood disease; and, a School of Nursing display for the State Fair to promote the selection of nursing as a career, illustrating steps in the training for such a career.

The Production Division produced a secretarial technique film for Civil Service Personnel, a teacher training film "Flannelgraph," a cancer research informational short for University Relations, a series of films on "Counseling Adolescents," and 28 five-minute television films for Agricultural Extension Service. The Minnesota Studies Filmstrip Series is planned to provide eventually 30 to 36 film strips, with written teaching guides, covering various aspects of the state such as history, science and resources, industries, agriculture, recreation, and government. To date two have been completed and eight more are in production. Two awards were made to the University, the Golden Reel award in New York for the fifteen-minute color film "Character Make-up for Men." and the Silver Award of the Screen Producers' Guild for "One Victory," a film on the Heart Hospital.

The Photographic Laboratory has established a new portrait studio and darkroom in Wesbrook Hall to expedite service to Minneapolis Campus departments, where approximately 70 per cent of the work originates. Photographic Laboratory files have now been cross-indexed where identifiable individuals appear in the photographs to make easily accessible the resources of existing photographs.

The Printing and Mimeograph departments will soon be faced with the need for additional floor space if they are to function properly and meet the increased work load resulting from the steady increase in enrollment. A continual program of replacement of obsolete equipment with modern machines has increased production and reduced printing charges.

The Laundry is now located in a functionally-designed new building at 2007 University Avenue S. E., equipped with the most modern laundry machinery employing the newest methods. Soiled linen is sorted on a mezzanine level into chutes, which feed the linen directly to the washers. The washing cycle is controlled by automatic pilot and the wet wash is then machine-dumped into extractor buckets which are lifted and guided by overhead hoist into extractors. From the extractors the linen is conveyed to tumble, press, or flat work areas. New equipment includes such devices as conveyors with electric eyes, conditioners, folders, stackers, and a spreader. Production was maintained throughout the period of relocation and, at completion of the moving, the night shift was abolished.

Truck Service was moved in December, 1954, to the new auto repair shop at 2035 University Avenue S. E., where preventive maintenance, repair, service, and storage facilities for the general purpose fleet have been expanded. The new shop has been equipped with a gasoline pump and two thousand gallon underground tank, two truck and car hoists, motor analysis equipment, power tools for body repair and tire changing, central lubrication supply, battery tester and charger, air compressor, front-end alignment gauges, hydraulic press with arbor, headlight tester, and impact wrench kit. A parts department has been installed for fast-moving parts and now contains approximately 900 different items.

A thorough analysis of use and assignment of vehicles on the Minneapolis and St. Paul campuses and at Rosemount Research Center was completed, from which recommendations were formulated for establishing policies and procedures for the most efficient use and assignment of vehicles.

Driver Training and Technique Courses, Annual Safe Driver Award Meetings and other methods have been employed in an attempt to lower vehicle operating costs, raise driver and mechanic efficiency, and reduce vehicle accidents.

The Scientific Apparatus Shop has experienced difficulty in the recruitment of qualified personnel to fill the orders of approximately 300 University research, instructional, and service departments annually. The central mechanical shop develops plans and designs for construction, modification, and adaption of experimental and research equipment. The glassblowing shop requires highly specialized people in a field which very few men enter. Continuance of an adequate staff is of vital interest because the services of this department in many instances would be very expensive to obtain commercially or would be unobtainable.

Permanent quarters for the central shop, now located in one of the temporary buildings adjacent to the School of Mines, remain to be established, preferably near the medical buildings because of the large volume of work done for those departments.

Comparative Earnings, University Services Department

	1954-55	1955-56
Centennial and Pioneer Halls	\$ 745,610.41	\$ 944,588.94
Ada Comstock Hall	276,650.75	299,104.37
Sanford Hall	181,142.86	187,154.31
Winchell Cottages	23,697.28	23,768.21
Como Ave. and Grove East Housing Project	346,680.07	365,780.09
Thatcher Hall	28,962.50	28,911.88
Kewanis Court Apartments	19,078.96	19,519.41
University Grove Rentals	4,565.89	4,759.08
Duluth Branch Cottages and Apartments	6,695.70	9,202.87
Center for Continuation Study Hall	36,320.35	39,508.91
Coffman Union Food Service	507,761.81	545,290.60
Shevlin Hall Cafeteria	45,813.01	56,520.34
Milk and Cream Department	140,651.81	204,996.21
Cold Storage Plant	546,284.65	579,539.17
Stadium Stands	129,174.92	138,272.07
Audio-Visual Education Service	127,112.56	119,766.73
Photographic Laboratory (St. Paul Campus)	31,633.00	35,006.80
Printing Department	441,352.11	419,336.39
University Bindery	61,319.75	59,413.89
Mimeograph Department	59,793.90	55,776.67
Mimeograph and Bulletins (St. Paul Campus)	51,327.80	54,660.55
University Laundry	217,713.75	224,286.03
Post Office and Campus Mail	2,922.10	1,000.00
Transportation	15,442.86	15,539.42
Locker Rentals	5,333.42	5,688.30
Como Clinic Building	633.33	550.00
Centennial and Pioneer Recreation Dens	11,363.22	15,238.56
Centennial and Pioneer Laundry Dens	540.02	2,886.29
Ada Comstock Hall Candy Counter	10,021.56	11,683.20
Sanford Hall Candy Counter	5,314.24	5,392.66
Inter-Campus Bus	16,124.80	16,247.81
Scientific Apparatus Shop	41,999.10	43,082.52
Truck Service		15,215.21
	<hr/>	<hr/>
	\$4,139,038.49	\$4,547,687.49

The table above shows gross income from services of departments administered by the University Services office for the two years in the biennium.
—C. T. JOHNSON, *director*

SUMMARY OF CASH GIFTS, 1954-56

The following summaries include all cash gifts, exclusive of those from Federal and State agencies, actually received and recorded during the period indicated. Each individual gift has been accepted by the Regents of the University and listed in their minutes; and has been also recorded in the Annual Financial Report of the University.

Summary of Gifts

Exclusive of Federal and State Funds, 1954-55

Expendable	
For Education and Research	\$1,976,936.78
For Student Aid	401,387.36
For Other Purposes	241,793.17
Total Expendable	\$2,620,117.31
Capital	
Endowments	
For Education and Research	43,271.91
For Student Aid	260,503.28
Subject to Annuity	
For Other Purposes	5,963.17
Operating Temporarily as an Endowment	378.00
Loan Funds	6,056.44
Plant Funds	368,022.44
Total Capital	\$ 684,195.24
Grand Total	\$3,304,312.55

Summary of Gifts

Exclusive of Federal and State Funds, 1955-56

Expendable	
For Education and Research	\$2,536,928.37
For Student Aid	448,144.26
For Other Purposes	336,204.55
Total Expendable	\$3,321,277.18
Capital	
Endowments	
For Education and Research	85,063.87
For Student Aid	33,258.26
Subject to Annuity	
For Other Purposes	
Operating Temporarily as an Endowment	197.43
Loan Funds	16,796.24
Plant Funds	890,216.81
Total Capital	\$1,030,532.61
Grand Total	\$4,351,809.79

PATENTS RECEIVED, 1954-55

- Original Patent No. 2,678,130 (Application Serial No. 165,076), Nordahl I. Onstand, et al, Method and Apparatus for Demagnetizing Magnetic Ores Having High Coercive Force
- Original Patent No. 2,696,432 (Application Serial No. 202,326), Edward W. Davis, Method and Apparatus for Heating Solids
- Original Patent No. 2,703,570 (Application Serial No. 293,094), George A. Young, Jr., Method and Apparatus for Production of Quadruped Mammals.
- Original Patent No. 2,702,808 (Application Serial No. 198,863), Ole Givold, Oxidation Process.

ASSIGNMENTS OF PATENT APPLICATIONS, 1954-55

Assignment of Application for Patent Serial No. 432,063, Wayne E. Apuli, Pelletizing Process
 Assignment of Application for Patent Serial No. 444,733, William G. Shepherd, Vacuum Tube
 Assignment of Canadian Application for Patent Serial No. 665,633, Edward W. Davis, Method for Heating Solids
 Assignment of Application for Patent Serial No. 433,832, Dr. Fred Smith and Dr. David Priestersbach, Separation of D-Glucose and D-Fructose
 Assignment of Application for Patent Serial No. 455,805, Leland S. Bohl and William F. Huch, Connection Fittings for Tubular Members
 Assignment of Application for Patent Serial No. 474,024, Professors Lloyd H. Reyerson and Lowell E. Peterson, Method of Altering Linear Condensation Polymers
 Assignment of Application for Patent Serial No. 488,115, Peter Wargo, Method of Preparing Emitter Surfaces
 Assignment of Application for Patent Serial No. 481,641, William G. Shepherd, Method and Apparatus for Making Vitreous Seals
 Assignment of Application for Patent Serial No. 512,324, Herman Schlenk, Donald M. Sand, and Jerry Ann Tillotson, Hormel Institute, Inclusion Compounds
 Assignment of Application for Patent Serial No. 511,459, Professor Ralph T. Holman, Hormel Institute, Urea-inclusion Compounds

ASSIGNMENTS OF PATENT APPLICATIONS, 1955-56

Assignment of Canadian Application for Patent Serial No. 515,300, Ole Gisvold, Process for Producing Plant Extracts
 Assignment of license to Linen Products, Inc. covering patent numbers, United States, No. 2,468,771, British No. 615,519, Canadian No. 462,570, Argentine No. 56,939, Montonna-Reyerson, Fibers and Yarns
 Assignment of license to Government covering Patent Application Serial No. 444,773, William C. Shepherd, Vacuum Tube
 Assignment of Application for Patent Serial No. 704,384, Wayne E. Apuli, Pelletizing Process (Recorded in Patent and Copy Right Office at Ottawa, Canada, Assignment No. 429,235)
 Assignment of license to Baxter Laboratories, Morton, Illinois, covering Patent Application Serial No. 598,684, to Drs. G. W. Lillehei and Richard A. DeWall, "Oxygenator"

PATENTS RECEIVED, 1955-56

Original Patent No. 2,733,762 (Application Serial No. 156,772), S. T. Coulter, et al, Spray Drier
 Original Patent No. 2,733,992 (Application Serial No. 298,556), Lloyd R. Reyerson, Pulping of Wood
 Original Patent No. 2,741,894 (Application Serial No. 358,193), LeRoy E. Schulze, Process of Preparing Yarns

SUMMARY OF FINANCIAL OPERATIONS

The data which follow constitute a brief summary of the financial report for the year ended June 30, 1956. A complete financial report for each year of the biennium has been published separately and is available on request.

Sources of University Income

From the State	
<i>The Legislative Maintenance Appropriation</i>	\$15,789,809.11
For the general support of instructional, research, and administrative departments, and maintenance of buildings and grounds, including the Institute of Agriculture, the Agricultural Schools and Experiment Stations, and the Duluth Branch.	
<i>The 23/100 Mill Tax</i>	356,163.87
The standing direct property tax for the general support of the University.	
<i>The Cost of Indigent Patients at the University of Minnesota Hospitals</i>	2,301,866.29
State Appropriation, \$1,099,327.10; Counties' share, \$1,202,539.19.	
<i>The Special Projects Administered and Carried on by the University for the General Benefit of the People of the State</i>	2,270,516.00
These special projects include Agricultural Extension, County Agents, Beneficiation of Manganiferous Ores, General Agricultural	

Research, Medical Research, Live Stock Sanitary Board, Child Welfare, Psychopathic Hospital Maintenance, General Research, Minnesota Institute of Research, Home Demonstration and 4-H Club Work, Agricultural Research—Rosemount, Hybrid Corn Maturity Tests, School of Agriculture Student Aid Fund, Business and Economic Research, Soil Conservation, Hospital Rehabilitation Center, Child Psychiatric Hospital, and the Multiple Sclerosis Clinic.

<i>The Physical Plant Extensions</i>	3,245,000.00
1953 Building Fund Receipts—Heating Plant—St. Paul, \$1,000,000; Library—Duluth, \$200,000; Law School Addition, \$475,000.	
1955 Building Fund Receipts—Soils Building, \$125,000; Science Building Addition—Duluth, \$125,000; Dairy Building Addition, \$75,000; Veterinary Basic Science Building addition, \$75,000; Classroom Building—Duluth, \$125,000; Remodeling Minneapolis Campus Buildings, \$515,000; Waseca Dormitory Addition, \$300,000; Animal Products Building—Crookston, \$65,000; Stabilization of Buildings—Branch Stations, \$125,000; Minor Buildings, Remodeling and Repairs—Branch Stations, \$40,000.	
From the Federal Government	
<i>Instruction, Research, Extension, and Plant Extensions</i>	1,897,551.05
This income is divided: for instruction, \$155,110.00; for agricultural research, \$562,550.11; for agricultural extension, \$1,131,890.94; for physical plant extension, \$48,000.00.	
From the Permanent University Fund	1,058,630.75
The principal of the fund, amounting to \$43,724,469.41 on June 30, 1956 was derived from land set aside by the Federal Government and 10 per cent of the occupational tax on iron ore. The income is used for general university support.	
From the Swamp Land Fund	116,276.12
The principal of the fund was derived from land set aside by the State of Minnesota. The University participates in the income.	
From Fees and Receipts	10,303,699.34
This income is divided: student tuition and fees, \$4,710,785.91; student course fees, \$51,079.05; hospital receipts, \$2,611,181.63; dental infirmary receipts, \$175,530.96; other departmental receipts such as sale of bulletins, sale of livestock and agricultural products, \$2,722,892.78; miscellaneous, \$32,229.01.	
From University Services and Revolving Funds	10,666,778.11
This includes income from such university services as dormitories, dining halls, veterans' housing, printing, laundry, University Press, Concerts and Lectures, University Theater, and Health Service, and from such revolving funds as seed distribution fund, towel funds, locker funds, and private duty nurses' funds. (Of this amount \$94,293.78 was used for plant expansion.)	
From Trust Funds	12,686,956.29
The trust funds include gifts, grants, donations, and income from endowments and research contracts for instruction, research, prizes, scholarships, fellowships, and care of the sick. Of this amount \$389,101.98 was used for plant extensions.	
From Intercollegiate Athletics	1,211,490.47
This income is divided: Minneapolis Campus, \$1,170,165.32; Duluth Branch, \$41,325.15.	
Total Receipts	\$61,304,737.40
<i>Free Unencumbered Balance, July 1, 1955</i>	5,421.01
Grand Total	\$61,310,158.41

Expenditures for University Operations

For Administration of the University	\$ 1,564,601.07
The expenses of the offices of the President, the Vice Presidents, the Comptroller, the Dean of Students, the Dean of Admissions and Records, Office of Civil Service Personnel, and other general administrative offices.	
For the General University	2,158,207.44
The expenses of the library, general bulletins and publications, lectures and convocations, the storehouses, truck service, inter-campus bus, and other services of an all-university character.	

For Instruction and Research	25,444,570.44
The expenses of college instruction and research, the Duluth Branch, Agricultural Schools and Experiment Stations, the University of Minnesota Hospitals, Summer Session, Agricultural and General Extension (General Funds, \$17,189,750.52; Federal Funds, \$1,795,-029.57; Special State Appropriations and Income, \$6,459,790.35).	
For Physical Plant Operations	3,843,078.06
The expense of maintaining and operating the buildings and other improvements—Minneapolis and St. Paul Campuses.	
For Physical Plant Extension	4,113,961.67
Stabilization of Buildings—Crookston, \$62,591.95; Centennial Hall Completion, \$141,202.79; Science Building—Duluth, \$33,077.99; Parking Ramp, \$405,172.60; Waseca Farm School Buildings, \$163,215.73; University Services—Equipment Replacement, \$130,325.01; Underpinning Buildings—Merris, \$50,000.00; Remodeling Hospital Facilities, \$162,960.88; Laundry Building, \$63,322.23; Rehabilitation of Chemistry and Electrical Engineering Buildings, \$94,049.84; Law School Addition, \$451,957.43; Oak St. Building Remodeling, \$82,805.36; Golf Course—Tool House, Shop and Storage, \$26,787.94; Heating Plant and Tunnels—St. Paul, \$788,872.87; Library—Duluth, \$150,677.63; Student Center and Dormitory—Duluth, \$728,338.03; Mayo Memorial Building, \$83,253.58; Purchase of Real Estate, \$219,150.65; Purchase of Land—Cedar Creek Forest, \$81,268.20; Miscellaneous, \$194,928.96.	
For University Services and Revolving Funds	9,069,500.47
This includes expenditures for such university services as dormitories, dining halls, veterans' housing, printing, laundry, University Press, Concerts and Lectures, University Theater, and Health Service, and for such revolving funds as seed distribution fund, towel funds, locker funds, and private duty nurses' funds.	
For Trust Fund Purposes	8,828,466.15
This includes expenditures for prizes, scholarships, fellowships, care of the sick, and expenditures from endowment and research contract funds for instruction and research.	
For Intercollegiate Athletics	880,904.53
The operating expenses of intercollegiate athletics and that part of the physical education expense paid from receipts of intercollegiate athletics. Minneapolis Campus, \$842,214.03; Duluth Branch \$38,690.50.	
Transfers and Adjustments	5,402,325.55
Miscellaneous transfers between Endowment, Current, Loan and Plant Funds, \$129,058.10; outstanding obligations and allotment increase, \$5,247,158.49 (current funds, \$3,445,543.27; plant funds, \$1,801,-615.22); increase in current reserves, \$26,108.96.	
Total Expenditures, Transfers, and Adjustments	\$61,305,615.38
Free Unencumbered Balance, June 30, 1956	4,543.03
Grand Total	\$61,310,158.41

A Few Interesting Facts About the University

Student Enrollment*	1952-53	1953-54	1954-55	1955-56
Collegiate	26,225	26,340	28,825	31,990
Fall Quarter—Second Week	(18,806)	(19,074)	(20,399)	(23,393)
Noncollegiate	23,919	25,571	28,443	27,406
Extension	18,144	18,147	20,737	26,741
Staff—All Funds				
Academic Staff†	2,870	2,984	3,092	3,250
Civil Service Staff†	4,137	4,281	4,499	4,729
Colleges	Departments		Departments	
Science, Literature, and the Arts	31	Graduate School	13	
Institute of Technology	14	Schools of Dentistry, Law, Pharmacy, Business Administration, University and General Colleges—each	1	
Institute of Agriculture	32	Duluth Branch	11	
Medical Sciences	21			
College of Education	13			

Land—June 30, 1956	Acres	Value
Minneapolis Campus	199.03	\$5,341,919.84
St. Paul Campus—Agriculture	711.07	684,232.75
University of Minnesota—Duluth Branch	174.56	50,124.29
Branch Stations		
Crocketon	903.36	140,770.97
Morris	823.82	61,137.53
Grand Rapids	454.60	34,095.00
Duluth	282.74	41,401.00
Waseca	599.10	77,779.46
Cloquet	3,702.09	66,446.39
Excelsior	223.06	38,233.72
Rosemount Research Center	7,973.30	1,617.04
Total	16,046.73	\$6,537,757.99

Buildings—June 30, 1956	Major		Minor§	
	Number	Value	Number	Value
Minneapolis Campus	77	\$53,702,499.95	38	\$ 294,671.79
St. Paul Campus—Agriculture	40	8,287,206.30	54	451,096.97
Off-Campus Buildings	4	371,861.56	371	284,612.59
Duluth Branch	12	4,918,626.63	11	50,087.44
Rosemount Research Center	5	376,505.62	98	187,661.79
Branch Stations				
Crocketon	12	1,122,300.63	41	191,959.21
Morris	16	1,494,150.08	18	72,060.33
Duluth	2	70,826.06	21	107,488.27
Grand Rapids	4	351,360.69	24	103,964.70
Itasca			54	96,123.23
Waseca	3	1,776,829.01	31	81,250.73
Excelsior			25	83,539.69
Cloquet			34	70,316.78
Rosemount			66	255,415.69
Total	175	\$72,472,166.53	886	\$2,330,249.21

Equipment—June 30, 1956	Total	Livestock	Books and Museum Collections	Other
Minneapolis	\$18,692,455.69		\$8,268,885.24	\$10,423,570.45
Institute of Agriculture	3,876,582.37	\$253,774.91	526,061.34	3,094,746.12
Duluth Branch	869,289.99		201,790.47	667,499.52
University Services	3,706,784.11		32,922.40	3,673,861.71
Trust Funds	4,213,805.51		2,815.29	4,210,990.22
Total	\$31,358,917.67	\$253,774.91	\$9,034,474.74	\$22,070,668.02

Endowment—June 30, 1956	Value
For General Purposes	\$43,724,469.41
Unassigned Funds Operating Temporarily as an Endowment	2,339,895.76
For Student Aid—Scholarships, Prizes and Loans	2,195,321.03
For Educational Purposes	7,688,204.14
For Other Purposes	2,240,146.82
Endowment Subject to Annuity	228,371.08
Total	\$58,416,408.24

Loan Funds—June 30, 1956	\$ 675,226.18
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* Includes Duluth Branch.
 † Reduced to a full-time basis.
 § Valuation \$25,000 and under.

—W. T. MIDDLEBROOK, *vice president.*

PUBLICATIONS OF THE FACULTIES

A list of the publications of the faculties of the University of Minnesota for 1954-55 and for 1955-56 are contained in separate publications.

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