

University of Minnesota

BIENNIAL REPORT

of the President and of the Board of Regents

1964 - 1966

to the

Legislature of the State of Minnesota

Approved and Adopted by the Board of Regents

June 30, 1966

THE BOARD OF REGENTS

As of June 30, 1966

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First Vice-President and Chairman

The Honorable Marjorie J. Howard (Mrs. C. Edward), Excelsior
Second Vice-President

The Honorable Daniel C. Gainey, Owatonna

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TABLE OF CONTENTS

	Page
Letter of Transmittal	vi
Significant Events, Activities, and Actions	1-4
Academic Reorganization	1
Tuition Increase	1
College of Biological Sciences	1
University Community Development Corporation	2
Outstanding Achievement Awards	2
Alumni Service Awards	3
Regents' Awards	3
University Personnel	5-151
Changes in Personnel	5-55
Board of Regents	5
Faculties	5
Retirements, 1964-65	5
Retirements, 1965-66	6
Terminations, 1964-65	7
Terminations, 1965-66	10
Appointments, 1964-65	13
Appointments, 1965-66	19
Promotions and Transfers, 1964-65	27
Promotions and Transfers, 1965-66	32
Leaves of Absence, 1964-65	38
Leaves of Absence, 1965-66	43
Single Quarter Leaves, 1964-65	49
Single Quarter Leaves, 1965-66	51
Deaths, 1964-66	54
Honors and Distinctions	55-151
Administration	55
Divisions of Academic Administration	56
Divisions of Business Administration	147
Divisions of Educational Relationships and Development	148
The Work of the University	152-362
Divisions of Academic Administration	152-278
Department of Aerospace Studies	152
Institute of Agriculture	152
College of Biological Sciences	164
School of Business Administration	166
Department of Concerts and Lectures	169

	Page
School of Dentistry	177
University of Minnesota, Duluth	183
College of Education	185
General College	192
General Extension Division	194
Graduate School	220
Bureau of Institutional Research	228
Office of International Programs	231
Law School	237
College of Liberal Arts	239
University Libraries	243
College of Medical Sciences	247
Department of Military Science	256
University of Minnesota, Morris	257
Museum of Natural History	262
Department of Naval Science	264
College of Pharmacy	266
Summer Session	268
Institute of Technology	269
University College	274
University Press	275
College of Veterinary Medicine	276
Divisions of Business Administration	279-310
Business Office	279
Department of Civil Service Personnel	285
Office of the Field Auditor	292
Department of Insurance and Retirement	292
Patents	293
Plant Services Departments	294
Police Department	303
University Services	305
Divisions of Educational Relationships and Development	311-362
Office of the Vice-President for Educational Relationships and Development	311
Office of Admissions and Records	312
Department of Alumni Relations	338
Office of the Dean of Students	340
University Health Service	346
Department of Intercollegiate Athletics	350
Department of Student Unions	353
Department of University Relations	359
Index	363

To the Honorable Board of Regents
University of Minnesota

Gentlemen:

I have the honor to submit herewith the *Biennial Report* covering the operations of the University of Minnesota for the biennium ended June 30, 1966.

I would also like to call to your attention *The President's Report, 1964-1966*. This briefer report is designed to summarize the many and varied activities of the University for a wider readership than is usually associated with the *Biennial Report*.

Sincerely,

A handwritten signature in cursive script that reads "Meredith Wilson". The signature is written in dark ink and is positioned above the printed name.

President

Minneapolis, Minnesota
July 1, 1966

BIENNIAL REPORT

1964-1966

SIGNIFICANT EVENTS, ACTIVITIES, AND ACTIONS

Academic Reorganization—The 1964-1966 biennium saw a continuation of the sweeping reorganization of units which was carried on during the previous two biennia. The College of Biological Sciences, established by the Board of Regents during the last biennium, was formally inaugurated on September 1, 1965. The Botany and Zoology Departments from the College of Liberal Arts and the Biochemistry Department from the Institute of Agriculture were placed under the administration and budget of the newly formed College. In addition, a new Genetics Department was created by the voluntary transfer of certain professors from the Institute of Agriculture and from the Zoology Department. The Museum of Natural History, which previously occupied an independent status under the Academic Vice-President, has also been placed within the new College, as has the Dight Institute, which was formerly a part of the Graduate School. These two transfers were made mainly to shift administrative responsibilities.

The space age is increasingly having its effect on the organization of the Institute of Technology. The Department of Mechanical Engineering and the Department of Aeronautics and Engineering Mechanics, with the approval of the Board of Regents and the concurrence of the faculties involved, were joined in the creation of a new School of Mechanical and Aerospace Engineering. The Regents also established the Space Science Center, which will be multidisciplinary in nature, combining facilities of the Institute of Technology and other University units concerned with matters of space research and exploration.

In the College of Liberal Arts, the Departments of East and South Asian Languages, Middle Eastern Languages, and Slavic and East European Languages were created from the former Department of Slavic and Oriental Languages. The Art Department was divided into two departments: Art History and Studio Arts. A Linguistics Department was created, and the Public Administration Center was separated from the Political Science Department.

Two new divisions were established in the Institute of Agriculture: the Department of Food Science and Industries and the Department of Animal Science. In addition, as a natural outgrowth of the University's increasing interest in international affairs, an Office of International Agricultural Programs came into existence in 1964. The Northwest School of Agriculture at Crookston was phased out during the biennium, and a new two-year technical institute, emphasizing programs in agriculture and business, was planned to utilize the existing facilities. The new unit began accepting students for the fall of 1966.

Other organizational changes are touched upon below in reports by the College of Education, the Graduate School, the Department of Aerospace Studies, and other units of the University.

Tuition Increase—In order to supplement legislative appropriations to the University, the Board of Regents voted, on June 12, 1965, to increase tuition and fees by \$20 per quarter. A \$100,000 scholarship fund will be established from the increase at the rate of fifty cents per student annually. The fund will be used to aid students in exceptional cases of financial need.

College of Biological Sciences—This new College, the make-up of which is described above under "Academic Reorganization," was created because of the increasing need felt by the faculties in the biological sciences for a

complete revision of existing curricula in this rapidly changing part of knowledge. To see that students are kept as up-to-date as is possible with the ever-changing knowledge of the structure and function of biologic systems, the new College established its program with three main points in mind: (1) "to provide bioscience courses for other collegiate units both for the purpose of general education and to assist in the development of majors in fields which are based on a thorough grounding in bioscience"; (2) "to provide a substantial curriculum in biological science that leads to the granting of the bachelor of science degree"; and (3) "to provide opportunities for research and teaching at the graduate level that will assure high standards and the maintenance of an excellent faculty."

University Community Development Corporation—This Corporation was formed in January of 1966 by six Twin Cities educational and medical institutions—Augsburg College, Fairview Hospital, Luther Seminary, the University of Minnesota, St. Mary's Junior College, and St. Mary's Hospital—to help to plan the future of the areas surrounding these institutions and to seek common solutions to problems. Specifically, the purposes of the Corporation are (1) compiling and disseminating information on studies relating to building and housing conditions; land uses; conservation, planning, and development; economic and business conditions; the incidence of crime and violations of law; ordinances and health regulations; and school, recreation, and traffic requirements; (2) encouraging, and serving as a clearinghouse for, the exchange of information between organizations, residents, and citizens, and between them and public officials, regarding all such community problems; and (3) recommending to organizations, residents, and citizens, and to public bodies and officials such action as is considered necessary or appropriate for community conservation, rehabilitation, or improvement.

The area of concern of the University Community Development Corporation includes the campuses of the participating institutions and their vicinities in the cities of Minneapolis, St. Paul, and Falcon Heights. At the first meeting of the directors of this nonprofit Corporation on January 27, 1966, John S. Pillsbury, Jr., was elected President; John H. Meyers, Vice-President; John S. Holten, Secretary; and Robert W. Rischer, Treasurer.

Outstanding Achievement Awards—Outstanding Achievement medals and citations, authorized by the Regents on December 17, 1947, have been conferred on 419 individuals through June 30, 1966.

The 66 awards conferred during 1964-1966 were presented at various events, dinners, luncheons, meetings, banquets, and anniversaries, both on and off campus. The names of the distinguished alumni who received these awards during the biennium are as follows:

Arthur L. Anderson	Hirotohi Hashimoto
Kenneth E. Anderson	F. E. Heinemann
Irvamae Applegate	Nicholas C. Hightower, Jr.
Glenn P. Bakken	C. Adrian M. Hogben
Edward W. Boland	Dwight J. Ingle
William H. Burgess	Perrie Jones
R. Lee Clark	Walter Judd
George R. Constam	Nandkumar H. Keswani
Irving S. Cooper	Paul E. Lacy
Roger J. Cumming	Herbert A. Laitinen
Norris Darrell	Alexander Leaf
Ralph A. Deterling, Jr.	Dorothy M. Leahy
Brown M. Dobyns	James R. Learmonth
Donald M. Douglas	Walter C. Lobitz, Jr.
William W. Engstrom	W. Randolph Lovelace
Earl Ewald	Sarah Luse
Thomas B. Fitzpatrick	Daniel F. Lynch
Donald G. Fletcher	Henry C. Mackall
Piero Frugoni	Walter C. MacKenzie
Robert Fuller	Eugene J. McCarthy
Grace A. Goldsmith	William J. Micheels
James Gray	Vernon X. Miller

Katherine A. Nye
 Lillian L. Nye
 Stanley W. Olson
 Juan C. Orendain
 John S. Pillsbury, Jr.
 Raymond D. Pruitt
 Joseph E. Rall
 Kurt Reichert
 Edward C. Rosenow, Jr.
 Robert F. Rushmer
 T. Schantz-Hansen

Clarence H. Schutte
 Belding H. Scribner
 John A. Shellenberger
 Elmer B. Staats
 Irene B. Taeuber
 Wade Volwiler
 Hudson D. Walker
 Milton G. Walls
 Homer R. Warner
 C. Stuart Welch
 Dwight L. Wilbur

Alumni Service Awards—These awards were approved by the Regents on February 8, 1957, to be conferred upon alumni or former students of the University of Minnesota in recognition of service to the University, its schools, colleges, departments, or faculty, or to the Alumni Association or any of its constituent groups. Alumni service awards have been conferred upon 33 individuals through June 30, 1966. Recipients during this biennium were as follows:

Mark Abbott
 George M. Briggs
 Charlotte W. Choep
 Lawrence S. Clark

Franklin D. Gray
 Kendall B. Macho
 Joseph A. Maun

Regents' Awards—On February 19, 1965, the Regents' Award was conferred upon A. I. Johnson, resigning Regent from Benson. The text of the citation is as follows:

A. I. JOHNSON

The University of Minnesota, in appreciation of devoted service, presents this Regents' Certificate of Merit to A. I. Johnson, member of the Board of Regents, 1959-65. And thereby formally recognizes and gives grateful expression for all that his services have meant to the University and to the citizens of the State; for all that his counsel and judgment have meant to the on-going of the University in its programs of instruction, research, and public service; and, above all, for what his personal association and friendship over the years have meant to his colleagues on the Board of Regents.

Presented this Nineteenth Day of February, in the Year of Our Lord, the One Thousand Nine Hundred and Sixty-Fifth, and of the University of Minnesota, the One Hundred and Thirteenth.

On June 12, 1965, the Regents' Award was conferred upon Gerald W. Heaney, resigning Regent from Duluth. The text of the citation is as follows:

GERALD W. HEANEY

The University of Minnesota, in appreciation of devoted service, presents this Regents' Certificate of Merit to Gerald W. Heaney, member of the Board of Regents, 1964-65. And thereby formally recognizes and gives grateful expression for all that his services have meant to the University and to the citizens of the State; for all that his counsel and judgment have meant to the on-going of the University in its programs of instruction, research, and public service; and, above all, for what his personal association and friendship have meant to his colleagues on the Board of Regents.

Presented this Twelfth Day of June, in the Year of Our Lord, the One Thousand Nine Hundred and Sixty-Fifth, and of the University of Minnesota, the One Hundred and Fourteenth.

On July 16, 1965, the Regents' Award was conferred upon William T. Middlebrook, Vice-President Emeritus, Business Administration. The text of the citation is as follows:

WILLIAM THEOPHILUS MIDDLEBROOK

His profound and lasting commitment to education began when he left his native Vermont for Dartmouth College, where he earned two degrees and a Phi Beta Kappa key. In 1925 he brought to the University of Minnesota his business acumen and philosophy; as comptroller and later as vice-president for business administration, he served the University for 34 years, ever guiding it toward excellence. A practical visionary, he insisted that education is best served by a close partnership of the academic and business offices. His impact has been felt not only at the University of Minnesota but far beyond; he has shared his

wisdom and experience with educators and statesmen both nationally and across the seas.

As an associate of four University presidents, he charted a disciplined financial course through many crises; he helped to shape the University's plans for expansion and served well as its chief legislative spokesman. He brought to his work foresight, perceptiveness, firmness, and enthusiasm, all abetted by a resilient sense of humor. His influence marked all realms of University life: he persuaded the Board of Regents to initiate legal action that led to its recognition as a fully autonomous body; he fought for an "open door" policy to keep education within the grasp of all, regardless of financial limitations; he championed faculty and staff, seeking for them above all the freedom he called "a prime essential in our kind of business."

Because his wise and forceful leadership has strengthened education here and abroad, because of what he calls his "missionary conviction" that higher education is a noble cause, because he has embodied a deep love for the University, because he demanded greatness of the University, and because as secretary of the Board of Regents he became a valued colleague, counselor, and friend, the Regents of the University of Minnesota, in special recognition of his Benefaction, Fidelity, and Leadership, confer upon William Theophilus Middlebrook the Regents' Award.

Presented this Sixteenth Day of July, in the Year of Our Lord, the One Thousand Nine Hundred and Sixty-Fifth, and of the University of Minnesota, the One Hundred and Fourteenth.

On December 29, 1965, the Regents' Award was conferred upon Malcolm M. Willey, Vice-President Emeritus, Academic Administration. The text of the citation is as follows:

MALCOLM MACDONALD WILLEY

Deeply rooted in the "Maine-way" of his native state, a summa cum laude graduate of Clark University, holder of a doctorate in sociology from Columbia University, he accepted an associate professorship at the University of Minnesota on September 16, 1927, thus launching a dedicated career of public service to the State of Minnesota and the world of education. As an exuberant teacher and speaker, he gave generously of his insight, talent, and love to the citizens and students of his new State and University. As Dean and later as Vice-President, he drafted the Regents' first statement on academic freedom, wrote the faculty tenure code, influenced the adjustment of education to the Depression through the student relief program, vigilantly scrutinized campus regulations and practices in order to eradicate any traces of racial discrimination, and conceived the substance of the inspiring inscription that is carved on Northrop Memorial Auditorium. As a perceptive and vigorous adviser to five University presidents, he frequently shaped and always responded creatively to their ideas, especially during times of crisis and transition. Truly, he has left an imprint on the history of the University.

He is a man of intense and manifold enthusiasms, ranging from bird-watching to finding the "irrefutable logic" of Alice in Wonderland; he has joyfully introduced us to the world of his whaling and newspaper forebears; he has traveled the earth and reached out to its peoples and to all who know him with understanding. Now, as a Ford Foundation consultant at the University of Calcutta, he is helping to shape India's educational future.

Because his unwavering belief in education as a source of national strength impelled him to give invaluable service in his homeland and abroad, because he has demonstrated what he himself defined as the qualities of greatness—"a sense of personal responsibility, a conviction that truth can make us free, a reborn life of the spirit," and because he helped the University to become what it is today, and in doing so, won heartfelt respect and regard, the Regents of the University of Minnesota, in special recognition of his Benefaction, Fidelity, and Leadership, confer upon Malcolm Macdonald Willey the Regents' Award. Presented this Twenty-Ninth Day of December, in the Year of Our Lord, the One Thousand Nine Hundred and Sixty-Fifth, and of the University of Minnesota, the One Hundred and Fourteenth.

UNIVERSITY PERSONNEL

CHANGES IN PERSONNEL

Board of Regents

The 1965 Legislature reelected the following Regents for six-year terms: Marjorie J. Howard, Excelsior; Lester A. Malkerson, Minneapolis; and Charles W. Mayo, M.D., Rochester.

Former Regent Gerald W. Heaney, Duluth, who was appointed in 1964 to fill a vacancy, was not reelected by the Legislature. Former Regent A. I. Johnson, Benson, who had been a member of the Board since April of 1959, did not seek reelection.

Albert V. Hartl, President of the Otter Tail Power Company in Fergus Falls, was elected by the 1965 Legislature for a four-year term, succeeding Regent Heaney. George W. Rauenhorst, cattle raiser from Olivia, was elected for a six-year term, succeeding Regent Johnson.

It is with regret that we report the deaths of two former Regents: Andrew J. Olson, age 80, on September 27, 1965, and Olaf J. Hagen, M.D., age 93, on December 3, 1965. Mr. Olson served on the Board from 1929 to 1937 and from 1939 to 1964; Dr. Hagen served from 1932 to 1938.

Faculties

RETIREMENTS

1964-66

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 years of service indicated in parentheses, retired during the biennium.

1964-65

Huntington Brown, professor emeritus, English (1926-65).

Randolph M. Brown, professor emeritus, School of Forestry and director, Forestry Session, Lake Itasca (1926-65).

Louis A. Brunsting, professor emeritus, dermatology, Mayo Graduate School of Medicine (1930-65).

Elizabeth Carlson, professor emeritus, School of Mathematics (1924-65).

John R. Ellingston, professor emeritus, Law School Training Project in Juvenile Delinquency (1952-65).

Ejvind P. K. Fenger, clinical professor emeritus, medicine (1928-65).

Royal C. Gray, professor emeritus, psychiatry and neurology (1928-65).

Alfred L. Harvey, professor emeritus, animal husbandry (1920-65).

Albert C. Heine, professor emeritus, Agricultural Experiment Station, Rosemount (1917-65).

Arthur E. Hutchins, professor emeritus, horticultural science (1927-65).

Fred L. Kildow, professor emeritus, School of Journalism (1928-65).

Reuel I. Lund, professor emeritus, accounting (1923-65).

Josephine L. Rollins, professor emeritus, art (1927-65).

Lloyd M. Short, professor emeritus, political science (1935-65).

Dorothy F. Simmons, professor emeritus-state leader, home economics extension (1948-64).

Joseph Valasek, professor emeritus, School of Physics (1919-65).

- Charles H. Watkins, professor emeritus, medicine, Mayo Graduate School of Medicine (1929-64).
 Harold T. Widdowson, professor emeritus, trade and industrial education (1937-65).
 Harold N. G. Wright, professor emeritus, pharmacology (1926-65).
 Clarence H. Christopherson, associate professor emeritus, agricultural engineering (1934-65).
 Ernestine C. Donaldson, associate professor emeritus, School of Business Administration (1928-65).
 Ross L. Huntsinger, associate professor emeritus-agricultural agent, Nobles County (1934-43; 1945-64).
 Glenn I. Prickett, associate professor emeritus-extension specialist farm safety, Agricultural Extension Service (1927-64).
 Ethel R. Gorham, assistant professor emeritus, School of Home Economics (1925-65).
 Victor A. Newcomb, assistant professor emeritus, practical law and business, General College (1935-65).
 Howard E. Balk, instructor emeritus-agricultural agent, Big Stone County (1934-64).

1965-66

- Charles V. Netz, associate dean and professor emeritus, Pharmacy (1918-66).
 J. Richard Aurelius, clinical professor emeritus, radiology (1930-66).
 Blanchard K. Braum, clinical professor emeritus, School of Dentistry (1945-66).
 Mitchell V. Charnley, professor emeritus, School of Journalism (1934-66).
 Troy M. Currence, professor emeritus, horticultural science (1928-66).
 William H. Dankers, professor emeritus, extension economist marketing, Agricultural Extension Service (1926-65).
 Gerald T. Evans, professor emeritus and head, laboratory medicine (1939-66).
 Willard J. Hadley, professor emeritus, Pharmacy (1938-42; 1946-66).
 James A. Hamilton, professor emeritus, Division of Hospital Administration (1946-66).
 Helen Hart, professor emeritus, plant pathology and physiology (1922-66).
 Mykola H. Haydak, professor emeritus, entomology, fisheries and wildlife (1933-66).
 Victor Johnson, professor emeritus, physiology and director, Mayo Graduate School of Medicine (1947-66).
 Leah M. Lewis, professor emeritus, interior design, Agricultural Extension Service (1921-23; 1924-25; 1926-31; 1944-66).
 Harold L. Mason, professor emeritus, physiological chemistry, Mayo Graduate School of Medicine (1928-66).
 Elizabeth Nissen, professor emeritus, Romance Languages (1920-21; 1923-66).
 Edward H. Rynearson, professor emeritus, medicine, Mayo Graduate School of Medicine (1932-66).
 Ernst Simonson, professor emeritus, School of Public Health (1944-66).
 Gershon J. Thompson, professor emeritus, urology, Mayo Graduate School of Medicine (1932-66).
 Harold C. Wittich, professor emeritus, School of Dentistry (1925-66).
 Ragnvald S. Ylvisaker, clinical professor emeritus, medicine (1927-28; 1929-30; 1933-66).
 Floyd O. Colburn, associate county agricultural agent, forestry-associate professor, Itasca County (1946-65).
 Ledru O. Guthrie, associate professor emeritus, English (1929-66).
 Wesley N. Herr, associate professor emeritus, inorganic chemistry (1946-66).
 Robert A. Merrill, associate professor emeritus, Division of Veterinary Medicine and Clinics (1950-66).
 Carl O. Rice, clinical associate professor emeritus, surgery (1929-31; 1932-66).
 Dorothy D. Smith, associate professor emeritus, Division of Education and Psychology, Duluth (1947-66).
 Erwin C. Welke, associate professor, audio-visual extension service (1959-66).
 Macnider Wetherby, clinical associate professor emeritus, medicine (1923-66).
 Leo C. Culligan, clinical assistant professor emeritus, surgery (1923-29; 1943-66).
 Ivar Glemming, assistant professor emeritus, music (1942-66).

- Malcolm B. Hanson, clinical assistant professor emeritus, radiology (1926-66).
 Nels P. Hanson, agricultural agent-assistant professor emeritus, Pope County (1937-65).
 Naomi M. Peterson, assistant professor emeritus, management, production and transportation (1946-66).
 Lloyd J. Quaid, assistant professor emeritus, drawing and descriptive geometry (1923-66).
 Joseph F. Bicek, clinical instructor emeritus, obstetrics and gynecology (1921-66).
 Edward L. Foss, instructor emeritus, plastic surgery, Mayo Graduate School of Medicine (1939-41; 1950-66).
 Frank R. E. Gratzek, clinical instructor emeritus, radiology (1942-43; 1945-65).
 Abraham B. Rosenfield, lecturer emeritus, School of Public Health (1949-66).
 Helene B. Folsom, research fellow, veterinary bacteriology and Public Health (1943-66).
 Charles H. McKenzie, clinical assistant emeritus, obstetrics and gynecology (1937-66).

TERMINATIONS, 1964-65

- Will M. Myers, dean, International Programs and professor of plant genetics, effective December 31, 1964, to head the building and directing of the International Tropical Agricultural Research Institute which the Ford and Rockefeller Foundations will develop in Nigeria.
 John E. Hafstrom, professor and head of mathematics, University of Minnesota, Duluth, effective at close of 1964-65, to accept position at California State College, San Bernardino, California.
 Elliot Aronson, professor, laboratory for research in social relations, effective June 15, 1965, to accept professorship at University of Texas.
 Preston E. Cloud, Jr., professor of geology and geophysics, effective June 30, 1965, to accept position at the University of California.
 Francois N. Frenkiel, professor of aeronautics and engineering mechanics, effective December 15, 1964.
 Ruth E. Green, professor, Laboratory School, University of Minnesota, Duluth, effective June 15, 1965, to accept position as director of Christian Education, Lakeside Presbyterian Church, Duluth, Minnesota.
 Amy J. Holmblade, professor of home economics education, effective August 8, 1964, marriage to Dr. Phillip Knorr.
 Thomas B. Irving, professor, Slavic and Oriental Languages, effective June 15, 1965, to accept position at North Central College.
 Harold L. James, professor of geology and geophysics, effective June 15, 1965, to join U.S. Geological Survey, Menlo Park, California.
 Gerhard K. Kalisch, professor, School of Mathematics, effective August 15, 1965, to accept professorship at University of California.
 Yale J. Kamisar, professor, Law School, effective December 15, 1964, to accept position at Harvard Law School.
 Allan H. Morrish, professor of electrical engineering, effective March 15, 1965, to accept position at University of Manitoba.
 Pearl C. Niemi, professor, Slavic and Oriental Languages, effective June 15, 1965, to devote time to writing.
 Moses Passer, professor of chemistry, University of Minnesota, Duluth, effective at close of 1964-65, to accept position as educational secretary of the American Chemical Society, Washington, D.C.
 Edgar L. Piret, professor of chemical engineering, effective September 15, 1965, to accept position in the State Department.
 Paul C. Rosenbloom, professor, School of Mathematics, effective September 15, 1965, to accept professorship at Columbia University.
 John Spizzen, professor of microbiology, effective June 15, 1965, to accept position as head of microbiology department at Scripps Clinic and Research Foundation, La Jolla, California.
 Roy A. Swanson, professor of classics, effective August 31, 1965, to teach at Macalester College.
 Robert A. Ulstrom, professor of pediatrics, effective November 30, 1964, to accept position with University of California Center for Health Sciences.

- Jesse H. Choper, associate professor, Law School, effective August 21, 1965, to teach at University of California Law School.
- Donald H. Clifford, associate professor of veterinary surgery and radiology, effective July 26, 1965, to accept position at Veterans Administration in Houston, Texas.
- John A. Crane, associate professor, School of Social Work, effective August 31, 1965, to accept position at University of British Columbia.
- William J. A. Culmer, associate professor of agricultural engineering, effective September 15, 1965, to accept position at Midwestern College.
- Kenneth S. Deffeyes, associate professor of geology and geophysics, effective December 15, 1964, to accept appointment in oceanography at Oregon State University.
- Jorge R. Fontana, associate professor of electrical engineering, effective June 15, 1965, to accept position at University of California.
- Paul W. Gast, associate professor of geology and geophysics, effective March 15, 1965, to accept position at Columbia University.
- Ian Gregory, associate professor of psychiatry and neurology, effective June 30, 1965, for position at Ohio State University.
- Albert B. Hood, associate professor, Student Counseling Bureau, effective August 31, 1965, to teach at University of Iowa.
- Robert K. Josephson, associate professor of zoology, effective April 5, 1965, to accept position at Western Reserve University.
- Olaf E. Kolari, associate professor of animal husbandry, effective December 15, 1964, to accept position with American Meat Institute, Chicago, Illinois.
- Charles H. Kraft, associate professor of statistics, effective August 31, 1965, to join the staff of University of Montreal.
- Willis H. Krueger, clinical associate professor, School of Dentistry, effective June 30, 1965.
- John H. Matthews, associate professor of Romance Languages, effective June 15, 1965, to accept position at Syracuse University.
- Theodore J. Mentel, associate professor of aeronautics and engineering mechanics, effective August 2, 1965, to take position in industry.
- Arthur R. Miller, associate professor, Law School, effective July 17, 1965, to accept professorship at University of Michigan.
- Erland R. Nelson, associate professor of psychiatry and neurology, effective August 31, 1964, to accept position at University of Maryland.
- Irvin T. Omtvedt, associate professor and extension animal husbandman, Agricultural Extension, effective August 22, 1964, to accept position at Oklahoma State University.
- Richard A. Peterson, associate professor, School of Architecture, effective June 15, 1965, to return to private architectural practice.
- James C. Savage, associate professor of geology and geophysics, effective June 15, 1965, to accept position at Institute of Earth Sciences, University of Toronto.
- Milo H. Swanson, associate professor of poultry science, effective March 31, 1965, to accept position in agricultural extension service, University of California.
- Forrest L. Vance, associate professor, Office of Dean of Students, Student Counseling Bureau, effective June 30, 1965, to accept position with American Psychological Association, Washington, D.C.
- Robert L. Vernier, associate professor of pediatrics, effective January 31, 1965, to accept a position at UCLA Center for Health Sciences.
- Philip G. Walther, associate professor of psychology, University of Minnesota, Duluth, effective June 15, 1965, to accept position as chief psychologist with Michigan Bell Telephone Company in Detroit.
- Stuart Young, associate professor of veterinary pathology and parasitology, effective September 30, 1964, to accept position at Colorado State University.
- Roger V. Anderson, assistant professor of plant pathology and physiology, effective June 30, 1965, to accept position with Canadian Department of Agriculture.
- Paul M. Arnesen, assistant professor of orthopedic surgery, effective July 31, 1964, for private practice.

- Irving A. Borkon, clinical assistant professor, School of Dentistry, effective June 15, 1965, to devote time to private practice.
- Dana H. Bramel, assistant professor of psychology, effective June 15, 1965, to accept position at State University of New York.
- Theophilos Cacoulios, assistant professor of statistics, effective September 15, 1965, to join the staff at New York University.
- Major Stanley A. Castleman, assistant professor, Air Science, effective June 15, 1965.
- William F. Cates, assistant professor of veterinary obstetrics and gynecology, effective July 31, 1965, to accept position at University of Saskatchewan.
- Yuh-Ching Chen, assistant professor, Division of Science and Mathematics, University of Minnesota, Morris, effective June 15, 1965, to continue his education.
- W. Richard Dukelow, assistant professor at North Central School of Agriculture, effective November 30, 1964, to serve as postdoctoral researcher in physiology of reproduction at University of Georgia.
- Bruce E. Dunn, assistant professor, Division of Social Science, University of Minnesota, Morris, effective June 15, 1965, to teach at University of Alberta.
- William P. Frantzich, clinical assistant professor, School of Dentistry, effective June 15, 1965, to devote time to private practice.
- Marshall G. Greenberg, assistant professor of psychology, effective June 15, 1965, to accept position with Proctor and Gamble Company, Cincinnati, Ohio.
- Ward O. Griffen, Jr., assistant professor of surgery, effective August 31, 1965, to join staff of University of Kentucky Medical School.
- Kathryn Hammer, assistant professor of laboratory medicine, effective July 21, 1965, to accept position at University of Illinois.
- Margie R. Hanson, assistant professor, Physical Education for Women, effective June 15, 1965, to accept position with American Association for Health, Physical Education, and Recreation.
- Frank B. W. Harper, assistant professor, Institute of Child Development, effective June 15, 1965, to accept position at University of Western Ontario.
- John F. Helling, assistant professor of secondary education, University of Minnesota, Duluth, effective June 15, 1965, to accept position at University of Wisconsin.
- Herbert J. Hopen, assistant professor-assistant superintendent, Northeast Experiment Station, effective December 31, 1964, to accept position at University of Illinois.
- Philip C. Hoyda, assistant professor, School of Social Work, effective August 31, 1964, to accept position at University of Chicago.
- David E. Jones, assistant professor of English, effective June 15, 1965, to accept a position at University of Utah.
- M. Esmet Kamil, assistant professor of civil engineering, effective June 15, 1965, to return to Egypt.
- Ralph H. Kurtzman, assistant professor of biology, University of Minnesota, Morris, effective June 15, 1965.
- Donald R. Lewis, assistant professor and head tennis coach, effective June 15, 1965.
- Elaine D. McMaster, assistant professor of laboratory medicine, effective November 16, 1964.
- Fred W. Meitzer, assistant professor, Division of Humanities, University of Minnesota, Duluth, effective June 15, 1966.
- Robert G. Michaels, assistant professor, hospital administration, effective June 30, 1965, to accept position with Minnesota Hospital Association.
- Harold A. Miller, assistant professor of rhetoric, effective June 15, 1965, to accept position at Westmont College.
- Barbara B. North, assistant professor, School of Home Economics, effective December 31, 1964, to accompany her husband who accepted position at North Dakota State University.
- Robert Orlando, assistant professor of special education, effective June 15, 1965, to accept position at George Peabody College for Teachers.

- John D. Photiadis, assistant professor of sociology, effective March 15, 1965, to accept position at University of West Virginia.
- Srinivas B. Prasad, assistant professor of economics, University of Minnesota, Morris, effective June 15, 1965.
- Naomi Quevillon, assistant professor of psychiatry and neurology, effective September 1, 1965.
- Carl W. Rudelius, Jr., assistant professor, School of Business Administration, effective June 15, 1965, to accept position with North Star Research and Development Institute.
- Joseph S. Smolen, assistant professor, Industrial Relations Center, effective August 13, 1965, to accept position at University of Connecticut.
- Edward S. Sulzer, assistant professor of psychiatry and neurology, effective September 15, 1965, to accept position at Southern Illinois University.
- Robert W. Surplus, assistant professor, University High School, effective June 15, 1965, to teach at Eastern Kentucky State College.
- Marjorie B. Tate, assistant professor, Physical Education for Women, University of Minnesota, Duluth, effective June 15, 1965.
- John E. Verna, assistant professor of microbiology, effective January 15, 1965, to accept a position with Melpar, Incorporated, Falls Church, Virginia.
- Frederick Walker, assistant professor of anatomy, effective June 15, 1965, to return to Scotland.
- John L. Walker, Jr., assistant professor of physiology, effective June 30, 1965, to accept position at University of Utah.
- Jerry S. Weis, assistant professor of biology, University of Minnesota, Duluth, effective June 15, 1965, to accept two year postdoctoral research fellowship at Yale University.
- Glenn L. Wood, assistant professor, School of Business Administration, effective June 15, 1965, to accept position with American College of Life Underwriters, Bryn Mawr, Pennsylvania.

TERMINATIONS, 1965-66

- George P. Hager, dean, College of Pharmacy, effective December 31, 1965, to become dean, School of Pharmacy at University of North Carolina.
- Ralph G. Ross, professor and chairman of humanities program, effective June 15, 1966, to accept position at Claremont College.
- George Amberg, professor of humanities program, effective June 15, 1966, to accept position at New York University.
- Joe Bradley Aust, professor of surgery, effective June 30, 1966, to accept position as professor and head of surgery, South Texas Medical School at University of Texas.
- Guy L. Bond, professor of elementary education, effective June 15, 1966.
- Willis E. Dugan, professor of educational psychology, effective June 15, 1966, to accept position as executive director of the American Personnel and Guidance Association in Washington, D.C.
- Donald P. Duncan, professor and assistant director, School of Forestry, effective September 30, 1965, to become head, School of Forestry at University of Missouri.
- Roy G. Francis, professor of sociology, effective June 15, 1966, to become dean, College of Letters and Science, University of Wisconsin.
- Charles E. Gates, professor, Agricultural Experiment Station, effective August 31, 1966, to accept position with the Institute of Statistics, Texas A & M University.
- James F. Hammarsten, professor of medicine, effective June 15, 1966, to accept position at University of Oklahoma.
- Carroll V. Hess, professor of agricultural economics, effective May 10, 1966, to accept appointment as dean, College of Agriculture and director of resident instruction at Kansas State University.
- Fern M. Horn, professor of home economics education, effective June 30, 1966, to accept position as professor of home economics education at Wisconsin State University.

- E. Gartly Jaco, professor, School of Public Health, effective June 30, 1966, to accept position of professor and chairman of sociology at University of California.
- Bjarni Jonsson, professor, School of Mathematics, effective June 15, 1966, to accept position at Vanderbilt University.
- Colonel Thomas R. Owens, professor, Air Force ROTC, University of Minnesota, Duluth, effective August 1, 1966, transferred to Mountain Home Air Force Base, Idaho.
- Terrance Sandalow, professor, Law School, effective June 16, 1966, to accept position at the University of Michigan.
- Hugh A. Storrow, professor of psychiatry and neurology, effective September 15, 1966, to return to the University of Kentucky.
- E. Paul Torrance, professor of educational psychology, effective June 15, 1966, to accept position as head of educational psychology, University of Georgia.
- Harry F. Williams, professor, Romance Languages, effective June 15, 1966.
- John B. Wolf, professor of history, effective June 15, 1966, to accept position of professor at University of Illinois.
- Paul Adams, associate professor of pediatrics, effective June 30, 1966.
- Yu-Min Chou, associate professor, Division of Social Science, University of Minnesota, Morris, effective June 15, 1966, to accept position at University of Michigan.
- Brooks D. Church, associate professor of microbiology, effective August 31, 1966.
- Elizabeth L. Cless, associate professor and assistant to the dean, General Extension Division, effective December 31, 1966, to accept position as director, Continuing Education at Claremont College.
- James L. Gibbs, Jr., associate professor of anthropology, effective June 15, 1966, to accept position as associate professor of anthropology at Stanford University.
- Ralph E. Giesey, associate professor of history, effective June 15, 1966, to accept position as professor of history at University of Iowa.
- Rollie R. Houchins, associate professor of special education, effective June 15, 1966, to accept position at University of Kansas Medical Center.
- Fred A. Johnson, associate professor, General College, effective September 15, 1966, to accept position at the University of Colorado.
- Michael P. Joseph, associate professor, General College, effective June 15, 1966.
- Dennis J. Kane, associate professor, Medical Sciences, effective June 30, 1966.
- Virgil J. Kroeger, associate professor, Division of Social Sciences, University of Minnesota, Duluth, effective July 16, 1966, to accept position at Knox College.
- Millard H. LaJoy, associate professor of mechanical engineering, effective June 15, 1966.
- Edgar L. Makowski, associate professor of obstetrics and gynecology, effective August 31, 1966, to accept a position at the University of Colorado.
- Roy H. Mattson, associate professor of electrical engineering, effective December 18, 1965, to become professor and head of electrical engineering, University of Arizona.
- William A. Mindak, associate professor, School of Journalism, effective June 15, 1966, to accept position at University of Texas, Austin.
- Joseph W. St. Geme, Jr., associate professor of pediatrics, microbiology, and laboratory medicine, effective December 31, 1965, to become chief of pediatrics at Harbor General Hospital, Los Angeles, and associate professor, University of California.
- Philip Siegelman, associate professor of humanities program, effective June 15, 1966, to accept position at San Francisco State College.
- Kenneth R. Skjeggstad, associate professor and assistant chairman of botany, effective June 15, 1966, to accept position at Moorhead State College.
- Burton Stein, associate professor of history, effective June 15, 1966, to accept position at University of Hawaii.
- Richard W. Von Korff, associate professor of biochemistry, effective June 15, 1966, to accept position as director of biochemical research, Spring Grove State Hospital, Baltimore, Maryland.

- Roman F. Warmke, associate professor of secondary education and economic education, effective June 30, 1966, to accept position at Ohio University.
- Frederick Wezeman, associate professor, Library School, effective June 15, 1966, to become director, Library School at the State University of Iowa.
- W. Ralph Andersen, assistant professor of horticultural science, effective August 31, 1966, to accept position at the University of Utah.
- J. Stanley Barlow, assistant dean and assistant professor of summer session, effective September 15, 1966, to accept position at Columbia University.
- Richard F. Bernard, assistant professor and chief, Special Collections Department, Library, effective June 17, 1966, to accept position at Huntington Library, San Marino, California.
- Robert E. Beverley, assistant professor, Division of Humanities, University of Minnesota, Duluth, effective June 15, 1966.
- Nabil F. Bissada, assistant professor, School of Dentistry, effective April 15, 1966, to return to Egypt.
- Charles M. Blackburn, assistant professor of medicine, Mayo Graduate School of Medicine, effective November 17, 1965.
- Antonio Camacho, assistant professor of economics, effective June 15, 1966, returning to position at Purdue University.
- Austin B. Caswell, Jr., assistant professor, General College, effective June 15, 1966, to accept position at Indiana University School of Music.
- Harley Cohen, assistant professor of aeronautics and engineering mechanics, effective September 15, 1966, to accept position at University of Manitoba.
- David L. Eggenschwiler, assistant professor of English, effective June 15, 1966, to accept position as assistant professor at University of Southern California.
- Sen Fan, assistant professor, Division of Science and Mathematics, University of Minnesota, Morris, effective June 15, 1966.
- Major Charles Fimian, assistant professor, Naval Science, effective June 30, 1966.
- Avrom H. Fleishman, assistant professor of English, effective June 15, 1966, to accept position as assistant professor at Michigan State University.
- John C. Haugland, assistant professor, Graduate School, effective May 31, 1966, to accept position as dean of College of Letters and Science and assistant to the President at Wisconsin State University.
- E. Alexander Hill, assistant professor of organic chemistry, effective June 15, 1966, to accept position at University of Wisconsin.
- Donald Oscar Johnson, assistant professor, Division of Social Science, University of Minnesota, Morris, effective June 15, 1966, to accept position at Sonoma State College.
- Freeman K. Johnson, assistant professor, Northwest School of Agriculture and Northwest Experiment Station, effective June 30, 1966, to accept position with Cargill, Incorporated at Moorhead, Minnesota.
- Richard K. Juberg, assistant professor, School of Mathematics, effective July 1, 1966, to accept position at the University of California.
- Yaqub N. Karkar, assistant professor, General College, effective June 15, 1966.
- Elsie J. Knowles, assistant professor, Division of Humanities, University of Minnesota, Duluth, effective June 15, 1966.
- Lester Mattison, assistant professor and circulation librarian, effective August 31, 1966, to accept position at Bemidji State College.
- Bruce S. McEwen, assistant professor of zoology, effective September 16, 1966, to accept position at the Rockefeller Institute.
- Neil W. Miles, assistant professor and extension horticulturist of horticultural science and Agricultural Extension Service, effective August 19, 1966, to accept position with Kansas State University.
- Richard K. Miller, assistant professor, School of Mathematics, effective June 15, 1966, to accept position at Brown University.
- Roy W. Northey, assistant professor of industrial education, University of Minnesota, Duluth, effective September 1, 1966.
- Ladislav P. Novak, assistant professor of anthropology, effective September 15, 1966.
- Frank J. Pearson, assistant professor of art, effective December 3, 1965.

- Lee A. Pederson, assistant professor of English, effective June 15, 1966, to accept position as associate professor at Emory University.
- Charlotte Podolsky, assistant professor of special education, effective June 15, 1966, to take position at Hofstra University.
- Haskell P. Rosenthal, assistant professor, School of Mathematics, effective June 15, 1966, to accept position at the University of California.
- Leon Rottmann, assistant professor of education, Office of the Dean of Students, effective November 30, 1965, to accept position at the University of Nebraska.
- James P. Scamman, Jr., assistant professor and assistant to the director of administration, College of Education, effective June 30, 1966, to accept position with the Minnesota State Department of Education.
- Thomas P. Serene, assistant professor, School of Dentistry, effective June 30, 1966.
- Margaret Space, assistant professor, Student Counseling Bureau, effective August 26, 1966, to accept position at Metropolitan State Junior College.
- Norman Starr, assistant professor of statistics, effective June 15, 1966, to accept position at Carnegie Institute of Technology.
- Lee D. Stauffer, assistant professor and assistant director, School of Public Health, effective July 31, 1966, to accept position with American College Health Association.
- Henry A. Stavan, assistant professor, Romance Languages, effective June 15, 1966.
- R. Edith Stedman, assistant dean of students and assistant professor of educational psychology, effective March 31, 1966.
- Alexander B. Taylor, assistant professor, Student Counseling Bureau and Family Studies, effective June 30, 1966.
- Fran Thomas, assistant professor, Division of Humanities, University of Minnesota, Morris, effective June 15, 1966.
- Vlad I. Thomas, assistant professor, Division of Humanities, University of Minnesota, Morris, effective June 15, 1966.
- Larry L. Tieszen, assistant professor, Division of Science and Mathematics, University of Minnesota, Duluth, effective June 15, 1966.
- Myron E. Tumbleson, assistant professor of animal husbandry, effective May 15, 1966, to accept position at University of Missouri.
- Harold R. Wallace, assistant professor, General College, effective June 15, 1966, to accept position at State University of New York.
- Stanley D. Warner, assistant professor of veterinary pathology and parasitology, effective June 30, 1966, to accept position in pathology-toxicology laboratory, Pitman-Moore Company, Zionsville, Indiana.
- Harper F. Willis, assistant professor of physical medicine and rehabilitation, effective June 30, 1966.
- Ronald F. Wipfern, assistant professor, School of Business Administration, effective June 15, 1966, to accept position at Dartmouth College.
- Lois J. Zimring, assistant professor, Division of Science and Mathematics, University of Minnesota, Morris, effective June 15, 1966.

APPOINTMENTS, 1964-65

Professors

- John Blackmore as professor of agricultural economics, and director, International Agricultural Programs, Institute of Agriculture
B.S. 1947, Washington State College; M.S. 1938, University of Maryland; M.P.A. 1949, Ph.D. 1955, Harvard University
- Landis L. Boyd as professor and head of agricultural engineering
B.S. 1947, M.S. 1948, Iowa State College; Ph.D. 1959, State University of Iowa
- Giulio J. D'Angio as professor of radiology and director, Division of Radiation Therapy
B.A. 1943, Columbia University; M.D. 1945, Harvard Medical School

- George W. Greenlees as professor, School of Physics
B.A. 1944, Selwyn College of Cambridge University (England); M.A. 1948, Ph.D. 1951, Cambridge University
- Clifford G. Hildreth as professor of economics and agricultural economics
B.A. 1939, University of Kansas; M.S. 1941, Ph.D. 1947, Iowa State University
- Herbert W. Johnson as professor and head of agronomy and plant genetics
B.S. 1943, University of Tennessee; M.S. 1948, Ph.D. 1950, University of Nebraska
- Leonard T. Kurland as professor of biostatistics, Mayo Graduate School of Medicine
B.A. 1942, Johns Hopkins University; M.D. 1945, University of Maryland; M.P.H. 1948, Harvard University; D.P.H. 1952, Johns Hopkins University
- Joseph Lerner as professor of biochemistry, College of Medical Sciences
B.A. 1942, University of Michigan; M.D. 1945, Columbia University College of Physicians and Surgeons; M.S. 1949, University of Illinois; Ph.D. 1951, Washington University
- Amedeo S. Marrazzi as professor of pharmacology
M.D. 1928, New York University College of Medicine
- C. Robert Morris, Jr., as professor, Law School
B.A. 1948, St. John's College (Annapolis); LL.B. 1951, Yale University
- Charles A. Simkins as professor and extension specialist soils in Soil Science and Agricultural Extension Service
B.S. 1948, M.S. 1950, Ph.D. 1958, Kansas State College
- William C. Walton as director, Water Resources Research Center and professor of geology and geophysics
B.S. 1948, Lawrence Institute of Technology (Detroit)
- George C. Winterowd as professor, School of Architecture
B.S. 1951, University of Illinois; M.S. 1954, Iowa State College

Associate Professors

- Benjamin F. Bayman as associate professor, School of Physics
B. Chem. Eng. 1951, Cooper Union; Ph.D. 1955, University of Edinburgh
- Alan J. Brook as associate professor of botany
B.S. 1942, King's College of University of Durham; Ph.D. 1949, University of Durham; D.S. 1960, University of Edinburgh
- Joseph B. Chaiklin as associate professor of speech and theatre arts and otolaryngology
B.A. 1952, University of Connecticut; M.A. 1953, Ohio State University; Ph.D. 1958, Stanford University
- John E. Gander as associate professor of biochemistry, Institute of Agriculture
B.S. 1950, Montana State College; M.S. 1954, Ph.D. 1956, University of Minnesota
- Charles W. Huver as associate professor of zoology
B.S. 1955, Michigan State University; M.S. 1962, University of Wisconsin; Ph.D. 1962, Yale University
- Eugene A. Johnson as associate professor, School of Public Health and Physical Medicine and Rehabilitation
B.A. 1949, M.A. 1950, Ph.D. 1956, University of Minnesota
- Everett T. Keach, Jr., as associate professor of elementary education
B.A. 1950, University of Maine; M.Ed. 1953, Ed.D. 1962, Harvard University
- Samuel Krislov as associate professor of political science
B.A. 1951, M.A. 1952, New York University; Ph.D. 1955, Princeton University
- Colin Markland as associate professor of surgery
B.A. 1950, Gonville & Caius College (Cambridge, England); M.B. 1953, Westminster Hospital and Medical School (London); M.A. 1954, University of Cambridge (England)

- Clyde A. Parker as associate professor of educational psychology
B.S. 1951, M.S. 1952, Brigham Young University; Ph.D. 1957, University of Minnesota
- Marian B. Pour-El as associate professor, School of Mathematics
A.B. 1949, Hunter College; M.A. 1951, Ph.D. 1958, Harvard University
- Robert E. Riggs as associate professor of political science
B.A. 1952, M.A. 1952, LL.B. 1963, University of Arizona; Ph.D. 1955, University of Illinois
- James C. Savage as associate professor of geology and geophysics
B.S. 1950, University of Arizona; Ph.D. 1957, California Institute of Technology
- Joseph Shapiro as associate professor of geology and geophysics
B.S. 1950, McGill University; M.S. 1952, University of Saskatchewan; Ph.D. 1957, Yale University
- Jay M. Smith, Jr., as associate professor of accounting, School of Business Administration
B.S. 1953, M.S. 1960, Brigham Young University; Ph.D. 1965, Stanford University
- Richard E. Stallard as associate professor, School of Dentistry
B.S. 1956, D.D.S. 1958, M.S.D. 1959, Ph.D. 1962, University of Minnesota
- David A. Ward as associate professor of sociology
B.A. 1955, Colby College; Ph.D. 1960, University of Illinois
- Richard L. Wood as associate professor of anatomy
B.A. 1950, Linfield College; Ph.D. 1957, University of Washington

Assistant Professors

- Austin G. Anderson as director and assistant professor of continuing legal education
B.A. 1954, LL.B. 1958, University of Minnesota
- Robert A. Anderson as assistant professor, principal and acting director of University High School
B.S. 1952, M.A. 1956, Ph.D. 1964, University of Minnesota
- Gary M. Andrew as assistant professor of Quantitative Analysis, School of Business Administration
B.A. 1961, DePauw University; B.S. 1961, Ph.D. 1966, Case Institute of Technology
- Fredric N. Bailey as assistant professor of electrical engineering
B.S. 1953, Purdue University; M.S. 1960, Ph.D. 1964, University of Michigan
- Laird H. Barber, Jr., as assistant professor of English, University of Minnesota, Morris
B.A. 1952, Williams College; M.A. 1956, Ph.D. 1962, University of Michigan
- J. Stanley Barlow as assistant dean and assistant professor, Summer Session
A.B. 1947, Wheaton College; B.D. 1950, Princeton Theological Seminary; Ph.D. 1961, University of St. Andrews (Scotland)
- Melvyn S. Berger as assistant professor, School of Mathematics
B.A. 1961, University of Toronto; M.A. 1963, Ph.D. 1964, Yale University
- Richard F. Bernard as assistant professor and chief of Department of Special Collections, University Library
B.A. 1950, B.L.S. 1953, M.A. 1957, University of California
- James R. Bolton as assistant professor, School of Chemistry
B.A. 1958, M.S. 1960, University of Saskatchewan; Ph.D. 1962, University of Cambridge (England)
- Nancy E. Cato as assistant professor of physical education for women
B.S. 1951, Taylor University; M.A. 1961, Western Michigan University
- Yuh-Ching Chen as assistant professor of mathematics, University of Minnesota, Morris
B.Ed. 1948, Taiwan Normal University; M.S. 1963, University of Illinois

- Charles J. Christians as assistant professor and extension animal husbandman, Agricultural Extension Service
B.S. 1955, Iowa State University; M.S. 1958, North Dakota State University; Ph.D. 1961, Oklahoma State University
- Hollie L. Collins as assistant professor of biology, University of Minnesota, Duluth
B.S. 1960, Wisconsin State College; M.S. 1962, Michigan State University
- J. Dwight Denny as assistant professor of mathematical studies, General College
B.A. 1938, William Penn College; B.S. 1957, Iowa State College; M.A. 1949, State University of Iowa
- Robert E. DeVoe as assistant professor and coordinator of television broadcasting
B.A. 1952, M.A. 1958, State University of Iowa
- David L. Eggenschwiler as assistant professor of English
B.A. 1958, Harvard College; M.A. 1961, Arizona State University; Ph.D. 1965, Stanford University
- Thomas G. English, Jr., as assistant professor and supervisor of departmental libraries
B.A. 1950, University of Nebraska; M.S. 1958, Florida State University
- Paul W. Fox as assistant professor of psychology
A.B. 1955, Brown University; M.S. 1963, Ph.D. 1964, Tulane University
- Harry M. Friedman as assistant professor of mathematics, University of Minnesota, Morris
B.A. 1950, University of California; M.S. 1953, University of Chicago
- Edgar W. Garbisch, Jr., as assistant professor, School of Chemistry
B.S. 1955, University of North Carolina; Ph.D. 1961, Northwestern University
- Eugene D. Gennaro as assistant professor, University High School
B.S. 1950, M.Ed. 1953, College of St. Thomas; M.S. 1958, Ph.D. 1964, University of Wisconsin
- James A. Grant as assistant professor of geology and geophysics and Minnesota Geological Survey
B.S. 1957, University of Aberdeen (Scotland); M.S. 1959, Queens University (Canada); Ph.D. 1964, California Institute of Technology
- Margaret P. Grindereng as assistant professor, School of Home Economics
B.S. 1947, Ohio University (Athens); M. Litt. 1950, University of Pittsburgh; Ph.D. 1965, Ohio State University
- David B. Haley as assistant professor of English
A.B. 1958, M.A. 1959, Harvard University
- John W. Hayden as assistant professor of civil engineering, St. Anthony Falls Hydraulic Laboratory
B.S. 1958, M.S. 1959, Ph.D. 1961, Carnegie Institute of Technology
- Mary L. Hayden as assistant professor, Student Counseling Bureau
B.S. 1957, Syracuse University; M.Ed. 1959, Ph.D. 1963, Boston University
- Dean E. Hinmon as assistant professor of education, University of Minnesota, Morris
B.S. 1952, M.A. 1953, Ph.D. 1964, University of Minnesota
- Jenifer Jowsey as assistant professor of physiology, Mayo Graduate School of Medicine
B.A. 1952, Ph.D. 1953, Oxford University (England)
- Donald W. Kahn as assistant professor, School of Mathematics
B.A. 1957, Cornell University; Ph.D. 1961, Yale University
- Kathleen M. Keenan as assistant professor, Agricultural Experiment Station
B.A. 1956, College of St. Catherine; M.S. 1958, Ph.D. 1964, University of Minnesota

- Kenneth H. Keller as assistant professor of chemical engineering
B.A. 1956, B.S. 1957, Columbia College; M.S. 1963, Ph.D. 1964, Johns Hopkins University
- William H. Knobloch as assistant professor of ophthalmology
B.S. 1949, Oklahoma State College; M.D. 1952, University of Oklahoma
- K.S.P. Kumar as assistant professor of electrical engineering
B.Sc. 1953, Mysore University (India); B. Tech. (D.I.I. Sc.) 1958, Indian Institute of Science (Bangalore); M.Sc. 1955, Karnatak University (India); M.S. 1961, Ph.D. 1964, Purdue University
- Douglas E. Lewis as assistant professor of philosophy
B.A. 1960, Amherst College; M.A. 1962, Ph.D. 1964, State University of Iowa
- Peter Luykx as assistant professor of zoology
B.A. 1959, Harvard College; Ph.D. 1964, University of California
- Fudeko T. Maruyama as assistant professor, School of Home Economics
B.S. 1951, Ph.D. 1955, University of California
- Yosh Maruyama as assistant professor of radiology
B.A. 1951, M.D. 1955, University of California
- George D. Marx as assistant professor, Northwest School of Agriculture, Crookston
B.S. 1958, Wisconsin State College; M.S. 1960, South Dakota State College; Ph.D. 1964, University of Minnesota
- Richard P. McDermott as assistant professor, Speech and Hearing Clinic, Office of the Dean of Students
B.A. 1952, University of Missouri; B.S. 1953, Western Michigan University; M.A. 1955, Ohio State University; Ph.D. 1960, State University of Iowa
- Charles H. McGinnis, Jr., as assistant professor of physiology and pharmacology, Veterinary Medicine
B.S. 1956, Rutgers University; M.S. 1961, Purdue University; Ph.D. 1964, Michigan State University
- Paul P. McIntyre as assistant professor of music
B. Music 1951, Doctor of Music 1958, University of Toronto; Diploma 1952, Royal Conservatory of Music in Toronto
- Toni Ann H. McNaron as assistant professor of English
B.A. 1958, University of Alabama; M.A. 1960, Vanderbilt University; Ph.D. 1964, University of Wisconsin
- Gerald R. Miller as assistant professor and extension agronomist, Agricultural Extension Service
B.S. 1956, M.S. 1957, University of Illinois; Ph.D. 1963, Michigan State University
- Harold A. Miller as assistant professor of rhetoric
B.A. 1955, Northwestern College (Minneapolis); M.A. 1957, Ph.D. 1962, University of Minnesota
- Richard K. Miller as assistant professor, School of Mathematics
B.S. 1961, Iowa State University; M.S. 1962, Ph.D. 1964, University of Wisconsin
- Ronald J. Mogavero as assistant professor of mechanical engineering
B.S. 1961, University of Buffalo; M.S. 1964, Washington University
- Van Dyck Mueller as assistant professor of educational administration
B.S. 1951, Central Michigan University; M.A. 1958, University of Michigan; Ed.D. 1964, Michigan State University
- M. Virginia Nagle as assistant professor, School of Home Economics
B.A. 1943, Western Reserve University
- Neal C. Nickerson, Jr., as assistant professor of educational administration
B.A. 1950, Macalester College; M.A. 1957, University of Minnesota; Ed.D. 1964, Teachers College of Columbia University
- Richard W. Ojakangas as assistant professor of geology, University of Minnesota, Duluth
B.A. 1955, University of Minnesota, Duluth; M.A. 1960, University of Missouri; Ph.D. 1964, Stanford University

- Alvin W. Ollenburger as assistant professor of secondary education, University of Minnesota, Duluth
B.S. 1949, Moorhead State College; M.S. 1957, University of North Dakota; Ph.D. 1964, University of Michigan
- Janis J. Penikis as assistant professor of political science
B.B.A. 1956, M.S. 1961, University of Wisconsin
- Richard E. Phillips as assistant professor of poultry science
B.S. 1952, Purdue University; M.S. 1954, Oregon State College; Ph.D. 1959, Cornell University
- A. William Plumstead as assistant professor of English
B.A. 1955, University of Western Ontario; M.A. 1957, Ph.D. 1960, University of Rochester
- William F. Pohl as assistant professor, School of Mathematics
B.S. 1957, M.S. 1958, University of Chicago; Ph.D. 1961, University of California
- David E. RePass as assistant professor of political science
A.B. 1954, Cornell University; Ph.D. 1965, University of Michigan
- Dorothea V. Riemann as assistant professor and district supervisor, Home Economics Extension
B.S. 1940, New Mexico State University; M.S. 1959, University of Wisconsin
- Charles F. Schwartz, Jr., as assistant professor of music
B.S. 1957, M.M. 1960, Ph.D. 1966, Indiana University
- George R. Sell as assistant professor, School of Mathematics
B.S. 1957, M.S. 1958, Marquette University; Ph.D. 1962, University of Michigan
- Chiao-Yao She as assistant professor of electrical engineering
B.S. 1957, National Taiwan University; M.S. 1961, North Dakota State University; Ph.D. 1964, Stanford University
- Richard E. Sieber as assistant professor of music education and music
B.A. 1950, St. Olaf College; M.A. 1954, Indiana University
- Vernon L. Simula as assistant professor of elementary education, University of Minnesota, Duluth
B.S. 1954, University of Minnesota, Duluth; M.A. 1961, Iowa State College; Ed.D. 1964, Indiana State University
- Robert W. Snyder as assistant professor-extension economist, land use, Agricultural Extension Service
B.S. 1953, M.S. 1961, Ph.D. 1965, Cornell University
- Thomas K. Soulen as assistant professor of botany
B.A. 1957, M.S. 1961, Ph.D. 1963, University of Wisconsin
- Eduard J. Stadelmann as assistant professor of plant pathology and physiology
B.A. 1939, Bundes Realgymnasium (Graz); Ph.D. 1953, University of Innsbruck (Austria)
- Henry A. Stavan as assistant professor of Romance Languages and Humanities Program
B.A. 1957, San Francisco State College; M.A. 1960, Ph.D. 1963, University of California
- Robert A. Stein as assistant professor, Law School
B.S.L. 1960, LL.B. 1961, University of Minnesota
- Margery W. Stricker as assistant professor of English
B.A. 1955, College of New Rochelle; M.A. 1959, New York University; Ph.D. 1965, Indiana University
- James B. Swan as assistant professor and extension specialist, soils, Agricultural Extension Service
B.S. 1955, M.S. 1959, University of Illinois; Ph.D. 1964, University of Wisconsin
- Michael Sydor as assistant professor of physics, University of Minnesota, Duluth
B. Applied Science 1959, University of British Columbia; Ph.D. 1965, University of New Mexico

- Marjorie B. Tate as assistant professor of physical education for women, University of Minnesota, Duluth
B.S. 1936, University of Minnesota; M.A. 1942, Teachers College of Columbia University; Ph.D. 1956, State University of Iowa
- Louis E. Toth as assistant professor, School of Mineral and Metallurgical Engineering
B.S. 1960, California Institute of Technology; Ph.D. 1963, University of California
- Fran Thomas as assistant professor of English, University of Minnesota, Morris
B.A. 1959, Wayne University; M.S. 1961, Ph.D. 1964, University of Wisconsin
- Arley D. Waldo as assistant professor and extension economist, public affairs
B.S. 1957, University of Nebraska; M.S. 1960, Ph.D. 1963, Michigan State University
- Frederick Walker as assistant professor of anatomy
M.B., Ch.B. 1958, University of Glasgow
- Neil Wallace as assistant professor of economics
B.A. 1960, Columbia University; Ph.D. 1964, University of Chicago
- Huber R. Warner as assistant professor of biochemistry, Institute of Agriculture
B.A. 1958, Ohio Wesleyan University; B.S. 1958, Massachusetts Institute of Technology; Ph.D. 1962, University of Michigan
- Jerry S. Weis as assistant professor of biology, University of Minnesota, Duluth
B.A. 1958, Kansas Wesleyan University; M.A. 1960, Ph.D. 1964, University of Kansas
- Frederick M. Williams as assistant professor of zoology
A.B. 1955, Stanford University; Ph.D. 1964, Yale University
- Tiffany J. Williams as assistant professor of obstetrics, Mayo Graduate School of Medicine
B.A. 1948, University of Virginia; M.D. 1952, Johns Hopkins University
- Harper F. Willis, Jr., as assistant professor of physical medicine and psychiatry
B.S. 1949, M.D. 1953, Louisiana State University
- Theodore A. Wilson as assistant professor of aeronautics and engineering mechanics
B. Eng. Physics 1958, Ph.D. 1962, Cornell University
- Harvey F. Windels as assistant professor at Northwest School of Agriculture and Experiment Station, Crookston
B.S. 1955, M.S. 1962, Ph.D. 1964, University of Minnesota
- Ronald F. Wippert as assistant professor of business functions and management, School of Business Administration
B.S. 1955, M.B.A. 1961, University of Colorado; Ph.D. 1964, Stanford University
- Lois J. Zimring as assistant professor of biology, University of Minnesota, Morris
B.S. 1945, M.S. 1949, Ph.D. 1964, University of Chicago

APPOINTMENTS, 1965-66

Dean

- Lawrence C. Weaver as dean and professor, College of Pharmacy
B.S. 1949, Drake University; Ph.D. 1953, University of Utah

Assistant Dean

- Robert F. Grabb as assistant dean and associate professor, Law School
A.B. 1941, Brown University; LL.B. 1948, Harvard Law School

BIENNIAL REPORT

Professor and Director

Stanley D. Sahlstrom as professor and director, University of Minnesota Technical Institute, Crookston
 B.S. 1942, M.S. 1953, Ph.D. 1961, University of Minnesota

Professors

- Edward J. Cafruny as professor of pharmacology
 A.B. 1950, Indiana University; Ph.D. 1955, Syracuse University; M.D. 1959, University of Michigan
- Richard J. Clendenen as professor, Interdisciplinary Training Program for Control and Prevention of Crime and Delinquency
 B.A. 1941, Indiana University; M.S.W. 1947, Western Reserve University
- John H. Flavell as professor, Institute of Child Development
 A.B. 1951, Northwestern University; M.A. 1952, Ph.D. 1955, Clark University
- Donald L. Graf as professor of geology and geophysics
 Geol. Engr. 1945, Colorado School of Mines; M.A. 1947, Ph.D. 1950, Columbia University
- Morton Hamermesh as professor and head, School of Physics and Astronomy
 B.S. 1936, City College of New York; Ph.D. 1941, New York University
- Thomas P. Lewis as professor, Law School
 LL.B. 1954, A.B. 1959, University of Kentucky; S.J.D. 1964, Harvard University
- Daniel Pedoe as professor, School of Mathematics and Minnemath Center
 B.S. 1930, London University; B.A. 1933, Ph.D. 1937, Cambridge University
- Charles E. Ramsey as professor extension sociologist and professor of sociology
 B.S. 1947, Indiana State Teachers College; M.S. 1950, Ph.D. 1952, University of Wisconsin
- Murray D. Rosenberg as professor of zoology
 A.B. 1947, M.A. 1948, M.E.S. 1950, Ph.D. 1952, M.D. 1956, Harvard University
- Vernon W. Ruttan as professor and head of agricultural economics
 B.A. 1948, Yale University; M.A. 1950, Ph.D. 1952, University of Chicago
- Hugh A. Storrow as professor of psychiatry and neurology
 A.B. 1946, M.D. 1950, University of Southern California
- Hiroshi Suura as professor, School of Physics
 B.S. 1947, Tokyo University; D.Sc. 1955, Hiroshima University
- Raymond D. Vlasin as professor of agricultural economics and program leader of resource development, Agricultural Experiment Station and Agricultural Extension Service
 B.S. 1953, M.A. 1957, University of Nebraska; Ph.D. 1963, University of Wisconsin
- Carl J. Witkop, Jr., as professor, School of Dentistry
 B.S. 1944, Michigan State College; D.D.S. 1949, M.S. 1954, School of Dentistry University of Michigan
- Associate Professors*
- Glenn E. Bartsch as associate professor, School of Public Health
 B.S. 1950, M.A. 1951, University of Minnesota; Sc.D. 1957, Johns Hopkins University
- William F. Bear as associate professor of agricultural engineering and agricultural education
 B.S. 1951, M.S. 1959, Ph.D. 1963, Iowa State University
- Evelyn S. Coleman as associate professor of German
 B.A. 1956, University of Texas; M.A. 1957, University of Manitoba; Ph.D. 1963, Harvard University
- David W. Davis as associate professor of horticultural science
 B.S. 1951, University of Hawaii; M.S. 1956, University of Illinois; Ph.D. 1963, Oregon State University

- Carlos F. Diaz** as associate professor of economics
B.S. 1957, Miami University; Ph.D. 1961, Massachusetts Institute of Technology
- Lillian R. Elveback** as associate professor of biostatistics, Mayo Graduate School of Medicine
B.A. 1941, University of Minnesota; M.A. 1950, Columbia University; Ph.D. 1955, University of Minnesota
- Albert W. Erickson** as associate professor and curator of Mammalogy Museum of Natural History
B.S. 1954, M.S. 1955, Ph.D. 1964, Michigan State University
- John G. Geier, Jr.**, as associate professor of rhetoric
B.A. 1958, Northwestern College; M.A. 1960, Ph.D. 1963, University of Minnesota
- Clayton F. Giese** as associate professor, School of Physics
B.S. 1953, Ph.D. 1957, University of Minnesota
- Phillip K. Harein** as associate professor and extension entomologist, Entomology, Fisheries, and Wildlife and Agricultural Extension Service
B.S. 1951, Mankato State College; M.S. 1956, Virginia Polytechnic Institute; Ph.D. 1961, Kansas State University
- Nils Hasselmo** as associate professor, Scandinavian Department
B.A. 1957, Augustana College; Fil. lic. 1962, Uppsala University (Sweden); Ph.D. 1961, Harvard University
- Vernon L. Hendrix** as associate professor of educational administration
B.M. 1955, Texas Christian University; M.M. 1956, Ph.D. 1962, University of Texas
- Alan F. Hofmann** as associate professor of medicine and biochemistry, Mayo Graduate School of Medicine
B.A. 1951, M.D. 1955, Johns Hopkins University
- Jay M. Hughes** as associate professor, School of Forestry
B.A. 1952, University of Colorado; M.F. 1958, Colorado State University; Ph.D. 1964, Michigan State University
- Virgil J. Kroeger** as associate professor of sociology, University of Minnesota, Duluth
B.S. 1940, South Dakota State College; M.A. 1952, Ph.D. 1961, University of Minnesota
- James W. Linman** as associate professor of medicine, Mayo Graduate School of Medicine
B.S. 1945, M.D. 1947, University of Illinois
- John C. Manning** as associate professor of elementary education
B.A. 1952, Providence College; Ed.M. 1956, Massachusetts State College; Ed.D. 1960, Boston University
- Milton E. Morris** as associate professor and communications specialist, Economics Department and agricultural journalism
B.S. 1958, Oklahoma State University; M.S. 1959, Ph.D. 1961, University of Wisconsin
- V. Rama Murthy** as associate professor of geology and geophysics
B.Sc. 1951, Andhra University (Waltair, India); Assoc. Diploma 1954, Indian School of Mines (Dhanbad, India); M.S. 1955, Ph.D. 1957, Yale University
- George R. Rapp, Jr.**, as associate professor of geology and geophysics
A.B. 1952, University of Minnesota; Ph.D. 1960, Pennsylvania State University
- Burton M. Sapin** as associate professor of political science and coordinator of International Programs
B.A. 1945, M.A. 1947, Columbia University; Ph.D. 1953, Princeton University
- Joseph E. Schwartzberg** as associate professor of geography and International Programs
B.A. 1949, Brooklyn College; M.A. 1951, University of Maryland; Ph.D. 1960, University of Wisconsin
- Curtis H. Stanley** as associate professor of accounting
B.B.A. 1956, M.B.A. 1957, Ph.D. 1963, University of Michigan
- Charlotte T. Striebel** as associate professor of statistics
B.A. 1952, M.A. 1952, Ohio State University; Ph.D. 1960, University of California

- John Alden Thayer as associate professor of history
B.A. 1953, M.A. 1956, Ph.D. 1961, University of Wisconsin
- David K. Trites as associate professor of psychology, Mayo Graduate School of Medicine
B.S. 1948, M.S. 1949, Iowa State University; Ph.D. 1953, University of Texas
- Joseph L. Waldauer as associate professor of Romance Languages
B.A. 1948, Swarthmore College; M.A. 1953, Ph.D. 1962, Columbia University
- Karl E. Weick, Jr., as associate professor of psychology
A.B. 1958, Wittenberg University; M.A. 1960, Ph.D. 1962, Ohio State University

Assistant Professors

- Som P. Agarwal as assistant professor, Division of Science and Mathematics, University of Minnesota, Morris
B.Sc. 1949, Agra University; M.Sc. 1951, Aligarh Muslim University; Ph.D. 1962, Temple University
- Loren N. Argabright as assistant professor, School of Mathematics
B.S. 1954, Nebraska State Teachers College; M.S. 1958, University of Kansas; Ph.D. 1963, University of Washington
- Walter L. Baeumler as assistant professor of sociology, University of Minnesota, Duluth
B.A. 1959, M.A. 1961, University of Omaha; Ph.D. 1965, University of Nebraska
- Donald R. Bender as assistant professor, School of Home Economics and anthropology and extension specialist, Agricultural Extension Service
B.S. 1957, University of Wisconsin; Ph.D. 1964, Northwestern University
- William S. Bennett, Jr., as assistant professor of sociology
B.A. 1960, Denison University; M.A. 1962, Ph.D. 1964, University of Missouri
- Harry F. Bisel as assistant professor of medicine, Mayo Graduate School of Medicine
B.S. 1939, M.D. 1942, University of Pittsburgh
- Kinley J. Brauer as assistant professor of history
B.A. 1957, University of Rochester; M.A. 1958, Ph.D. 1963, University of California
- William A. Brun as assistant professor of agronomy and plant genetics
B.S. 1950, University of Miami; M.S. 1951, Ph.D. 1954, University of Illinois
- Thomas J. Bukvich as assistant professor, Division of Education and Psychology, University of Minnesota, Duluth
B.E. 1935, St. Cloud State College; M.A. 1955, University of Minnesota
- Thomas J. Bydalek as assistant professor of chemistry, University of Minnesota, Duluth
B.S. 1957, Aquinas College; Ph.D. 1961, Purdue University
- Ronald Caple as assistant professor of chemistry, University of Minnesota, Duluth
B.A. 1960, St. Olaf College; M.S. 1962, Ph.D. 1964, University of Michigan
- Robert W. Carr, Jr., as assistant professor of chemical engineering
B.S. 1956, Norwich University; M.S. 1958, University of Vermont; Ph.D. 1962, University of Rochester
- Anil K. Chopra as assistant professor of civil engineering and hydraulics
B.Sc. 1960, Banaras Engineering College (India); M.S. 1963, University of California
- Richard D. Christenson as assistant professor and Admissions and Records supervisor, University of Minnesota Technical Institute, Crookston
B.S. 1959, M.S. 1961, St. Cloud State College
- Harley Cohen as assistant professor of aeronautics and engineering mechanics
B.Sc. 1956, University of Manitoba; Sc.M. 1958, Brown University; Ph.D. 1964, University of Minnesota

- William A. Compton as assistant professor of agronomy and plant genetics
B.S. 1958, M.S. 1961, North Carolina State College; Ph.D. 1963, University of Nebraska
- William P. Cunningham as assistant professor of botany
B.S. 1959, Southwest Texas State College; Ph.D. 1963, University of Texas
- Donald M. Davidson, Jr., as assistant professor of geology, University of Minnesota, Duluth
B.A. 1961, Carleton College; Ph.D. 1965, Columbia University
- Gary W. Dickson as assistant professor, School of Business Administration
B.S. 1960, M.B.A. 1962, D.B.A. 1965, University of Washington
- David E. Dines as assistant professor of medicine, Mayo Graduate School of Medicine
B.A. 1949, University of Denver; M.D. 1953, University of Colorado; M.S. 1957, University of Minnesota
- Lonnie J. Durham as assistant professor of English
B.A. 1959, Montana State University; M.A. 1961, Ph.D. 1966, Indiana University
- N. Brian Eastman as assistant professor, Division of Education and Psychology, University of Minnesota, Duluth
B.A. 1952, Ed.M. 1958, University of Buffalo
- Ronald D. Edstrom as assistant professor of biochemistry
A.B. 1958, Ph.D. 1962, University of California
- Eugene Eidenberg as assistant professor of political science
B.A. 1961, University of Wisconsin; M.A. 1963, Ph.D. 1965, Northwestern University
- Virgil F. Fairbanks as assistant professor of medicine, Mayo Graduate School of Medicine
B.A. 1951, University of Utah; M.D. 1954, University of Michigan
- Walter Fluegel as assistant professor of biology, University of Minnesota, Duluth
B.S. 1952, University of Alaska; M.S. 1956, North Dakota Agricultural College
- John C. Forrest as assistant professor of animal husbandry
B.S. 1960, M.S. 1962, Kansas State University; Ph.D. 1966, University of Wisconsin
- Krzysztof S. Frankowski as assistant professor, Numerical Analysis Center and School of Mathematics
B.S. 1953, Lodz University; M.S. 1956, Warsaw University; Ph.D. 1964, Hebrew University of Jerusalem
- C. Frederick Farrell, Jr., as assistant professor of French, University of Minnesota, Morris
B.A. 1956, University of Massachusetts; M.A. 1958, State University of Iowa; Ph.D. 1965, University of Pittsburgh
- Bert E. Fristedt as assistant professor, School of Mathematics
B.S. 1959, University of Minnesota; Ph.D. 1963, Massachusetts Institute of Technology
- Paul C. Goldin as assistant professor, Institute of Child Development
B.A. 1957, Columbia College; M.A. 1961, Ph.D. 1962, University of North Carolina
- Allen M. Goldman as assistant professor, School of Physics
B.A. 1958, Harvard University; Ph.D. 1965, Stanford University
- Manuel Gomez as assistant professor of pediatric neurology, Mayo Graduate School of Medicine
M.D. 1952, University of Havana; M.S. 1956, University of Michigan
- Richard D. Goodrich as assistant professor of animal husbandry
B.S. 1958, Wisconsin State University; M.S. 1962, South Dakota State University; Ph.D. 1965, Oklahoma State University
- Clifton W. Gray as assistant professor, Division of Social Science, University of Minnesota, Morris
B.S. 1946, U.S. Military Academy; M.A. 1951, Ph.D. 1959, University of Minnesota

- Melvin L. Hamre as assistant professor and extension specialist poultry, Poultry Science and Agricultural Extension Service
B.S. 1954, M.Ed. 1960, Washington State College; M.S. 1963, Purdue University
- Edward G. Hill as assistant professor of industrial education, University of Minnesota, Duluth
B.S. 1949, University of Minnesota, Duluth; M.Ed. 1962, Chicago Teachers College
- Roger L. Hooke as assistant professor of geology and geophysics
B.A. 1961, Harvard University; Ph.D. 1965, California Institute of Technology
- James P. Houck, Jr., as assistant professor of agricultural economics
B.S. 1957, M.S. 1959, Pennsylvania State University; Ph.D. 1963, University of Minnesota
- John R. Howe, Jr., as assistant professor of history
B.A. 1957, Otterbein College; Ph.D. 1962, Yale University
- Alan H. Humphreys as assistant professor of elementary education
B.A. 1950, M.Ed. 1951, Ph.D. 1962, University of Texas
- Yolande J. Jenny as assistant professor of French, University of Minnesota, Duluth
A.B. 1960, Meredith College; M.A. 1962, Duke University
- Kenneth H. Johnson as assistant professor of veterinary pathology and parasitology
B.S. 1958, D.V.M. 1960, Ph.D. 1965, University of Minnesota
- Ralph A. Kallman as assistant professor of mathematics, University of Minnesota, Duluth
B.A. 1956, M.A. 1961, Ph.D. 1965, University of Minnesota
- Lawrence L. Lee as assistant professor of aeronautics and engineering mechanics
M.S. 1962, Ph.D. 1964, University of Chicago
- Joseph M. Livermore as assistant professor, Law School
A.B. 1958, Dartmouth College; LL.B. 1961, Stanford University
- Rex E. Lovrien as assistant professor of biochemistry
B.A. 1953, University of Minnesota; Ph.D. 1958, State University of Iowa
- David H. MacDonald as assistant professor of plant pathology and physiology
B.S. 1956, Purdue University; M.S. 1962, Ph.D. 1966, Cornell University
- Franklin I. Maclean as assistant professor, Division of Science and Mathematics, University of Minnesota, Morris
B.A. 1951, M.A. 1952, University of Toronto; Ph.D. 1961, Oxford University
- John C. Manning as associate professor of elementary education
B.A. 1952, Providence College; Ed.M. 1956, Massachusetts State College; Ed.D. 1960, Boston University
- John T. McCall as assistant professor of biochemistry, Mayo Graduate School of Medicine
B.S. 1948, Rollins College; M.S. 1956, Ph.D. 1958, University of Florida
- Frederic C. McDuffie as assistant professor of medicine and microbiology, Mayo Graduate School of Medicine
M.D. 1951, Harvard Medical School
- Bruce S. McEwen as assistant professor of zoology
B.A. 1959, Oberlin College; Ph.D. 1964, Rockefeller Institute of New York
- Scott G. McNall as assistant professor of sociology
B.A. 1962, Portland State College; Ph.D. 1965, University of Oregon
- Byron K. Marshall as assistant professor of history
B.A. 1959, M.A. 1961, Ph.D. 1966, Stanford University
- John J. Mauriel, Jr., as assistant professor, School of Business Administration
B.A. 1953, University of Michigan; B.A. 1961, M.B.A. 1961, D.B.A. 1964, Harvard University

- Alvin L. Melliere as assistant professor of animal husbandry
B.S. 1961, M.S. 1964, Ph.D. 1966, University of Illinois
- Willard Miller, Jr., as assistant professor, School of Mathematics
B.S. 1958, University of Chicago; Ph.D. 1963, University of California
- Jeffrie G. Murphy as assistant professor of philosophy
B.A. 1962, Johns Hopkins University; Ph.D. 1966, University of Rochester
- Ellen Ordway as assistant professor, Division of Science and Mathematics,
University of Minnesota, Morris
B.A. 1950, Wheaton College; M.S. 1955, Cornell University; Ph.D. 1965, University of Kansas
- James B. Overmier as assistant professor of psychology
A.B. 1960, Kenyon College; M.A. 1962, Bowling Green State University; M.A. 1964, Ph.D. 1965, University of Pennsylvania
- Jonathan S. Paradise as assistant professor of Middle Eastern Languages
B.A. 1960, University of Minnesota
- Ernest J. Pavlock as assistant professor of accounting, School of Business Administration
B.S. 1953, Duquesne University; M.B.A. 1957, Wharton School of Finance; Ph.D. 1965, University of Michigan
- Hugh G. Peacock as assistant professor, School of Architecture, and University Planner, President's Office
A.A. 1953; A.R.I.B.A. 1954, Architectural Association School of Architecture
- William O. Peterfi as assistant professor, Division of Social Science, University of Minnesota, Morris
Dr. of Law and Pol. Sc. 1950, Budapest University; M.A. 1958, Fordham University
- Willis L. Peterson as assistant professor of agricultural economics
B.S. 1960, M.S. 1962, University of Minnesota
- Douglas R. Pierce as assistant professor of educational administration
B.S. 1955, M.S. 1959, University of Illinois; Ed.D. 1963, University of Florida
- Robert J. Poor as assistant professor, Art Department
B.A. 1953, M.A. 1957, Boston University; Ph.D. 1964, University of Chicago
- Peter J. Reed as assistant professor of English
B.A. 1960, University of Idaho; M.A. 1962, Ph.D. 1965, University of Washington
- Haskell P. Rosenthal as assistant professor, School of Mathematics
B.S. 1961, Massachusetts Institute of Technology; M.S. 1963, Ph.D. 1964, Stanford University
- Martin Roth as assistant professor of English
M.A. 1957, Ph.D. 1965, University of Chicago
- Michael Salovesh as assistant professor of anthropology and social science
A.B., Ph.B. 1956, M.A. 1959, University of Chicago
- S. Jay Samuels as assistant professor of educational psychology
B.A. 1953, University of City of New York; M.A. 1955, Queens College; Ph.D. 1964, University of California
- James P. Scamman, Jr., as assistant professor and assistant to the director of administration, College of Education
B.M.E. 1959, Central Missouri State College; M.M. 1960, Northwestern University; Ph.D. 1965, Iowa State University
- Robert L. Scanlan as assistant professor of radiology, Mayo Graduate School of Medicine
B.A. 1938, Duke University; M.D. 1942, Columbia University
- Lanny D. Schmidt as assistant professor of chemical engineering
B.S. 1960, Wheaton College; Ph.D. 1964, University of Chicago

- Joseph H. Schoeb as assistant professor, Division of Science and Mathematics, University of Minnesota, Morris
B.S. 1958, University of Detroit; Ph.D. 1965, Iowa State University
- Helmut J. Schweiger as assistant professor of humanities, University of Minnesota, Duluth
B.A. 1957, Loras College; Ph.D. 1964, University of Saarland (Germany)
- John K. Simmons as assistant professor of accounting, School of Business Administration
B.S. 1960, Kansas State University; M.B.A. 1961, University of Denver
- Melvin R. Smith as assistant professor of agricultural engineering
B.S. 1958, Oklahoma State University; M.S. 1959, University of Illinois; Ph.D. 1965, Iowa State University
- Donald P. Snustad as assistant professor of agronomy and plant genetics
B.S. 1962, University of Minnesota; M.S. 1963, Ph.D. 1965, University of California
- Chester A. Sorensen as assistant professor of business and economics, University of Minnesota, Duluth
B.S.C. 1939, University of North Dakota; M.B.A. 1961, D.B.A. 1965, University of Washington
- Alma G. Sparrow as assistant professor and assistant director of public health nursing, School of Public Health
M.S. 1942, G.N., C.P.N. 1945, M.P.H. 1953, University of Minnesota
- Paul W. Staneslow as assistant professor of East and South Asian Languages
B.A. 1954, M.A. 1955, Cornell University
- Alexander B. Taylor as assistant professor, Student Counseling Bureau and Family Studies
B.A. 1955, University of California; M.A. 1959, Ph.D. 1965, University of Southern California
- Larry L. Tieszen as assistant professor, Division of Science and Mathematics, University of Minnesota, Duluth
B.A. 1961, Augustana College; Ph.D. 1965, University of Colorado
- Jack Van't Hof as assistant professor of botany
B.A. 1957, Calvin College; Ph.D. 1961, Michigan State University
- Frederick M. Waltz as assistant professor of electrical engineering
B.S.E. 1954, M.S.E. 1960, Ph.D. 1965, University of Michigan
- Stephen S. Wang as assistant professor of East and South Asian Languages
B.A. 1955, Fresno State College; M.A. 1962, University of California
- Stanley D. Warner as assistant professor of veterinary pathology and parasitology
B.S. 1957, D.V.M. 1959, Michigan State University; Ph.D. 1965, University of Minnesota
- Carroll O. Wilde as assistant professor of mathematics
B.S. 1958, Illinois State University; Ph.D. 1964, University of Illinois
- John J. Wine as assistant professor and director of counseling, Student Counseling Services, University of Minnesota, Morris
B.A. 1955, Bridgewater College; M.S. 1959, Iowa State University; Ph.D. 1965, University of Alberta
- Charles W. Wolfram as assistant professor, Law School
A.B. 1959, University of Notre Dame; LL.B. 1962, University of Texas
- John I. Yellott, Jr., as assistant professor of psychology
B.A. 1960, M.A. 1962, Ph.D. 1965, Stanford University
- Mahmood A. Zaidi as assistant professor, Business Administration Industrial Relations Center
B.A. 1957, M.A. 1958, Ph.D. 1965, University of California
- William Leroy Zwerman as assistant professor of sociology
B.A. 1957, M.A. 1962, Cornell University

PROMOTIONS AND TRANSFERS, 1964-65

Clinical Professor to Dean and Professor

Erwin M. Schaffer (School of Dentistry)

Professor and Head, Agricultural Economics, to Assistant to the President and Professor

Elmer W. Learn (Office of the President)

Senior Associate Director and Professor to Director and Professor

Gertrude M. Gilman (University of Minnesota Hospitals)

Professor to Associate Dean, College of Veterinary Medicine, and Professor, Veterinary Bacteriology and Public Health

Robert K. Anderson

Professor and Head to Associate Dean-Professor-Head

Harvey H. Hoyt (College of Veterinary Medicine)

Assistant Dean to Associate Dean

Martin L. Snoke (Office of Dean of Students)

Professor, Rhetoric, to Assistant Vice-President and Professor

Paul H. Cashman (Office of the Vice-President for Educational Relationships and Development)

Assistant Dean and Associate Professor to Assistant Dean and Professor

Roger B. Page (Student Personnel Office College of Liberal Arts)

Assistant to the President and Associate Professor to Professor and Director, Agricultural Extension

Luther J. Pickrel (Agriculture)

Associate Professor to Professor

Elliot Aronson (Laboratory for Research in Social Relations)

J. Bradley Aust (surgery)

Arthur Ballet (speech and theatre arts)

W. Donald Beatty (history)

Arthur M. Borak (economics)

James C. Cain (clinical medicine—Mayo)

David T. Carr (clinical medicine—Mayo)

Paul H. Cashman (rhetoric)

Edwin F. Cook (entomology, fisheries, and wildlife)

David Cooperman (Social Science Program)

F. Henry Ellis, Jr. (surgery—Mayo)

Gerard A. Fleisher (biochemistry—Mayo)

Arnold M. Flikke (agricultural engineering)

Nicholas A. Glaskowsky, Jr. (business functions and management)

Willard W. Hartup (child development research)

Corrin H. Hodgson (clinical medicine—Mayo)

Robert W. Hollenhorst (ophthalmology—Mayo)

Robert T. Holt (political science)

Ruth Hovde (medical technology)
 Z Zimmerman Hugus, Jr. (inorganic chemistry)
 Robert M. Jordan (animal husbandry)
 John H. Kareken (economics)
 Paul J. Kellogg (School of Physics)
 Maurice M. Kreevoy (organic chemistry)
 Arthur J. Larsen (history—Duluth)
 Rodney C. Loehr (history)
 Vernon R. Mattox (biochemistry—Mayo)
 Richard B. Mather (Slavic and Oriental Languages)
 Grover Maxwell (Minnesota Center for Philosophy of Science)
 David J. Merrell (zoology)
 Merle P. Meyer (School of Forestry)
 Lura M. Morse (School of Home Economics)
 Donald W. Mulder (neurology—Mayo)
 Louis H. Muschel (microbiology)
 Gerhard Neubeck (Student Counseling Bureau)
 Pearl Niemi (Slavic and Oriental Languages)
 Curtis J. Overdahl (Agricultural Extension)
 John Parker (James F. Bell Collection—Library)
 Francis V. Raab (philosophy)
 William E. Rempel (animal husbandry)
 Armand A. Renaud (Romance Languages)
 Warren W. Roberts (clinical psychology training program)
 Marshall W. Ryman (Intercollegiate Athletics)
 Terrance Sandalow (Law School)
 Helen M. Slocum (physical education for women)
 Timothy L. Smith (history)
 Roy A. Swanson, (Classics)
 Armas W. Tamminen (psychology—Duluth)
 D. Burnham Terrell (philosophy)
 Louis Tobian (internal medicine)
 Fernando Torres (multiple sclerosis clinic)
 Edward A. Usenik (veterinary surgery and radiology)
 Gordon O. Voss (industrial education—Duluth)
 Paul E. Waibel (poultry science)
 Richard E. Widmer (horticultural science)
 Marjorie U. Wilson (physical education for women)
 Robert B. Wilson (clinical obstetrics and gynecology—Mayo)
 Cecil Wood (German)
 Tibor Zoltai (geology and geophysics)

Clinical Associate Professor to Clinical Professor

John P. Wendland (ophthalmology)

Visiting Professor to Professor

Harold Ruben (statistics)

Lecturer to Professor

Wendell H. Hall (microbiology)

Assistant Professor to Associate Professor

Robinson S. Abbott (biology—Morris)
 Josef L. Altholz (history)
 Howard A. Andersen (clinical medicine—Mayo)
 Neil A. Anderson (plant pathology and physiology)
 Egolfs V. Bakuzis (School of Forestry)
 Arleen L. Barkeim (Agricultural Extension)
 Robert W. Bath (Agricultural Extension)

Frank P. A. Beneriscutto (music—band)
Robert Benolken (zoology)
Frank T. Benson, Jr. (oral communication—General College)
Emanuel M. Berger (Student Counseling Bureau)
Robert W. Bernlohr (microbiology)
Robert O. Brandenburg (medicine—Mayo)
Arthur H. Bulbulian (medical education—Mayo)
Edmond C. Burke (clinical pediatrics—Mayo)
Glenn M. Christensen (chemistry—Duluth)
Brooks D. Church (microbiology)
Donald H. Clifford (veterinary surgery and radiology)
Kenneth S. Deffeyes (geology and geophysics)
Orval T. Driggs, Jr. (history—Morris)
Robert Dykstra (elementary education)
Harold E. Dziuk (veterinary physiology and pharmacology)
Irwin J. Fox (physiology)
Esther F. Freier (medical technology)
William E. Gardner (secondary education)
John L. Gergen (physics—Duluth)
Joseph A. Gibilisco (dentistry—Mayo)
Jesus Gil de Lamadrid (School of Mathematics)
John R. Gordon (anesthesiology)
John C. Gray (accounting)
John C. Green (geology—Duluth)
A. Jack Hafner (child psychiatry)
William A. Harris, Jr. (School of Mathematics)
Leroy D. Hedgecock (audiology—Mayo)
Carl B. Heggstad (anatomy)
Edward D. Henderson (clinical orthopedic surgery—Mayo)
Rollie R. Houchins (special education)
John V. Jensen (Communication Program)
Einer W. Johnson, Jr. (clinical orthopedic surgery—Mayo)
Robert K. Josephson (zoology)
Hugh F. Kabat (College of Pharmacy)
Dennis J. Kane (medicine)
Norman S. Kerry (zoology)
Ronald T. Lambert (University Elementary School)
Merle K. Loken (radiation therapy)
Gareth B. Matthews (philosophy)
John H. Matthews (Romance Languages)
Maurice W. Meyer (School of Dentistry)
Norman G. Meyers (School of Mathematics)
Shirley A. Munger (music—Duluth)
Daniel C. Neale (educational psychology)
Gerald M. Needham (microbiology—Mayo)
Erland R. Nelson (neurology)
Glen H. Nelson (veterinary diagnostic laboratories)
J. Russell Nelson (Business Functions and Management)
Wallace W. Nelson (Southwest Experiment Station)
Lewis H. Nosanow (School of Physics)
Irvin T. Omtvedt (Agricultural Extension)
Edith M. Parkhill (pathology—Mayo)
Pertti J. Peltto (anthropology)
Harold O. Perry (dermatology—Mayo)
Philip W. Porter (geography)
Philip S. Portoghese (College of Pharmacy)
Wentworth Quast (child psychiatry)
Raymond V. Randall (medicine—Mayo)
Donald C. Rasmusson (agronomy and plant genetics)
Robert C. Rathburn (literature and writing—General College)
Erwin N. Reiersgord (Northwest School of Agriculture)
Darrett B. Rutman (history)
William B. Schwabacher (physical science and mathematics—General College)

Harold H. Scudamore (medicine—Mayo)
 Robert G. Siekert (neurology—Mayo)
 Peter Signer (School of Physics)
 Francis J. Smith, Jr. (Agricultural Extension)
 Lawrence H. Smith (agronomy and plant genetics)
 Morris Smithberg (anatomy)
 Cyrus F. Smythe (industrial relations)
 David C. Snetsinger (poultry sciences)
 Edward H. Soule (pathology—Mayo)
 James E. Stageberg (School of Architecture)
 Maurice H. Stauffer (clinical medicine—Mayo)
 Theofanis G. Stavrou (history)
 John M. Sullivan (Romance Languages)
 Edward O. Swanson (State-Wide High School Testing Program)
 Romeyn Taylor (history)
 John R. Tester (Museum of Natural History and entomology, fisheries, and wildlife)
 Richard A. Theye (anesthesiology—Mayo)
 Marian Thornton (School of Public Health)
 Phillip J. Tichenor (Agricultural Extension)
 Naip Tuna (internal medicine)
 Constance Van Eeden (School of Public Health)
 Robert L. Vernier (pediatrics)
 Elaine C. Walster (psychology—Student Activities Bureau)
 Yang Wang (internal medicine)
 John W. Webb (geography)
 William R. Webber (School of Physics)
 William E. Wellman (clinical medicine—Mayo)
 Donald B. White (horticultural science)
 Clifford L. Wilcox (Agricultural Extension)
 Jack P. Wishnant (neurology—Mayo)
 Stuart Young (veterinary pathology and parasitology)
 Sarah H. Youngblood (English)
 Edmond Yunis (Clinical Laboratories—Blood Bank)
 Myra B. Zabel (Agricultural Extension)
 Donald R. Zander (Student Activities Bureau)

Visiting Associate Professor to Associate Professor

Alfred B. Laponsky (electrical engineering)
 Chun-Jo Liu (Slavic and Oriental Languages)
 Yasutaka Sibuya (School of Mathematics)

Clinical Assistant Professor to Clinical Associate Professor

Herman T. Aeziman (School of Dentistry)
 Arnold S. Anderson (pediatrics)
 Theodore H. Dedolph (School of Dentistry)
 Peter S. Gregus (School of Dentistry)
 Robert J. Jacobsen (School of Dentistry)
 Allan D. Petersen (School of Dentistry)
 Charles D. Simpson (School of Dentistry)
 Russell H. Solsvig (School of Dentistry)
 Robert A. Vickers (School of Dentistry)

Research Associate to Assistant Professor

Padmakar K. Dikshit (anatomy)
 Lucille J. Hoilund (anatomy and laboratory medicine)
 Bill W. Kennedy (plant pathology and physiology)
 Edward B. Radcliffe (entomology, fisheries, and wildlife)
 Charles J. Scott (mechanical engineering)

Instructor to Assistant Professor

Paul M. Arneson (orthopedic surgery)
 Leonard Bart (speech and theatre arts)
 Robert M. Brooks (School of Mathematics)
 Merle L. Bryant (laboratory school—Duluth)
 Austin B. Caswell, Jr. (general arts—General College)
 Komanduri K. N. Charyulu (radiology)
 Shelley N. Chou (neurosurgery)
 Martin K. Christiansen (Agricultural Extension)
 Dale C. Dahl (agricultural economics)
 George D. Davis (radiology—Mayo)
 Richard B. Davis (medicine)
 John A. Dyer (ophthalmology—Mayo)
 Sen Fan (mathematics—Morris)
 Paul S. Hagen (oral communication—General College)
 Kathryn Hammer (medical technology)
 Norman G. G. Hepper (medicine—Mayo)
 Harry N. Hoffman, II (medicine—Mayo)
 Hugo H. John (School of Forestry)
 Rudolph Johnson (library—Duluth)
 David Jones (English)
 David L. Jones (social studies—General College)
 John J. Jurkovich (laboratory school—Duluth)
 James R. Justin (Agricultural Extension)
 Joseph M. Kiely (medicine—Mayo)
 Walter W. Klein (political science)
 Elsie J. Knowles (music—Duluth)
 Theodore G. Larson (psychiatry)
 Thaddeus J. Litzow (plastic surgery—Mayo)
 Rodney G. Loper (Student Counseling Bureau)
 Margaret J. MacInnes (general arts—General College)
 Emerson A. Moffitt (anesthesiology—Mayo)
 Martin Mundale (physical therapy)
 John K. Munholland (history)
 M. Elizabeth Mussey (obstetrics and gynecology—Mayo)
 Russell S. Nyquist (mechanical engineering)
 Jaime Paris (medicine—Mayo)
 William S. Payne (surgery—Mayo)
 Lyle P. Pederson (civil engineering)
 Helen J. Peterson (School of Nursing)
 James B. Preus (Lower Division—College of Liberal Arts)
 James T. Prince (microbiology)
 John W. Rosevear (biochemistry—Mayo)
 Vera M. Schletzer (Student Counseling Bureau)
 Felicia S. Siegel (psychology—Office of Dean of Students)
 Robert C. Sine (School of Mathematics)
 Paul E. Strandjord (clinical laboratories)
 Jeane M. Sword (laboratory school—Duluth)
 Juergen E. Thomas (neurology—Mayo)
 David B. Thorud (School of Forestry)
 Jack L. Titus (pathology—Mayo)
 John A. Tobin (radiology)
 Helen M. Tuchner (School of Dentistry)
 David C. Utz (urology—Mayo)
 John L. Walker (physiology)
 Hugh D. Westgate (anesthesiology)

Instructor to Clinical Assistant Professor

John E. Mulvahill (psychiatry-neurology)

Clinical Instructor to Clinical Assistant Professor

Irving A. Borkon (School of Dentistry)
 Donnell D. Etzwiler (pediatrics)
 Eugene A. Moll (School of Dentistry)
 Imants R. Niels (School of Dentistry)
 Arthur R. Schmidt (School of Dentistry)
 Richard M. Stiedl (physical medicine and rehabilitation)

Lecturer to Assistant Professor

Bernard L. Brock (speech and theatre arts)
 Ralph H. Hofmeister (economics)
 M. Esmet Kamil (civil engineering)
 Donald G. MacEachern (educational psychology)
 Lee A. Pederson (English)
 Peter Rosko (Business Functions and Management)
 Carl W. Rudelius (Business Functions and Management)
 Solomon Shapiro (psychology—General College)

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

Ruth Roberts (Student Counseling Bureau)

PROMOTIONS AND TRANSFERS, 1965-66

Professor to Dean of College of Biological Sciences and Professor

Richard S. Caldecott (biology)

Professor to Dean of International Programs and Professor

Willard W. Cochrane

Professor and Director to Associate Dean for Administration and Professor

Nicholas A. Glaskowsky (Business Administration)

Professor and Director to Associate Dean for Faculty Affairs and Professor

George Seltzer (Business Administration)

Professor to Associate Dean of College of Education, Professor, and Acting Director

Stanley B. Kegler (Center for Curriculum Studies)

Associate Dean of Humanities, College of Liberal Arts, and Associate Professor to Associate Dean and Professor

John D. Hurrell (English)

Associate Professor to Associate Dean, Office of International Programs, and Associate Professor

Harry Foreman

Associate Professor and Superintendent to Professor and Superintendent

William Matalamaki (North Central Experiment Station—Grand Rapids)

Clinical Professor and Director to Professor and Director

John H. Moe (orthopedic surgery)

Associate Professor and Director, Comprehensive Clinic Program, to Professor and Director

Richard Magraw (Social Medicine)

Associate Professor to Professor and Chairman

Thomas Hoffmann (management, production, and transportation)

Karl H. Potter (philosophy)

Robert P. Sonkowsky (Classics)

Roger E. Wilk (educational psychology)

Frederick Witzig (geography—Duluth)

Associate Professor to Professor

Eugene Ackerman (biophysics—Mayo)

Robert J. Ames (humanities program)

Wayne J. Anderson (Home and Family Living)

Donald G. Aronson (mathematics)

Oliver H. Beahrs (surgery—Mayo)

Ernest Bormann (speech and theatre arts)

K. Gerhard Brand (microbiology)

J. Doyle Britton (chemistry)

Alan J. Brook (botany)

Byron W. Brown (public health)

Anna Mary Carpenter (anatomy)

George C. Christie (law)

Dean A. Crawford (education and psychology—Duluth)

Rene V. Dawis (Industrial Relations Center)

Carl N. DeSilva (aeronautics and engineering mechanics)

Joseph E. Duncan (English—Duluth)

Charles Edwards (physiology)

Lillian R. Elveback (biostatistics—Mayo)

Charles Fairhurst (mineral and metallurgical engineering)

Heinrich Fleischer (music)

Charles E. Gates (Agricultural Experiment Station)

Richard J. Goldstein (mechanical engineering)

George S. Hage (journalism)

Donald V. Harper (management production and transportation)

Gordon T. Heistad (psychiatry and neurology)

Edward W. Humphrey (surgery)

E. Gartly Jaco (Public Health)

Robert E. Jacobs (Agricultural Extension)

Joseph Jorgens (radiology)

Curtis L. Larson (agricultural engineering)

Robert K. Lindorfer (veterinary bacteriology and Public Health)

R. Drew Miller (medicine—Mayo)

Harold M. Mooney (geology and geophysics)

Shirley G. Moore (Institute of Child Development)

Albert J. Moscovitz (chemistry)

William D. Munro (mathematics)

Glenn C. Nelson (art—Duluth)

Donald R. Nichols (clinical medicine—Mayo)

Elizabeth Nissen (Romance Languages)

David W. Noble (history)

Edmund S. Olsen, Jr. (School of Dentistry)

John F. Perry (surgery)

Allan G. Peterson (entomology, fisheries, and wildlife)

Joseph A. Resch (psychiatry and neurology)

Vincent R. Rogers (elementary education)
 Stephen B. Scallen (law)
 Alvin L. Schultz (medicine)
 Yasutaka Sibuya (mathematics)
 Norman J. Simler (economics)
 Wesley C. Simonton (library school)
 Richard A. Skok (forestry)
 Francis J. Sorauf (political science)
 Clark D. Starr (speech and hearing clinic)
 John Strait (agricultural engineering)
 Theodor W. Thomas (civil engineering and hydraulics)
 Karel M. van Vliet (electrical engineering)
 L. Emmerson Ward (clinical medicine—Mayo)
 Bernhard Weiser (music)
 Harold W. Wilson (journalism)
 Richard K. Winkelmann (dermatology—Mayo)
 Eugene S. Wright (rhetoric)

Clinical Associate Professor to Clinical Professor

Sidney Shapiro (psychiatry and neurology)
 Baxter A. Smith (Division of Urology)
 A. Boyd Thomes (medicine)

Associate Professor and Extension Dairyman to Associate Professor and Superintendent

Clifford L. Wilcox (Agricultural Experiment Station—Rosemount)

Assistant Professor and Superintendent to Associate Professor and Superintendent

Bruce A. Brown (Cloquet Forest Research Center)

Assistant Professor to Associate Professor

James L. App (administration, Institute of Agriculture)
 Sant Ram Arora (mechanical engineering)
 Thelma Baierl (Agricultural Extension)
 Steve S. Barich (mechanical engineering)
 Donald M. Barnes (veterinary diagnostic laboratories)
 Ward J. Barrett (geography)
 Robert F. Berkhofer (history)
 Michael Blaw (psychiatry and neurology)
 Robert L. Borg (music education)
 William G. Boyce (art—Duluth)
 Yu-min Chou (economics—Morris)
 Edward M. Copeland (East and South Asian Languages)
 Donald E. Davis (educational administration)
 David G. Decker (clinical obstetrics and gynecology—Mayo)
 Kenneth N. DeYoung (psychology—Duluth)
 Franklin D. Enfield (animal husbandry)
 Rouse S. Farnham (soil science)
 Paul C. Fife (mathematics)
 Edward M. Foster (economics)
 William T. Foulk, Jr. (medicine—Mayo)
 William L. Fowlks (ophthalmology)
 Edgar W. Garbisch (chemistry)
 Luther P. Gerlach (anthropology)
 Lorraine M. Gonyea (laboratory medicine)
 Ira M.G. Gourley (veterinary surgery and radiology)

Janis Grava (soil science)
Peter Gregory (economics)
Borghild Hansen (physical medicine and rehabilitation)
John C. Hause (economics)
Russell K. Hobbie (physics)
Jack Indritz (mathematics)
Benton Jamison (mathematics)
Howard B. Jenkins (mathematics)
Donald W. Johnson (veterinary medicine)
Fred A. Johnson (social studies—General College)
Walter K. Johnson (civil engineering and hydraulics)
Daniel D. Joseph (aeronautics and engineering mechanics)
Michael P. Joseph (psychological studies—General College)
Thomas P. Kearns (ophthalmology—Mayo)
Raymond J. Lammers (speech and theatre arts—Morris)
Leonard Langer (radiology)
Martin H. Lease (political science—Duluth)
Jooinn Lee (political science—Morris)
Mary L. Muller (Agricultural Extension)
Katherine Nash (art)
Richard Narvaez (Romance Languages)
Oliver S. Owen (biological science—General College)
Vernal S. Packard (Agricultural Extension)
John S. Pearson (clinical psychology—Mayo)
Victor Perman (veterinary pathology and parasitology)
George L. Perry (economics)
William F. Pohl (mathematics)
Roger D. Price (entomology, fisheries, and wildlife)
William E. Pruitt (mathematics)
Charles R. Purdy (accounting)
Paul G. Quie (pediatrics)
Verna Rausch (laboratory medicine)
Leon Reisman (literature and writing—General College)
William H. ReMine, Jr. (surgery—Mayo)
Marcel K. Richter (economics)
Herman Rowan (art)
Dorothy Rundorff (Romance Languages)
Joseph G. Rushton (clinical neurology—Mayo)
Joseph W. St. Geme (pediatrics)
Rudolph I. Schauer (art—Duluth)
Donald A. Scholz (clinical medicine—Mayo)
Charles J. Scott (mechanical engineering)
Philip Siegelman (humanities program)
Kenneth R. Skjegstad (botany)
Warren B. Stenberg (mathematics)
James E. Stochl (elementary education)
Edward I. Sucoff (forestry)
Wendell M. Swenson (clinical psychology—Mayo)
Richard E. Symmonds (clinical obstetrics and gynecology—Mayo)
Akira E. Takemori (pharmacology)
Irving Tallman (home economics)
John R. Thompson (Southern Experiment Station—Waseca)
Milton A. Trapold (psychology)
Bror Troedsson (physical medicine and rehabilitation)
John A. Ulrich (bacteriology—Mayo and College of Medical Sciences)
James C. Underhill (zoology)
Robert G. Warnken (psychology)
Ronald W. Wendahl (speech and theatre arts)
Ralph C. Williams (medicine)
Raymond E. Willis (quantitative analysis)
Kenneth E. Winsness (forestry)
Jorge J. Yunis (laboratory medicine)
William Zimmermann (physics)

Visiting Assistant Professor to Associate Professor

Joseph E. Schwartzberg (geography and International Programs)

Clinical Assistant Professor to Clinical Associate Professor

Stuart L. Arey (pediatrics)
 Sewell Gordon (radiology)
 Erick Y. Hakansan (obstetrics and gynecology)
 Richard C. Horns (ophthalmology)
 Elizabeth Lowry (pediatrics)
 Donald H. Peterson (radiology)
 Dean Rizer (medicine)
 Jacob H. Strickler (surgery)
 Rodney F. Sturley (obstetrics and gynecology)

Instructor to Associate Professor

Charles R. Bruning (Division of Education—Morris)
 Robert J. Forsyth (home economics)

Clinical Assistant Professor to Clinical Associate Professor

George Tani (University Hospitals—Outpatient Department)

Clinical Instructor to Clinical Associate Professor

Thomas P. Anderson (physical medicine and rehabilitation)

Lecturer to Associate Professor

Jay M. Smith (accounting)

Research Associate to Assistant Professor

Meil Ling (geography)

Research Fellow to Assistant Professor

Antonio Camacho (economics)
 Russell H. Susag (civil engineering and hydraulics)

Instructor to Assistant Professor

Leonard A. Aaro (obstetrics and gynecology—Mayo)
 Wassilij Alexeev (Slavic and East European Languages)
 Fred M. Amram (oral communication—General College)
 Gary M. Andrew (Business Administration)
 Edward J. Bardon (University Health Service)
 Maurice J. Barry, Jr. (psychiatry—Mayo)
 G. Eric Bauer (anatomy)
 Martin E. Bergeland (veterinary diagnostic laboratories)
 Ronald M. Brown (rhetoric and Agricultural Extension)
 Robert E. Curtis (business administration—Duluth)
 Matthew B. Divertie (medicine—Mayo)
 Paige J. Donnelly (business studies—General College)
 Thomas F. Fletcher (veterinary anatomy)
 Allen D. Flint (correspondence study—General Extension)
 Robert S. Fontana (medicine—Mayo)
 Paul W. Freed (music)
 David L. Giese (mathematical studies and coordinator of research—General College)

Nelson D. Goldberg (pharmacology)
 Helen B. Hansen (nursing)
 Lois P. Hodgell (art—Morris)
 Robert L. Jackson (elementary education)
 Niles H. Jefferson (biology—General College)
 Carl E. Johnson (obstetrics and gynecology—Mayo)
 Dagny Johnson (School of Social Work)
 David C. Johnson (University High School)
 Freeman K. Johnson (Northwest Experiment Station—Crookston)
 Hyung Kon Kim (business administration—Duluth)
 Donald W. Klass (neurology—Mayo)
 Maxine Klein (speech and theatre arts)
 Jesse K. Lair (rhetoric)
 William R. Laney (dentistry—Mayo)
 J. Paul Leonard (radiology)
 Richard G. Lidberg (education and psychology)
 David Lieberman (Spanish and German—Morris)
 John C. Lillie (otolaryngology—Mayo)
 Robert G. Lindsay (School of Journalism)
 Bernice Lund (mathematics—Morris)
 James S. Malosky (physical education for men—Duluth)
 John T. Martin (anesthesiology—Mayo)
 James K. Masson (plastic surgery—Mayo)
 William E. Mayberry (medicine—Mayo)
 Robert J. McCollister (administration—Medical Sciences)
 Duncan R. McNab (music)
 Frances D. Moncure (nursing)
 Glen B. Morey (Minnesota Geological Survey)
 Freddy M. Munoz (art—Duluth)
 Joel I. Nelson (sociology)
 Bruce Nord (sociology—Morris)
 Ivan Policoff (physical science—General College)
 William J. Price (audio-visual—General Extension)
 Vernon G. Pursel (West Central Experiment Station—Morris)
 Richard Randell (art)
 William A. Reiners (botany)
 John C. Schlotthauer (veterinary pathology and parasitology)
 Murray N. Silverstein (medicine—Mayo)
 James A. Simpson (Scandinavian)
 Howard Stensrud (science and mathematics—Morris)
 Eric N. Stokes (general arts—General College)
 David A. Stoppel (physical science—General College)
 Robert D. Thompson (School of Forestry)
 James Togeas (chemistry—Morris)
 Shih Hao Tsai (radiology)
 Theodore Uehling (philosophy—Morris)
 Arnolds Veinbergs (radiology)
 Harold R. Wallace (business studies—General College)
 Ardell Wantoch (home economics education)
 Frank H. Wood (special education)

Lecturer to Assistant Professor

Pacy Friedman (speech—Duluth)
 Evelyn L. Grovom (business administration—Duluth)
 Russell G. Hamilton (Romance Languages)
 Lawrence C. Mantini (Romance Languages)
 Leonard S. Parker (School of Architecture)
 Elizabeth F. Peterson (Center for Continuation Study—General Extension)
 Quenton T. Smith (biochemistry)
 Allan H. Spear (history)
 Margery W. Stricker (English)

Clinical Instructor to Assistant Professor

Jack A. Vennes (medicine)

Instructor to Clinical Assistant Professor

John J. Raich (laboratory medicine)

Instructor and Extension Specialist to Assistant Professor and Extension Specialist

Lowell D. Hanson (soils)

Instructor and Counselor to Assistant Professor and Counselor

Dorothy R. Loeffler (Office of the Dean of Students, Student Counseling Bureau)

Research Assistant to Assistant Professor and Extension Horticulturist

Neil W. Miles (horticultural science and Agricultural Extension Service)

Teaching Associate and Research Assistant to Assistant Professor

Paul W. Weiblen (geology and geophysics)

Clinical Instructor to Clinical Assistant Professor

William D. Bevis (pediatrics)
 Paul F. Bowlin (medicine)
 Harrison H. Farley (surgery)
 John H. Linner (surgery)
 Donald M. Mayberg (psychiatry and neurology)
 Jennings C. Peteler (psychiatry and neurology)
 Paul D. Redleaf (medicine)
 A. McDonnell Richards (medicine)
 Henry P. Staub (pediatrics)
 Edward L. Stem (pediatrics)
 John D. Tobin (pediatrics)

LEAVES OF ABSENCE, 1964-65

- Rutherford Aris, professor of chemical engineering, sabbatical furlough for 1964-65, to pursue research on the foundations of mathematical representation of chemical reactions; time to be spent at Cambridge University, England.
- Carl A. Auerbach, professor, Law School, without salary February 1 to June 15, 1965, to serve as visiting professor at Columbia University Law School.
- W. Donald Beatty, professor of history, sabbatical furlough for 1964-65, to study the urban areas, the expansion of industry, and the new political alignments in Latin America under the Ford Faculty Exchange Program.
- Ralph F. Berdie, professor of psychology and director, Student Counseling Bureau, with salary February 16 to March 19, 1965, due to illness.
- John R. Borchert, professor of geography, continuation of 50% time leave without salary for fall quarter of 1964-65, to design and coordinate research for the Minnesota Outdoor Recreation Resources Commission of the state legislature.
- Stanley Bruckenstein, professor and chief of analytical chemistry, without salary October 1, 1964, to March 15, 1965, in Moscow as a part of a scientific exchange between the U.S. National Academy of Sciences and the Soviet Academy of Sciences.

- John A. Buttrick, professor of economics, without salary 1964-65, to serve as a major participant in the Minnesota-Los Andes-AID project in Bogotá, Colombia, South America.
- Alfred C. Caldwell, professor of soil science, without salary January 1 to December 31, 1965, to serve as senior officer in the Division of Isotopes, Department of Research and Isotopes, Vienna, Austria.
- Warren B. Cheston, professor, School of Physics, continuation of leave without salary for 1964-65, to serve with the U.S. Embassy in London.
- John S. Chipman, professor of economics, sabbatical furlough for 1964-65, for research on the topic "Studies in the Theory of Preference."
- Charles D. Creevy, professor of surgery and director of urology, with salary January 15 to April 15, 1965, to write papers presenting clinical observations and to study and observe at the Universities of Miami and California.
- A. Orville Dahl, professor of botany, without salary for 1964-65, for research on plant morphogenesis under weightlessness and fine structure of pollen at University of Pennsylvania.
- John D. Donker, professor of dairy husbandry, sabbatical furlough September 16, 1964, to September 15, 1965, to accept a research grant from the American Institute for Indian Studies to study professional aspects of dairy husbandry in India.
- Marvin D. Dunnette, professor of psychology, without salary for 1964-65, to accept a Ford Foundation Faculty Fellowship.
- Herbert Feigl, professor of philosophy and director of Minnesota Center for Philosophy of Science, sabbatical furlough for 1964-65, for research in Vienna, Austria, and Australia.
- Charles H. Foster, professor of English, without salary for 1964-65, to accept a visiting professorship at Bowdoin College, Brunswick, Maine.
- Leon W. Green, professor, School of Mathematics, sabbatical furlough for 1964-65, to continue research on the connections between ergodic theory, group representations, and differential geometry at Cambridge, Massachusetts.
- Ruth E. Green, professor in Laboratory School, University of Minnesota, Duluth, without salary for 1964-65, to assist in the development and administration of the Christian Education program at Lakeside Presbyterian Church in Duluth.
- Delbert C. Hastings, professor, School of Business Administration, without salary for 1964-65, to serve as an adviser to department of statistics of the Hashemite Kingdom of Jordan and to assist in establishing an Institute of Statistics for the training of personnel for their government.
- Robert L. Heller, professor and head, Division of Science and Mathematics, University of Minnesota, Duluth, continuation of leave without salary July 1, 1964, to August 31, 1965, to direct the American Geological Institute's Earth Sciences Curriculum Project.
- Herbert G. Heneman, Jr., professor, director, and chairman, Industrial Relations Center, without salary January 1 to March 15, 1965, to teach at the United States Naval Postgraduate School at Monterey, California.
- Reuben L. Hill, Jr., professor of sociology and director, Family Study Center, without salary September 16-December 31, 1964, to serve as program specialist in population program of the Ford Foundation.
- E. Adamson Hoebel, professor and chairman of anthropology, sabbatical furlough for 1964-65, to write up field study on Pueblo law and social control and to complete analysis of Pakistan High Court Decisions involving principles of Muslim law.
- Robert T. Holt, professor of political science, sabbatical furlough for 1964-65, for research and advanced study.
- Harold L. James, professor of geology and geophysics, without salary for 1964-65, for research for the United States Geological Survey.
- James J. Jenkins, professor of psychology, without salary for 1964-65, to accept a fellowship at the Center for Advanced Study in the Behavioral Sciences at Stanford University.
- Harold R. Jensen, professor of agricultural economics, sabbatical furlough October 1, 1964, to June 30, 1965, for postdoctoral study of developing theoretical constructs, research methodology, and empirical analyses of

- teaching programs in agricultural economics and farm management in Denmark, Norway, Sweden, and England.
- Elton L. Johnson, professor and head of poultry science, without salary August 16, 1964, to June 30, 1965, to serve as director of the International Rural Development Office of the Association of State Universities and Land-Grant Colleges in Washington, D.C.
- Yale Kamisar, professor, Law School, without salary for 1964-65, to serve as visiting professor at Harvard Law School.
- Richard L. Kozelka, professor, School of Business Administration, without salary for winter quarter, to serve as visiting professor at University of Florida.
- Donald B. Lawrence, professor of botany, without salary for 1964-65, to accept a Fulbright award to study soil-forming processes in New Zealand.
- Benjamin E. Lippincott, professor of political science, without salary for fall quarter of 1964-65, for research and writing.
- Warren S. Loud, professor, School of Mathematics, sabbatical furlough for 1964-65, for research in the theory on nonlinear ordinary differential equations with particular emphasis on the application to nonlinear mechanics at the Technische Hochschule in Darmstadt, Germany.
- Eugene C. Mather, professor of geography, sabbatical furlough for 1964-65, to engage in field research in Chile under the auspices of the United States-Latin American Exchange Program.
- Richard B. McHugh, professor, School of Public Health, sabbatical furlough for 1964-65, to serve as a special fellow of the National Institute of General Medical Sciences at the University of California in the Department of Statistics.
- Don A. Martindale, professor of sociology, sabbatical furlough for 1964-65, for travel and study in Alaska, Europe, and the Near East.
- Carlos Martinez, professor of physiology, without salary for 1964-65, to establish a program in the Institute for Experimental Medicine in Buenos Aires, Argentina.
- Jack C. Merwin, professor of educational psychology and assistant director of the Counseling Bureau, 50% time leave without salary March 15 to June 30, 1965, to serve as staff director of the Exploratory Committee on Assessing the Progress of Education, on a grant from the Carnegie Corporation.
- Allan H. Morris, professor of electrical engineering, without salary for fall and winter quarters of 1964-65, for research at Manitoba, Canada.
- Johannes C. C. Nitsche, professor, School of Mathematics, without salary May 1 to June 15, 1965, to lecture at the University of Hamburg, Germany.
- Raymond B. Nixon, professor, School of Journalism, sabbatical furlough for fall and winter quarters of 1964-65, to accept a Ford Foundation Grant for research and study in Latin America.
- Paul R. O'Connor, professor and associate chairman, School of Chemistry, without salary for the spring quarter of 1964-65, to serve as consultant to USAID in the summer institute program in mathematics and science in India.
- Katsuhiko Ogata, professor of mechanical engineering, without salary for 1964-65, to return to Japan under the exchange-visitor program.
- Hendrik J. Oskam, professor of electrical engineering, 85% time leave without salary for 1964-65, to spend a year in industry at the Minneapolis Honeywell Company.
- Moses Passer, professor of chemistry, University of Minnesota at Duluth, without salary for 1964-65, to serve as Acting Educational Secretary for the American Chemical Society, Washington, D.C.
- Burton Paulu, professor and director of radio and television, sabbatical furlough December 14, 1964, to August 31, 1965, for research in Switzerland, the United Kingdom, and Africa for a book and/or series of periodical articles.
- Milo J. Peterson, professor and chairman of agricultural education, without salary February 23 to March 15, 1965, to serve as consultant in Brazil for the Ford Foundation.

- Ralph E. Rapson, professor and head, School of Architecture, without salary for fall quarter of 1964-65, to serve as visiting professor at Princeton University.
- John Rood, professor of art, without salary for 1964-65, for research projects and creative work.
- Arnold M. Rose, professor of sociology, sabbatical furlough for fall and winter quarters of 1964-65, to visit departments of sociology in India, Pakistan, and Ceylon to ascertain development of sociology in South Asia.
- Paul C. Rosenbloom, professor, School of Mathematics, continuation of 25% time leave without salary for 1964-65, to serve as director of the mathematics section of the Minnesota National Laboratory for improvement of secondary school mathematics.
- Wallace A. Russell, professor of psychology, sabbatical furlough for 1964-65, to pursue a special study of the history of psychology with emphasis on the area of motivational psychology; time to be spent at the Harvard Library, Tulane University, and in Europe.
- Harlund G. Routh, professor-state leader, extension programs, Agricultural Extension, sabbatical furlough September 21, 1964, to June 30, 1965, for work toward Ph.D. at University of Wisconsin.
- Jay H. Sautter, professor and head of veterinary pathology and parasitology, without salary March 1 to May 31, 1965, to serve as adviser to the Agency for International Development in Peru, under auspices of North Carolina State University.
- Edwin L. Schmidt, professor of microbiology, sabbatical furlough September 1, 1964, to August 31, 1965, for study and research at the University of Louvain, Belgium.
- Jacob Schmoockler, professor of economics, without salary for winter quarter of 1964-65, to conduct research on a grant from Princeton University on micro-economic technological change.
- William S. Schofield, professor, psychiatry-neurology and psychology, without salary February 1 to May 31, 1965, to teach at University of Colorado.
- Clarence M. Stowe, Jr., professor and head, Veterinary Physiology and Pharmacology, sabbatical furlough September 1, 1964, to August 31, 1965, to go to National University-College of Veterinary Medicine in Bogotá, Colombia, under the auspices of the Rockefeller Foundation, to assist in development of Colombian livestock.
- Murray A. Straus, professor, School of Home Economics and sociology, without salary October 7, 1964, to August 31, 1965, for research on NSF Family Support and Power Structure grant.
- Donald C. Swanson, professor of classics, sabbatical furlough for 1964-65, to do research on creating a system of index syntax of extensive texts.
- David W. Thompson, professor of speech and theatre arts, sabbatical furlough for 1964-65, for study of European theatre.
- Benjamin Willerman, professor of psychology, Student Counseling Bureau, continuation of leave without salary for 1964-65, to serve as staff associate of the Social Science Research Council in New York.
- John B. Wolf, professor of history, with salary March 29 to May 1, 1965, to interview students in French Africa for the ASPAU Program.
- Josef L. Altholz, associate professor of history, without salary for 1964-65, to accept a Guggenheim Fellowship to pursue studies in the history of the Christian churches in the nineteenth century with special reference to their relation to society.
- Dominick J. Argento, associate professor of music, sabbatical furlough for 1964-65, to compose an opera; time to be spent in Italy.
- Paul W. Bamford, associate professor of history, sabbatical furlough for 1964-65, to complete research and writing of a book on French galleys and galley administration in early modern Europe.
- Hyman Berman, associate professor of history, without salary for fall quarter of 1964-65, to teach at the University of Osmania, Hyderabad, India, under the State Department-University of Minnesota contract.
- Mark Bolsterli, associate professor, School of Physics, sabbatical furlough for 1964-65, to study and do research at Clarendon Laboratory, Oxford.

- Dorothy M. Burrows, associate professor of literature and writing, General College, sabbatical furlough for 1964-65, for study and travel abroad.
- William J. Dresser, clinical associate professor, School of Dentistry, without salary for 1964-65, for private practice.
- C. Lindsley Edson, associate professor of music, University of Minnesota, Duluth, sabbatical furlough for 1964-65, for research in Baroque keyboard music other than the organ; time to be spent in Oxford, England.
- F. Faith Finnberg, associate professor of literature and writing, General College, sabbatical furlough for 1964-65, for study and travel abroad.
- Richard J. Foster, associate professor of English, without salary for 1964-65, to accept a visiting associate professorship at Williams College.
- Ralph E. Giesey, associate professor of history, sabbatical furlough for 1964-65, to complete writings on 15th century political thought and Renaissance kingship; time to be spent at the Institute for Advanced Study.
- Jesus Gil de Lamadrid, associate professor of mathematics, College of Liberal Arts, sabbatical furlough for 1964-65, for writing and research; time to be spent in Paris.
- Frank D. Hirschbach, associate professor of German, sabbatical furlough for 1964-65, to prepare a book-length manuscript on Doderer, with time to be spent in the Thomas Mann Archive in Zurich, Switzerland.
- Arthur J. Madden, Jr., associate professor of chemical engineering, sabbatical furlough for 1964-65, to pursue advanced study and observe instructional approaches in chemical engineering at the Massachusetts Institute of Technology under a National Science Foundation Faculty Fellowship.
- Helmut K. Mangold, associate professor, Hormel Institute, with salary July 25 to November 9, 1964, for research in Germany and Great Britain.
- C. Alden Mead, associate professor, School of Chemistry, sabbatical furlough for 1964-65, to study quantum and gravitational effects in the theory of measurement and on the relation between quantum and relativity theory in general; time to be spent at Birbeck College, University of London.
- Marion J. Nelson, associate professor of Scandinavian, 62% time leave without salary for 1964-65, to assist in the selection of art objects and write the catalog for an exhibition at the Minneapolis Institute of Arts of Norwegian Decorative Arts from the Immigrant Home.
- Peter Signer, associate professor, School of Physics, without salary April 16 to June 16, 1965, to assume responsibility of setting up a laboratory of mass spectrometry at the Federal Institute of Technology in Zurich, Switzerland.
- Ralph E. Smith, associate professor and superintendent, West Central School of Agriculture and Experiment Station, sabbatical furlough October 1, 1964, to January 31, 1965, for graduate work at University of Nebraska.
- Francis J. Sorauf, associate professor of political science, without salary for 1964-65, to serve as lecturer at Bologna, Italy, on a Fulbright Scholarship of the School of Advanced International Studies of Johns Hopkins University.
- John M. Sullivan, associate professor of Romance Languages, sabbatical furlough for 1964-65, to study current cultural developments in France and to plan and prepare a projected new course in French Stylistics; time to be spent at Sorbonne and Oxford.
- Forrest L. Vance, associate professor, Student Counseling Bureau, continuation of leave without salary for 1964-65, to serve in the central office of the American Psychological Association.
- Myra B. Zabel, associate professor-extension specialist, home furnishings, Agricultural Extension, sabbatical furlough September 28, 1964, to June 12, 1965, for graduate work at University of Minnesota.
- Richard E. W. Adams, assistant professor of anthropology, without salary for spring quarter of 1964-65, to do archaeological field work in Guatemala on a National Science Foundation grant.
- Elia M. Ayoub, assistant professor of pediatrics, continuation of leave with salary July 1, 1964, to April 30, 1965, to serve as an investigator of the Helen Hay Whitney Foundation at the Rockefeller Foundation.

- Ward J. Barrett, assistant professor of geography, without salary for winter quarter of 1964-65, for field research in Mexico under the auspices of the Ford Foundation.
- William J. Bemrick, assistant professor of veterinary pathology and parasitology, sabbatical furlough March 1, 1965, to February 28, 1966, for research on filarial worms at University of Queensland, Brisbane, Australia.
- Evelyn D. Crisp, assistant professor of retailing and selling, General College, sabbatical furlough for 1964-65, to study marketing and related fields, curriculum planning, and teaching skills.
- Edward M. Foster, assistant professor of economics, continuation of leave without salary for 1964-65, to continue as chief of party of the Minnesota-Los Andes-AID project in Bogotá, Colombia, South America.
- Margie R. Hanson, assistant professor, Physical Education for Women, without salary for 1964-65, to complete work for Ph.D. at University of Washington.
- John C. Hause, assistant professor of economics, continuation of leave without salary for fall quarter of 1964-65, to work on economic problems of national defense at the Institute of Defense Analysis in Washington, D.C.
- Benton N. Jamison, assistant professor, School of Mathematics, without salary for 1964-65, to serve at the California Institute of Technology.
- Donald W. Kahn, assistant professor, School of Mathematics, without salary spring quarter, to visit the University of Heidelberg, Germany.
- Erle V. Leichty, assistant professor of history, without salary for 1964-65, to accept a Guggenheim Foundation Fellowship in the Department of Western Asiatic Antiquities of the British Museum, London, England.
- Keith I. Loken, assistant professor of veterinary bacteriology and public health, sabbatical furlough May 1, 1965, to April 30, 1966, for research at Salmonelle Investigation Unit of the Ruakura Agricultural Research Center in New Zealand.
- Victor A. Newcomb, assistant professor, General College, without salary winter quarter of 1964-65, due to ill health.
- C. William Rudelius, Jr., assistant professor of business functions and management, School of Business Administration, without salary for 1964-65, to do business and economic research for the North Star Research and Development Institute.
- Rolando L. Udasco, assistant professor of ophthalmology, without salary July 16, 1964, to June 30, 1965, to fulfill requirements to enter the United States under the immigration quota for the Philippines in order to become a U.S. citizen.
- John L. Walker, Jr., assistant professor of physiology, without salary October 1, 1964, to June 30, 1965, to accept a United States Public Health Service postdoctoral fellowship at the University of Utah.

LEAVES OF ABSENCE, 1965-66

- Bryce L. Crawford, Jr., dean, Graduate School, and professor of chemistry, sabbatical furlough for January 1 to June 30, 1966, for research and completion of certain methods in molecular dynamics; time to be spent in Tokyo and Osaka, Japan.
- Robert G. Brasted, professor, School of Chemistry, without salary April 1 to May 31, 1966, to serve as Science Coordinator and supervisor for the USAID-Ohio State Chemistry Programs in New Delhi, India.
- May Brodbeck, professor of philosophy, without salary for fall quarter 1965-66, to serve as visiting professor at the University of Maryland.
- James I. Brown, professor of rhetoric, without salary for 1965-66, to study new approaches to teaching of reading.
- Oswald H. Brownlee, professor and chairman of economics, without salary for fall quarter 1965-66, to accept fellowship with Office of Comptroller of Currency, U.S. Treasury Department, Washington, D.C.
- John A. Buttrick, professor of economics, continuation of leave without salary for 1965-66, to serve in the Minnesota-Los Andes-AID project at Bogotá, Colombia.

- Alfred C. Caldwell, professor, Soil Science, continuation of leave without salary for January 1 to June 30, 1966, Division of Isotopes, Department of Research and Isotopes, Vienna, Austria.
- Harold W. Chase, professor of political science, without salary for 1965-66, to accept a visiting professorship at the National War College in Washington, D.C.
- Warren B. Cheston, professor and director, Space Science Center, without salary September 16, 1963, to August 22, 1965, United States Embassy in London.
- Raymond O. Collier, Jr., professor of educational psychology, sabbatical furlough for 1965-66, for advanced study in the mathematical foundation of statistical inference; time to be spent at Imperial College of Science, University of London.
- Ralph E. Comstock, professor and head of genetics, with salary for October 27 to December 3, 1965, to participate at British Poultry Breeders Roundtable and visit reserve centers in Edinburgh, England, and Italy.
- Laurence K. Cutkomp, professor of entomology, fisheries, and wildlife, without salary September 1, 1965, to August 31, 1966, to serve as senior officer in the Joint Food and Agriculture Organization, International Atomic Energy Agency in Vienna, Austria.
- A. Orville Dahl, professor of botany, continuation of leave without salary for 1965-66, to conduct research at University of Pennsylvania on a grant from the National Science Foundation.
- John S. Dahler, professor of chemical engineering, sabbatical furlough for 1965-66, to study developments in modern quantum mechanics at the University of California on a grant from the National Science Foundation.
- George W. England, professor and assistant director, Industrial Relations Center, without salary 1965-66, to accept Ford Foundation Faculty Fellowship for Research on Business; time to be spent at University of Hawaii.
- David W. French, professor of plant pathology and physiology and associate director, Lake Itasca Biology Session, without salary December 1, 1965, to May 31, 1966, to accept a visiting professorship at North Carolina State University.
- Harry Furstenberg, professor, School of Mathematics, without salary for 1965-66, to accept an Alfred P. Sloan Foundation Research Fellowship.
- Norman Garnezy, professor of psychology, with salary September 1, 1965, to August 31, 1966, to do research at Psychological Laboratory and Department of Psychiatry at University of Copenhagen.
- Richard K. Gaumnitz, professor, School of Business Administration, sabbatical furlough for 1965-66, to study the effect of the Common Market and EFTA on management of various European firms, particularly in France, Germany, and the United Kingdom, and to observe the effect of supermarkets on distribution in France, and visit business schools of super-governmental organizations.
- James E. Gerald, professor, School of Journalism, sabbatical furlough for 1965-66, for study and travel.
- Reuben L. Hill, Jr., professor of sociology and director, Family Study Center, without salary September 16, 1965, to June 15, 1966, to serve as Program Specialist in the Population Program of the Ford Foundation.
- James F. Hogg, professor, Law School, without salary for 1965-66, to accept appointment at Naval War College.
- Ralph L. Hossfeld, professor, School of Forestry, sabbatical furlough August 1, 1965, to July 31, 1966, for research on hydrodynamics of fluid flow through permeable media in wood and related fields.
- Herbert S. Isbin, professor and associate head of chemical engineering, sabbatical furlough for 1965-66, for research at reactor centers in England, Italy, and possibly Ireland.
- Elton L. Johnson, professor and head of poultry science, continuation of leave without salary for 1965-66, to serve as director, International Rural Development Office, Washington, D.C.
- Herbert G. Johnson, professor and extension plant pathologist, plant pathology and physiology and Agricultural Extension Service, leave without salary

- March 1 to April 30, 1966, to serve as visiting professor at Cornell University.
- Fulton Koehler, professor, School of Mathematics, without salary for 1965-66, for travel, study, and work on problems in applied mathematics.
- Donald B. Lawrence, professor of botany, without salary spring quarter of 1965-66, to prepare manuscripts on Alaskan research and presentation of lectures at Rutgers University.
- Benjamin J. Lazan, professor of aeronautics and engineering mechanics, sabbatical leave December 16, 1965, to December 15, 1966, to do research in damping and other cyclic stress properties of materials; time to be spent in Minnesota and California.
- Benjamin E. Lippincott, professor of political science, without salary spring quarter of 1965-66, for research.
- Eugene Mather, professor of geography, without salary winter quarter of 1965-66, for research on "Post-War Development of the Nicaraguan Pacific Coastal Plain."
- Grover E. Maxwell, professor of philosophy, without salary for fall quarter of 1965-66, to serve at the University of California, Berkeley.
- Gayle W. McElrath, professor of mechanical engineering, 75% time leave without salary for 1965-66, with firm of Bayer, Kobert and Associates.
- Jack C. Merwin, professor of educational psychology and assistant director of Counseling Bureau, without salary July 1, 1965, to June 30, 1966, to serve as staff director of the Exploratory Committee on Assessing the Progress of Education on a grant from the Carnegie Corporation.
- George S. Michaelsen, professor, School of Public Health, and director, Division of Environmental Health and Safety, University Health Service, with salary September 16 to December 8, 1965, to visit the British Isles, Finland, and Scandinavian countries to study design and operation of hospitals in relation to institutionally acquired infections.
- Samuel H. Monk, professor of English, sabbatical furlough for 1965-66, to do research and writing for various items of Dryden's prose works, with some time to be spent in England.
- Albert J. Moscowitz, professor of physical chemistry, without salary winter quarter of 1965-66, to serve as visiting professor at Georgia Institute of Technology.
- James C. Nichol, professor of chemistry, Division of Science and Mathematics, University of Minnesota, Duluth, without salary for 1965-66, for research in the field of transport processes at the Enzyme Institute of the University of Wisconsin.
- Walter T. Pattison, professor, Romance Languages, sabbatical furlough for 1965-66, to do research in Spain on the novel *Gloria*, by Benito Perez Galdos.
- Arvid N. Pearson, professor and head, Division of Social Sciences, University of Minnesota, Duluth, leave without salary January 1 to June 30, 1966, to accept an appointment for UNESCO mission to establish a Department of Agricultural Education in the Mindanao Institute of Technology, Philippine Islands.
- Ralph A. Piper, professor and head gymnastics coach, Physical Education for Men and Intercollegiate Athletics, sabbatical furlough for 1965-66, to accept a State Department Award under the Fulbright Hayes Act to teach at the University of Baghdad in Iraq.
- Francis V. Raab, professor of philosophy, leave without salary December 16, 1965, to June 15, 1966, to complete a book on the Mind-Body problem.
- Otto N. Raths, Jr., clinical professor of psychiatry and neurology, without salary August 26 to December 22, 1965, to attend associate career course for medical officers at Fort Sam Houston, Texas.
- John Rood, professor, Art Department, continuation of leave without salary 1965-66, for research projects and creative work.
- Jay Y. Roshal, professor of biology, Division of Science and Mathematics, University of Minnesota, Morris, leave without salary for 1965-66, for research work and lectures at the University of Texas.
- Ralph G. Ross, professor, Humanities Program and philosophy, sabbatical furlough for 1965-66, to complete a book on social and political philosophy.

- Harlund G. Routhe, professor and state leader, Extension Programs, continuation of sabbatical furlough July 1 to September 20, 1965, and without salary September 21, 1965, to January 31, 1966, for graduate work at University of Wisconsin.
- James B. Serrin, Jr., professor, School of Mathematics, leave without salary spring quarter of 1965-66, at Johns Hopkins University.
- Patarasp R. Sethna, professor of aeronautics and engineering mechanics, sabbatical furlough for 1965-66, to study and do research in the field of analysis and control of dynamical systems at Brown University.
- Timothy L. Smith, professor of history and general education, without salary for 1965-66, to teach and direct graduate work in American social history at the University of Michigan.
- Ephraim M. Sparrow, professor of mechanical engineering, leave without salary spring quarter of 1965-66, to participate in a United States Agency for International Development Program at the University of Brazil.
- Robert F. Spencer, professor and chairman of anthropology, sabbatical furlough 1965-66, for study of poetry of West Pakistan in Urdu, Panjabi, Sindhi, and Pashto on a Guggenheim Fellowship.
- Nelson T. Spratt, Jr., professor of zoology, without salary January 15 to May 15, 1966, to accept a distinguished visiting professorship at the University of Puerto Rico.
- John E. Stecklein, professor and director, Bureau of Institutional Research, sabbatical furlough January 1 to May 31, 1966, to do research and writing and visit other institutions in the United States.
- Armas W. Tamminen, professor and head of psychology, Division of Education and Psychology, University of Minnesota, Duluth, without salary for 1965-66, State Department of Education.
- Albert Tezla, professor of English, University of Minnesota, Duluth, without salary December 16, 1965, to June 15, 1966, to serve as visiting professor of Hungarian studies at Columbia University.
- Edward A. Usenik, professor of veterinary surgery and radiology, sabbatical furlough July 1 to December 31, 1965, to serve as consultant at San Marcos University under the auspices of the Rockefeller Foundation.
- David H. Willson, professor of history, without salary February 1, 1966, to June 15, 1967, to serve as guest professor at University of Texas.
- John R. Winckler, professor, School of Physics, sabbatical furlough for 1965-66, to study and do research on the plasma physics of active solar regions; time to be spent at the Meudon Observatoire, Paris, France.
- Cecil Wood, professor of German, 25% time leave without salary December 16, 1965, to June 15, 1966, to participate as a special fellow in research and interdisciplinary training program of Center for Research in Human Learning.
- Frank H. Wood, professor of German, sabbatical furlough for 1965-66, to pursue research in comparative literature studies and prepare a book for publication.
- Charles H. Backstrom, associate professor of political science, without salary for 1965-66, to accept a faculty fellowship by the National Center for Education in Politics and to observe as a participant the congressional relations of the District government.
- Robert W. Bath, associate professor and associate state leader, 4-H Clubs, without salary October 11, 1965, to October 10, 1966, to accept assignment with Rockefeller Foundation at the University of Ibadan in Nigeria.
- R. Glen Berryman, associate professor and chairman of accounting, sabbatical furlough for 1965-66, for study of law and research in the relationships of the fields of law and accounting; time to be spent at University of Minnesota Law School.
- Peter Busa, associate professor of art, leave with salary for the spring quarter 1965-66, on account of illness.
- Beulah E. Compton, associate professor, School of Social Work, sabbatical furlough for 1965-66, for research on learning problems of young adults entering professional schools and problems of teaching clinical skills; time to be spent at University of Chicago.

- Richard J. Foster, associate professor of English, sabbatical furlough for 1965-66, to complete book on fiction of Scott Fitzgerald; time to be spent in Europe and eastern United States.
- James L. Gibbs, Jr., associate professor of anthropology, without salary for 1965-66, to do research on law and personality among the Kpelle of Liberia on a National Science Foundation grant.
- William A. Harris, Jr., associate professor, School of Mathematics, sabbatical furlough 1965-66, to spend year at Research Institute for Mathematical Sciences.
- Ernest D. Johnson, Redwood County Agricultural Agent and associate professor, Agricultural Extension Service, sabbatical furlough October 19, 1965, to June 11, 1966, to work toward M.S. degree at the University of Minnesota.
- O. Elden Johnson, associate professor of anthropology, sabbatical furlough for 1965-66, to conduct archeological excavations in cooperation with the Department of Archeology in Pakistan.
- Edna K. Jordahl, associate professor and extension specialist, home management, Agricultural Extension Service, sabbatical furlough September 27, 1965, to June 2, 1966, to attend classes in adult education at the University of Minnesota.
- Hubert M. Loy, associate professor and director, Student Teaching Division of Education and Psychology, University of Minnesota, Duluth, sabbatical furlough November 1, 1965, to June 15, 1966, to accept a Fulbright grant at the University of Ankara, Turkey.
- E. Scott Maynes, associate professor of economics, without salary fall and winter quarters of 1965-66, to plan an economic study for the Instituto Di Tella, Buenos Aires, Argentina.
- Alfred F. Michael, Jr., associate professor of pediatrics, leave without salary December 1, 1965, to June 30, 1966, for study and research at University of Copenhagen Medical School.
- Norman W. Moen, associate professor of social studies and administrative assistant, General College, sabbatical furlough August 1, 1965, to June 30, 1966, for graduate courses and a visit to Palos Verdes State College in California.
- Paul H. Monson, associate professor of biology and curator, Olga Lakela Herbarium, Duluth, sabbatical furlough for 1965-66, to participate in the National Science Foundation-sponsored Academic Year Institute at Brown University.
- Paul L. Murphy, associate professor of history, sabbatical furlough for 1965-66, to complete writing of book "The Meaning of Freedom of Speech, 1918-33" and to begin writing on volume entitled "The Constitution in Crisis Times, 1918-1965"; time to be spent in Walter Library and Washington, D.C.
- Richard A. Narvaez, associate professor, Romance Languages, without salary for 1965-66, to accept a Fulbright lectureship in Spain.
- Marion J. Nelson, associate professor, Art Department, 50% time leave without salary to serve as director of Norwegian-American Museum at Luther College, Decorah, Iowa.
- Marcel K. Richter, associate professor of economics, 63% time leave without salary fall and winter quarters of 1965-66, to accept Social Science Research Council grant.
- Vincent R. Rogers, associate professor of elementary education, without salary for 1965-66, for research in the British Isles on a Fulbright grant.
- Mordecai M. Roshwald, associate professor, Social Science Program, sabbatical furlough for 1965-66, for research and study of curriculum and teaching methods pertaining to liberal education in British universities.
- Stephen B. Scallen, assistant dean and associate professor, Law School, without salary September 16, 1965, to June 15, 1966, for research and study on international tax problems at Harvard University.
- Peter Signer, associate professor, School of Physics, continuation of leave without salary 1965-66, to set up laboratory of mass spectrometry at Federal Institute of Technology, Zurich, Switzerland.

- Sidney Simon, associate professor and Art Gallery director, sabbatical furlough for 1965-66, for extensive research in the general area of twentieth-century art; time to be spent in various libraries in United States and Europe.
- Oliver E. Strand, Winona County Agricultural Agent and associate professor, Agricultural Extension Service, sabbatical furlough January 19 to March 15, 1966, to work toward master's degree at University of Minnesota.
- John A. Thayer, associate professor of history, without salary 1965-66, to accept Fulbright Fellowship for study and research in Italy.
- Robert A. Vickers, associate professor, School of Dentistry, without salary September 1, 1965, to May 31, 1966, to accept Fulbright Fellowship in Denmark.
- Richard E. W. Adams, assistant professor of anthropology, without salary spring quarter of 1965-66, for field work in Guatemala under a National Science Foundation grant.
- Earl R. Andrews, assistant professor, Division of Education and Psychology, University of Minnesota, Duluth, without salary 1965-66, to attend Graduate School at the University of Missouri.
- Ernest E. Banttari, assistant professor of plant pathology and physiology, without salary for 1965-66, to do research on cereal viruses in Finland and Nederland on a National Science Foundation NATO scholarship.
- G. Eric Bauer, assistant professor of anatomy, without salary April 1, 1965, to March 31, 1966, United States Public Health Service Fellowship; time to be spent in Sweden.
- Martin K. Christiansen, assistant professor, Extension Economist Marketing, without salary June 28 to August 31, 1965, Dairy Project Leader of National Commission on Food Marketing, Washington, D.C.
- Jacques C. Comeaux, assistant professor of languages, Division of Humanities, University of Minnesota, Duluth, sabbatical furlough for 1965-66, to do research and prepare a critical bibliography of books, articles, essays, and studies on the life and works of Antonio Buero Vallejo; time to be spent in the United States, Spain, and France.
- Frances E. Dunning, assistant professor, School of Nursing, sabbatical furlough September 27, 1965, to September 25, 1966, to participate in a research training program at the Institute of Research and Service in Nursing Education, Teachers College, Columbia University.
- Sen Fan, assistant professor of mathematics, University of Minnesota, Morris, without salary for 1965-66, to attend the NSF Academic Year Institute at Brown University.
- James C. Gremmels, assistant professor of English, University of Minnesota, Morris, without salary for 1965-66, to complete work for Ph.D.
- John C. Haugland, assistant professor, Graduate School, with salary paid through the University September 1, 1965, to May 31, 1966, to accept a Fellowship of American Council on Education's Academic Administration Internship Program; time to be spent at University of Maryland.
- John C. Hause, assistant professor of economics, without salary spring quarter of 1965-66, to work with the Institute for Defense Analysis, Washington, D.C.
- Mary J. Hitchcock, assistant professor, School of Home Economics, sabbatical furlough July 1, 1965, to June 30, 1966, for work toward Ph.D. degree at University of Wisconsin.
- Ralph H. Hofmeister, assistant professor of economics, without salary for 1965-66, to participate in the Minnesota-Los Andes-AID Project at Bogotá, Colombia.
- Hugo H. John, assistant professor, School of Forestry, without salary August 9, 1965, to June 30, 1966, to serve with the Food and Agricultural Organization of the United Nations.
- Richard K. Juberg, assistant professor, School of Mathematics, without salary for 1965-66, to accept a National Science Foundation Science Faculty Fellowship at the University of Pisa, Italy.
- Robert T. Laudon, assistant professor of music, without salary for fall quarter of 1965-66, to work toward doctor's degree.

- Paul R. Knowles, assistant professor of music, sabbatical furlough for 1965-66, to begin work on his doctor's degree at Boston University.
- Charles S. Levy, assistant professor of English, without salary for 1965-66, to locate and examine manuscripts and other material relative to the edition of Sir Philip Sidney's correspondence; time to be spent at University of Minnesota.
- Lawrence C. Mantini, assistant professor, Romance Languages, 25% time leave without salary December 16, 1965, to June 15, 1966, to participate in research program, Center for Research in Human Learning.
- Robert O. Mulhausen, assistant professor of medicine, with salary paid directly by Veterans Administration Hospital, leave September 15, 1965, to June 16, 1966, to accept a Fulbright Award for research in Copenhagen, Denmark.
- Shirley T. Munson, assistant professor, Horticultural Science, without salary July 1, 1965, to June 30, 1966, for personal reasons.
- Haskell P. Rosenthal, assistant professor, School of Mathematics, without salary 1965-66, to accept ONR Postdoctoral Fellowship; time to be spent in France.
- Charles J. Scott, assistant professor of mechanical engineering, without salary for 1965-66, to study on a NATO Postdoctoral Fellowship at the University of Naples.
- Rolando L. Udasco, assistant professor of ophthalmology, continuation of leave without salary for 1965-66, to fulfill obligations to enter United States under immigration quota for Philippines in order to become United States citizen.
- Neil Wallace, assistant professor of economics, without salary 1965-66, to work with the Rand Corporation.
- Mary L. Wyvell, assistant professor of literature and writing, General College, sabbatical furlough for 1965-66, to increase knowledge of life and culture of the non-Western World.

SINGLE QUARTER LEAVES

In accordance with the plan announced in the *Biennial Report* for 1952-54, page 14, the following single quarter leaves were granted:

1964-65

- Emil T. Andersen, associate professor of horticulture, summer 1964, to study current research programs on stock-scion relationships of fruit trees in Eastern United States, Canada, and Europe.
- Bruce E. Balow, associate professor, Psycho-Educational Clinic, fall quarter, to write articles for journals on clinical studies of educational disabilities.
- Henry A. Bent, associate professor of chemistry, spring quarter, to study the role of the Pauli Principle in physics and chemistry.
- Hyman Berman, associate professor of history, spring quarter, research for book re: the place of the worker and his institutions in American history.
- Emma M. Birkmaier, professor, University High School, spring quarter, for study in the Soviet Union under the multilateral faculty exchange plan.
- Ernest G. Bormann, associate professor of speech and theatre arts, fall quarter, to study the religious and reform speaking in United States, 1620-1920.
- Marjorie M. Brown, professor of home economics education, winter quarter, for reading and organizing materials in home economics education.
- John B. Carlson, associate professor of biology, Duluth, fall quarter, effects of gamma-irradiation upon the floral development and embryogeny of *Glycine* (Soy Bean).
- Arnold F. Caswell, associate professor of music education, winter quarter, to complete research on "Men's and Women's Chorus Music in Germany: Material and Performance Practices."
- Mitchell V. Charnley, professor, School of Journalism, spring quarter, to complete a study of magazine journalism in Italy, with emphasis on Italy's "magazines of actuality."

- Elizabeth Cless, associate professor, assistant to the dean, and coordinator of special projects and programs, General Extension Division, fall quarter, to write a book on the implications for higher education contained in the experiments of the Minnesota Plan for the Continuing Education of Women.
- Edward J. Cowles, associate professor of chemistry, Duluth, spring quarter, for research on empirical correlations of spectral data for substituted azulenes.
- Joseph E. Duncan, associate professor of English, spring quarter, *Paradise Lost* in relation to changing conceptions of the earthly paradise.
- Rodolfo O. Floripe, associate professor of Romance Languages, spring quarter, to study the contemporary social drama and the novel of "Bajos fondos" in Chile, Argentina, and Uruguay.
- Albert M. Fulton, professor, General Extension Division, winter quarter, to study the methods employed by Australian universities to meet the needs and interests of the adult student.
- Orazio Fumagalli, associate professor of art, fall quarter, for a study of contemporary art and its milieu.
- Mark A. Graubard, professor, Interdisciplinary Program—Natural Science Program, spring quarter, to complete writing a book.
- Ian W. Gregory, associate professor of psychiatry, summer 1964, to study relationships between loss of a parent and subsequent academic achievement, medical illness, and psychopathology.
- Nils H. Grimsbo, instructor, North Central School and Experiment Station, winter quarter, to study blueberry culture in Northern Minnesota.
- Alrik Gustafson, professor and chairman of Scandinavian, winter quarter, to work on a manuscript entitled *Strindberg and the Theatre*.
- John W. Hall, professor of botany, fall quarter, for a study of certain tertiary fossil megaspores and other fossils.
- C. Gustav Hard, associate professor, Agricultural Extension Service, spring quarter, to study the production of nursery crops in short-season climates.
- Robert C. Hart, associate professor of English, Duluth, winter quarter, for a study of American drama.
- Mykola H. Haydak, professor of entomology, fisheries and wildlife, fall quarter, to study bee nutrition under Australian conditions.
- Leverett P. Hoag, associate professor of geography, Duluth, spring quarter, to work on research project: Delimitation of Multiple Component Geographic Region.
- William S. Howell, professor of speech, spring quarter, to study communication problem in industries in Twin Cities.
- Edward Leete, professor of chemistry, spring quarter, to study isolation of enzymes from plants.
- Robert S. Livingston, professor of chemistry, winter quarter, to complete manuscript of monograph on the photo chemistry of poly-atomic molecules.
- Helen A. Ludwig, associate professor of home economics, spring quarter, to study history of textiles and costumes at various museums.
- James F. Maclear, professor of history, Duluth, spring quarter, to study popular interpretations of history and millenium in seventeenth-century England.
- Homer E. Mason, associate professor of philosophy, winter quarter, to complete draft of monograph, study in ethics, *Moral Feelings*.
- Robert E. Moore, professor of English, fall quarter, for research and study in England, for studies of English literature of the Restoration and Eighteenth Century in its relationships to the fine arts.
- Howard A. Morris, professor of dairy industries, summer 1965, to study techniques useful in flavor research at U.S. Army Natick Laboratories, Natick, Massachusetts.
- Andrew T. Morstad, professor of dentistry, spring quarter, to review research in bone physiology of the mandible at the University of Utah.
- John S. Myers, professor, School of Architecture, winter quarter, for architectural study and appraisal of clinical and related health facilities in provincial Mexico.

- Paul M. Oberg, professor of music and music education, winter quarter, to study new ideas in music education in Tokyo, Japan.
- Otto P. Pflanze, professor of history, spring quarter, research for Volume II: *Bismarck and the Development of Germany*.
- Eugene P. Pfeider, professor, School of Mineral and Metallurgical Engineering, spring quarter, research in mineral economics and mine systems analysis.
- Robert A. Phillips, assistant professor of horticulture, summer 1964, to observe and study landscape and garden design and construction in England, France, Holland, Germany and Italy.
- Herbert L. Pick, Jr., associate professor, Institute of Child Development, winter quarter, for travel to Soviet Union.
- Philip W. Porter, assistant professor of geography, fall quarter, completion of monograph, "East African Farming and Herding."
- Walter Quirt, professor of art, winter quarter, to edit theoretical material for graduate students in studio art.
- Hermann Ramras, professor of German, fall quarter, for a study of *Goethe in the Period of Faust II*.
- Philip M. Raup, professor of agricultural economics, fall quarter, for research on European land and land use policies.
- Philip Siegelman, assistant professor of political science and Interdisciplinary Program—Humanities, spring quarter, to work on book *The Chettians of Madras State*.
- David C. Snetsinger, assistant professor of poultry science, winter quarter, to obtain training in the use of radioisotope techniques in animal nutritional studies.
- Timothy L. Smith, associate professor of history, winter quarter, to complete a study of the role of education among the immigrants in the Minnesota Iron Range towns.
- Romeyn Taylor, assistant professor of history, spring quarter, for writing on Ming governmental institutions.
- D. Burnham Terrell, associate professor of philosophy, fall quarter, a study of Franz Brentano's unpublished manuscripts.
- Hylton A. Thomas, professor of art, spring quarter, for research in art in Europe.
- Larry C. Thompson, associate professor of chemistry, Duluth, winter quarter, for further studies in modern coordination chemistry.
- George F. Weaton, research associate, School of Mines, winter quarter, to attend University of Arizona to study statistical analysis and computer operation as applicable to estimating ore reserves.
- Frank M. Whiting, professor of speech and theatre arts, fall quarter, to visit other members of the Ford Foundation's Theatre Communications Group.
- John C. Winckler, professor, School of Physics, winter quarter, for upper atmospheric experiments in the Arctic, project POCIBO.
- Robert D. Wirt, professor of psychology, spring quarter, for experimental studies in group psychotherapy with prisoners.
- Charles W. Young, associate professor of dairy husbandry, fall quarter, self-improvement for graduate teaching and increased knowledge for research, study with J. Lush, Iowa State.
- Sarah H. Youngblood, assistant professor of English, fall quarter, to complete *A Yeats Handbook*.

1965-66

- Evan R. Allred, professor of agricultural engineering, summer 1965, to study agricultural waste disposal practices in selected Northern and West Central European countries.
- Alvin G. Anderson, professor of civil engineering, spring quarter, to further research on the mechanism of sediment transport with particular reference to the development of meanders in natural streams.
- Donald G. Aronson, associate professor, School of Mathematics, spring quarter, to work on the theory of second order parabolic equations.

- Ayers L. Bagley, associate professor of history and philosophy of education, spring quarter, to conduct a study into the history of ideas and images of childhood in American culture.
- Donald M. Barnes, assistant professor of veterinary diagnostic laboratories, fall quarter, to strengthen knowledge in disease of the central nervous system through study at the Armed Forces Institute of Pathology, Washington, D.C.
- Ward J. Barrett, assistant professor of geography, winter quarter, to study the economic development of the Pacific Coastal Plain of Nicaragua.
- Jacob E. Bearman, professor, School of Public Health, fall quarter, to complete writings on study of drugs in diabetes project.
- Lyda C. Belthuis, professor and head of geography, spring quarter, to study the Murrumbidgee Irrigation Area in Australia and the snowy power and irrigation development related to it.
- Bruce C. Beresford, assistant professor, Northwest School of Agriculture, winter quarter, to up-date self in horticulture at the University of Minnesota, Institute of Agriculture.
- John Berryman, professor of humanities, winter quarter, to complete a book of poems, probably also scholarly work on Shakespeare.
- Henry Borow, professor of psychological studies, spring quarter, to study and synthesize literature on the origins of task-oriented motives in children.
- Roy E. Carter, Jr., professor of journalism, spring quarter, to study public affairs opinion leadership in Santiago and Concepción, Chile.
- Austin B. Caswell, Jr., assistant professor of music education, General College, fall quarter, to conduct musicological research at the Bibliotheque Nationale of Paris on 17th century French court music.
- Clarke A. Chambers, professor of history, spring quarter, to work on a history of the *Survey* journal, together with a biography of its editor, Paul A. Kellogg.
- Mary E. Corcoran, associate professor, Bureau of Institutional Research, fall quarter, to do intensive study of the economic aspects of higher educational planning related to the need for high level manpower.
- J. Campbell Craddock, associate professor of mechanical engineering, spring quarter, to write scientific results of recent Antarctic geologic work.
- Gordon B. Davis, associate professor of accounting, fall quarter, for research into the use of modular computer simulation for budgetary planning and control in the firm.
- William H. Edson, professor and director, Student Personnel, College of Education, winter quarter, to read and formulate ideas about the nature of the supervision in the counseling practicum and internship.
- Charles Edwards, associate professor of physiology, winter quarter, to participate in a teaching program and to research the transport of sodium in the skin of frogs with time to be spent in Mexico.
- Gertrude Esteros, professor, School of Home Economics, winter quarter, to study homes and interior design in Pakistan and India.
- Gerald T. Evans, professor and head of laboratory medicine, fall quarter, for a study period on objectives and educational organization in the rapidly expanding field of laboratory medicine.
- D. W. French, professor of plant pathology, fall quarter, to improve knowledge and understanding of forest pathological problems in the Southeast and specifically to study certain aspects of the *Fomes annosus* root rot problem in North Carolina.
- R. J. Goldstein, associate professor of mechanical engineering, winter quarter, to pursue studies in rarefied gas heat transfer.
- John C. Green, associate professor of geology, fall quarter, for research in petrology and mineralogy of low grade metamorphic rocks.
- Moy F. Gum, associate professor of psychology, fall quarter, to conduct a study of underlying determinants of parent-student-counselor group counseling sessions.
- Vivian H. Hewer, professor of psychology, Student Counseling Bureau, winter quarter, for a study of the training and work of the college counseling psychologist.

- Cyril J. Hoyt, professor of educational psychology, spring quarter, to write a monograph on test reliability and related psychometric problems.
- Andrew Hustrulid, professor of agricultural engineering, summer 1966, to review grain drying research and practice in Europe.
- Paul S. Ivory, associate professor of music education, spring quarter, to study materials and performance practices of concert music in France.
- Donald H. Jackson, assistant professor of mathematics and engineering, Duluth, fall quarter, to observe and study operations of planetariums in the United States and to prepare a program for the operation of the new Duluth planetarium.
- Wendell J. Josal, associate professor of speech and theatre arts, winter quarter, to investigate the developments in theatre planning and theatre architecture, especially for the educational theatre.
- Milton F. Kernkamp, professor and head of plant pathology and physiology, fall quarter, to study undergraduate instruction in biological sciences and to observe biological research in Japan, Taiwan, Philippines and Hawaii.
- Joseph J. Kwiat, professor of humanities program, fall quarter, to study the nature and significance of the revolt in American literature and in the other arts and society, 1890-1920.
- Herschel H. Lysaker, assistant professor, Northwest School and Experiment Station, summer 1965, to attend San Diego State for refresher courses in guidance, counseling, and student service work and to visit two-year technical institutes.
- Osgood T. Magnuson, associate professor, Agricultural Extension Service, spring quarter, to improve competence as youth leader and increase background in social science through study program at the University of Minnesota.
- Gareth B. Matthews, professor of philosophy, fall quarter, to do concentrated work on the concept of the inner man in the thought of St. Augustine.
- E. Scott Maynes, associate professor of economics, spring quarter, to complete analysis and writing of a study of response errors.
- Keith N. McFarland, director, Resident Instruction, and assistant dean, Institute of Agriculture, spring quarter, to review the structure of agricultural education in West Germany and other Northern European countries.
- John L. McKelvey, professor and head of obstetrics and gynecology, fall quarter, to encourage development of Department of Obstetrics and Gynecology at the University of Singapore.
- David J. Merrell, professor of zoology, spring quarter, to pursue research interests in the genetics of populations, particularly on natural populations of the leopard frog, *Rana pipiens*.
- Cecil H. Meyers, professor of business and economics, winter quarter, to study the feasibility of measuring business activity by indexes on a periodic basis in St. Louis County, Minnesota.
- Cyril M. Milbrath, associate professor of secondary education, spring quarter, to study adult education as a vital function of community education for northeastern Minnesota.
- H. A. Morris, professor of dairy industries, summer 1965, to study techniques useful in flavor research at U.S. Army Natick Laboratories, Natick, Massachusetts.
- Andrew T. Morstad, professor, School of Dentistry, spring quarter, to review research in bone physiology of the mandible at the University of Utah.
- Clarence E. Mueller, assistant professor of intramurals for men, summer 1965, to conduct intramural sports clinics for U.S. Military Installations in Europe.
- John Neter, professor and chairman of quantitative analysis, winter quarter, to study one aspect of decision making under uncertainty.
- Robert E. Nylund, professor of horticultural science, fall quarter, to conduct a study of horticulture and horticultural research in developing countries, especially India and Korea.
- Gordon W. O'Brien, professor of English, fall quarter, to complete work on a book: *Shakespeare and the Romantic Tradition*.

- Hendrik J. Oskam, professor of electrical engineering, spring quarter, to perform theoretical and experimental studies in magnetoplasmas at the University of Paris.
- Gerald B. Ownbey, professor of botany and curator of Herbarium, fall quarter, to work on research program on the cytotaxonomy of Latin American thistles.
- Edgar Reich, professor, School of Mathematics, spring quarter, to carry on research in the theory of functions of a complex variable to be carried on at the Technion, Haifa, Israel.
- Maynard C. Reynolds, professor and director of special education, spring quarter, to conduct a field study of preparation programs for special education teachers.
- Louis T. Safer, professor of general arts, General College, spring quarter, to conduct experiments in spatial constructs.
- George J. Schroepfer, professor of civil engineering, spring quarter, to study and evaluate current status of water supply and pollution control research, and water resources planning and management in several European countries.
- L. E. Scriven, associate professor of chemical engineering, spring quarter, to write manuscripts reporting research.
- Richard A. Skok, associate professor, School of Forestry, summer 1965, to travel and study on a problem analysis of U.S. exports of pulp and paper commodities to Western Europe as a facet of U.S. forest resource development planning with special reference to the Lake States region.
- Wesley W. Spink, professor of medicine, winter quarter, to do studies on endotoxin shock and brucellosis.
- G. Robert Stange, professor of English, fall quarter, to work on book on the aesthetic principles of the English Pre-Raphaelites.
- Fredric R. Steinhauer, associate professor of social studies, winter quarter, to assist the St. Anthony Park Association in a geographic study of St. Paul's St. Anthony Park Community.
- Theodore Sudia, associate professor of plant pathology and physiology, fall quarter, to carry out research program in mineral salts absorption by roots of higher plants.
- Allen Tate, professor of English, fall quarter, to finish revision of long poem and prepare it for publication.
- Donald R. Torbert, professor of art, winter quarter, to complete a book on the problem of the relation of mental states to brain states.
- Henry M. Tsuchiya, professor of chemical engineering, fall quarter, for discussions with Japanese investigators in bioengineering, lectures of bioengineering at University of Tokyo and other institutions, and a seminar on U.S.-Japan Cooperative Science Program.
- Orrin C. Turnquist, professor of horticulture and extension horticulturist, summer 1966, to study potato breeding and variety evaluation methods in Sweden and other European countries.
- Arnold S. Woestehoff, associate professor and director, Bureau of Recommendations, College of Education, fall quarter, to gather information about professional preparation for elementary and secondary teaching through visitation and consultation in selected institutions in Germany, Italy, and France.

DEATHS, 1964-66

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

- Merle V. Halverson, instructor-extension specialist, soils, Agricultural Extension Service, August 17, 1964.
- Harry G. Irvine, clinical associate professor emeritus, medicine, August 24, 1964.
- Edwin H. Ford, associate professor emeritus, School of Journalism, September 5, 1964.
- Monica Langtry, assistant professor emeritus, rhetoric, Institute of Agriculture, September 16, 1964.

- Ella J. Rose, professor emeritus, home economics education, October 15, 1964.
Charles E. Smyithe, assistant professor emeritus, pharmacy, October 16, 1964.
Henry W. Woltman, professor emeritus, neurology, Mayo Graduate School of Medicine, November 27, 1964.
Harvey H. Hoyt, associate dean, professor, and head of veterinary medicine and clinics, December 18, 1964.
James B. Torrance, assistant professor emeritus, agricultural engineering, December 21, 1964.
Frederick G. Holdaway, professor of entomology, fisheries and wildlife, January 1, 1965.
Julius M. Nolte, dean and professor emeritus, General Extension Division, January 15, 1965.
Norman C. Nagle, associate professor, School of Architecture, January 17, 1965.
Gertrude Rose Hull, associate professor emeritus, music, January 19, 1965.
Herbert M. Hirsch, associate professor of experimental pathology, February 1, 1965.
Fred Smith, professor of biochemistry, Institute of Agriculture, February 1, 1965.
Samuel C. Lind, dean and professor emeritus, Institute of Technology, February 12, 1965.
David M. Siperstein, clinical associate professor of pediatrics, March 11, 1965.
John M. Sullivan, associate professor of Romance Languages, March 24, 1965.
Frank B. Rowley, professor emeritus and director, Engineering Experiment Station, March 27, 1965.
Philip S. Hench, professor emeritus, medicine, Mayo Graduate School of Medicine, March 30, 1965.
Marie O. Mollins, instructor, librarian, registrar emeritus, North Central School and Station, April 20, 1965.
Jalmar H. Simons, clinical assistant professor emeritus, obstetrics and gynecology, June 6, 1965.
Benjamin Willerman, professor of psychology, Student Counseling Bureau, June 21, 1965.
Paul Ivory, associate professor of music education and music, July 21, 1965.
Cyrus P. Barnum, Jr., professor of biochemistry, College of Medical Sciences, July 26, 1965.
Fred Z. Havens, associate professor emeritus, laryngology and rhinology, Mayo Graduate School of Medicine, July 29, 1965.
William Boss, professor emeritus, agricultural engineering, July 30, 1965.
Frederick W. Hoffbauer, professor of medicine, July 30, 1965.
John A. Nadeau, instructor of English, August 25, 1965.
Dwight E. Minnich, professor emeritus, zoology, September 4, 1965.
Mary L. Muller, associate professor-extension specialist, home improvement, Agricultural Extension Service, October 1, 1965.
F. Lloyd Hansen, director of correspondence study and professor, October 30, 1965.
Carl B. Drake, clinical associate professor emeritus, medicine, December 9, 1965.
Arthur M. Borak, professor of economics, January 24, 1966.
Herbert W. Schmidt, clinical professor of medicine, April 6, 1966.
John H. Williams, professor, School of Physics, April 18, 1966.
Horace T. Morse, dean and professor, General College, May 11, 1966.
Benjamin J. Lazan, professor of aeronautics and engineering mechanics, June 29, 1966.
Carlos Martinez, professor of physiology, August 24, 1966.

HONORS AND DISTINCTIONS

ADMINISTRATION

ELMER W. LEARN received a travel grant to the International Meeting of the American Farm Economics Association (France); and served as participant, Marketing Research Conference, North Central Universities; and discus-

sion chairman, International Association of Agricultural Economics Conference.

O. MEREDITH WILSON received an LL.D. degree from the University of California; and an LL.D. degree from Yale University; and served as member, Board of Trustees, Blake School (Hopkins); member, Board of Trustees, Minneapolis Foundation; member, Commission on White House Fellowship, and member, Labor and Management Advisory Committee, White House (Washington, D.C.); chairman, Board of Trustees, Carnegie Foundation for the Advancement of Teaching; and chairman, National Advisory Council on Education of Disadvantaged Children, Department of Health, Education, and Welfare.

DIVISIONS OF ACADEMIC ADMINISTRATION

WILLIAM G. SHEPHERD served as member, Awards Committee, and director, Institute of Radio Engineers; member, State Committee on Industry, State of Minnesota; chairman, Advisory Group on Electronic Devices, Department of Defense; chairman, Awards Board, member, Board of Directors, vice-president, and president, Institute of Electrical and Electronics Engineers; member, Board of Directors, and member, Executive Committee, North Star Research and Development Institute; member, Board of Directors, Walker Art Center; chairman, Commission VII, XIV General Assembly (Tokyo), and president, International Scientific Radio Union; director, Minnesota Orchestral Association; member, Board of Governors, Minneapolis Young Men's Christian Association; member, Engineering Division Advisory Committee, National Science Foundation; member, Space Technology Advisory Committee, National Aeronautics and Space Administration; and chairman, Academic Council, National Association of State Universities and Land-Grant Colleges.

DONALD K. SMITH served as lecturer, University of Kansas; lecturer, Liberal Education, National Association of State Universities and Land-Grant Colleges; member, Executive Committee, Minnesota Theatre Company; and chairman, Board of Trustees, Upper Midwest Regional Educational Laboratory.

Institute of Agriculture

Administration

JAMES L. APP served as president, Agricultural Education Club, University of Wisconsin; president, Toastmasters Club; and advisor, National Advisory Commission on Food and Fiber.

SHERWOOD O. BERG received the 4-H Alumni Recognition Award from the Olin Mathieson Chemical Corporation; and served as council member, International Association for Agricultural Economics; member, Executive Board, Minnesota Economics Association; chairman, American Association of University Professors; vice-president, American Farm Economics Association; sponsor, Atlantic Council of the United States; member, Advisory Committee, member, Agricultural Committee, and member, Steering Committee, Farm Forum, Minneapolis Chamber of Commerce; participant, Agricultural Advisory Committee, and discussant, Economic Research Service, U.S. Department of Agriculture; participant, Seventy-Ninth Annual Convention, Association of State Universities and Land-Grant Colleges; chairman, National Advisory Commission on Food and Fiber; member, Advisory Committee, International Agri-Business, Chicago Board of Trade; participant, International Conference of Agricultural Economists (Lyons, France); participant, Bankers' Agricultural Forum (University of Delaware); participant, Crop Quality Council; participant, Upper Midwest Conference on Agricultural Export Trade, Minnesota World Trade Association; and member, Board of Directors, Voyageur's National Park Association.

JOHN BLACKMORE served as member, Editorial Board, American Farm Economics Association; member, Agricultural Economics Committee, National

Research Council; member, Advisory Committee, Agricultural Development Council; member, Training Committee, Agency for International Development; and participant, Invitational Conference on Agricultural Development, Iowa State University.

Department of Agricultural Economics

W. KEITH BRYANT served as member, Technical Committee, North Central Economic Development, Agricultural Experiment Station (Chicago, Ill.); and member, Inter-Regional Agricultural Policy Committee, Agricultural Experiment Stations (Chicago, Ill., and Washington, D.C.).

MARGUERITE C. BURK served as member, Family Economics-Home Management Research Committee, American Home Economics Association; section chairman, American Farm Economics Association; member, Workshop, Minnesota Adult Education Association; member, Seminar, Agricultural Conference, Oregon State University; secretary, Consulting Economists Group, International Association of Agricultural Economists; committee member, Economic Status, American Association of University Professors; and chairman, Family Economics Research Committee, North Central Agricultural Experiment Stations.

DALE C. DAHL served as Minnesota representative, Futures Trading Seminar, Chicago Board of Trade; and chairman, Marketing Seminar, North Central Region Research Committee, U.S. Department of Agriculture.

REYNOLD P. DAHL served as participant, National Research Conference, Agricultural Cooperation, U.S. Department of Agriculture; participant, Symposium, Grain Markets, North Central Region Grain Marketing Association; participant, Grain Marketing Seminar, Minneapolis Grain Exchange; and member, Board of Directors, Minnesota Economics Association.

DARRELL F. FIENUP received a Ford Foundation Grant for agricultural program development and management in South America.

JEROME W. HAMMOND served as consultant, Dairy Section, National Commission on Food Marketing.

JOHN D. HELMBERGER received a research grant from the Louis W. and Maude Hill Fund; and a Fulbright Award for travel to Taiwan.

CARROLL V. HESS served as member, Symposium Planning Committee, American Farm Economics Association; and participant, Conference on Structural Changes in American Agriculture, National Agricultural Development Council.

HARALD R. JENSEN served as council member, American Farm Economics Association; member, North Central Region Committee Projects, Farm Foundation; and member, Regional Research Project, Western Marketing Committee.

E. FRED KOLLER served as member, Dairy Marketing Committee, member, Cooperative Research Committee, and member, Economics of Marketing Committee, North Central Region Agricultural Experiment Stations; consultant, Cooperative Research Conference, National Farm Supply Cooperative; chairman, Employment Committee, and member, Awards Committee, American Farm Economics Association; and member, Unfair Dairy Trade Practices Committee, member, Advisory Committee on Crop and Livestock Statistics, and member, Governor's Advisory Committee on Dairy Research and Marketing, State of Minnesota.

PHILIP M. RAUP served as president, American Association of University Professors; consultant, Working Party, Land Use, European Committee on Agriculture and Food and Agriculture Organization; participant, Conference on Agriculture in the Union of Soviet Socialist Republics, University of California at Santa Barbara; participant, Conference on Land Reform and Public Administration, Eastern Regional Organization for Public Administra-

tion and East-West Center; and member, Latin America Faculty Exchange Committee (Mexico); and received a research grant from the Social Science Research Council.

MARY E. RYAN served as member, Board of Directors, Minnesota Consumers League.

Department of Agricultural Engineering

EVAN R. ALLRED served as planner and participant, National Symposium on Farm Wastes, American Society of Agricultural Engineers; committee chairman, Soil Conservation Society of America; and committee member, Sprinkler Irrigation Association.

W. FORREST BEAR served as member, Instruction in Agricultural Mechanization Committee, American Society of Agricultural Engineers; member, Minnesota Rural Electrification Council Committee, Minnesota Society of Agricultural Engineers; and consultant, Mechanized Farm Committee, consultant, State Fair Committee, consultant, Research Committee, and member, Minnesota Safety Council, Minnesota Vocational Agriculture Instructors' Association.

LANDIS L. BOYD served as chairman, Executive Committee, chairman, Education and Research Division, chairman, Graduate Instruction Committee, secretary, Farm Structures Division Steering Committee, member, Farm Structures Research Committee, member, Farm Structures Paper Screening Committee, member, Publicity and Public Relations Committee, member, Department Heads Committee, member, Visitation Committee, coordinator, Visiting Engineer Program, Farm Building Construction Standards, member, Committee on Standards, chairman, Computers and Simulation Committee, and member, Sectional Committee on Computers and Information Processing, American Society of Agricultural Engineers; member, Ad Hoc Task Group on Computers in Undergraduate Education, Engineers Joint Council; and advisor, College Conference Board, United Cooperatives Association.

ARNOLD M. FLIKKE received a Science Faculty Fellowship from the National Science Foundation; and served as participant, Annual Meeting, New England Farm Electrical Institute.

ANDREW HUSTRULID was elected a fellow of the American Society of Agricultural Engineers; and served as member, Instrumentation Committee, and chairman, Papers Awards Committee, American Society of Agricultural Engineers.

PHILIP W. MANSON served as member, Drain Tile Committee, member, Standards Committee, and member, Drainage Materials and Materials Handling Committee, American Society of Agricultural Engineers; chairman, Committee C-13, member, Committee C-15, chairman, Advisory Committee, member, Concrete Pipe for Irrigation Committee, chairman, Concrete Drain Tile Committee, member, Perforated Concrete Pipe Committee, and member, Correlation and Clarification Committee, American Society for Testing Materials; member, Technical Problems Subcommittee, American Concrete Pipe Association; member, Supervisory Committee, and committee chairman, Soil and Water Conservation Association; and member, Farm Research and Facilities Research Advisory Committee, U.S. Department of Agriculture.

JESSE H. POMROY served as secretary, Farm Materials Handling Committee, and chairman, Minnesota Section, American Society of Agricultural Engineers; and member, Regional Research Committee NC-82, Experiment Station and United States Government.

JOHN STRAIT served as member, Pelleting Committee, and member, Cultural Practices Equipment Committee, American Society of Agricultural Engineers; and collaborator, Weed Control Research, U.S. Department of Agriculture.

Agricultural Experiment Station

BRUCE A. BROWN served as chairman, Summer and Winter Section Meetings, member, Professional Status Committee, member, Forestry Management Committee, and section delegate, National Meeting (Detroit, Mich.), Society of American Foresters; member, Steering Committee, and member, Equipment Development Committee, Minnesota Forestry Service; host, Youth Institute, Keep Minnesota Green and Scenic; and participant, Forest Soils Conference (Mich.), U.S. Forestry Service.

HARLEY E. HANKE served as committee member, Midwest Section, American Society of Animal Science; and chairman, General Livestock Judging Contest, Minnesota Future Farmers of America.

WILLIAM F. HUEG, JR., served as chairman, Research Committee, North Central Region Directors Association.

ALBERT J. LINCK served as national president and editor, Gamma Alpha; and participant, Commission on Undergraduate Education in Biological Sciences, National Science Foundation and National Academy of Science.

Agricultural Extension Service

ROLAND H. ABRAHAM served as administrative advisor, Marketing Committee, North Central Extension; member, Subcommittee on Marketing, Extension Committee on Organization and Policy; member, Subcommittee on Extension, Liaison Committee on Higher Education; and member, Governor's Interdepartmental Committee on Youth.

RAYMOND L. ARTHAUD served as member, Extension Industrial Relations Committee, American Society of Animal Science; and superintendent, Cattle Division, Minnesota State Fair.

THELMA B. BAIERL served as member, Program Committee, Minnesota Home Economics Association.

ARLEEN L. BARKEIM received a scholarship from the Human Development Workshop, Colorado State University; and served as secretary, Family Living Committee, Adult Education Association; and participant, National Seminar on Expanding 4-H Opportunities for Rural Disadvantaged and Urban Youth (Chicago, Ill.).

ROBERT W. BERG served as member, Random Sample Committee, member, State Fair Committee, member, Poultry and Egg National Board, and chairman, Membership Committee, Poultry Industry Council.

EARL S. BERGERUD served as board member, Minnesota Spring Barrow Show, Livestock Industry Extension; participant, Governor's Conference on Children and Youth, and participant, Seventh Annual Institute on Aging, Governor's Citizens Council on Aging, State of Minnesota; participant, Annual Conference, Minnesota Welfare Association; participant, Twelve State 4-H Leaders Interstate Conference, and member, Ad Hoc Safety Committee, Co-operative Extension Service; board member, Camp Friendship, Minnesota Association for Retarded Children; and board member, Keep Minnesota Clean and Scenic, Minnesota State Government.

WAYNE E. CARLSON served as member, Minnesota Association for Conservation Education, Conservation Agencies and Federal Government; and program participant, Minnesota Association of Cooperation.

CHARLES J. CHRISTIANS served as judge, Minnesota Future Farmers of America Judging Conference, Minnesota Vocational Agriculture Department; member, Executive Committee, Minnesota Swine Producers Association; state coach, Judging Team, Minnesota 4-H Department; member, Advisory Committee, Sheep Improvement Committee, Minnesota Sheep Producers Association; and member, Advisory Committee, Minnesota Beef Improvement Committee, Minnesota Angus Association, Minnesota Hampshire Association, and Minnesota Shorthorn Association.

GEORGE A. DONOHUE served as member, Professional Development Committee, member, Economic Opportunities Act Committee, and member, Rural Areas Committee, State of Minnesota.

RUSSEL W. ERICKSON served as vice-president, Student Affiliation, American Dairy Science Association.

SUSANNE C. FISHER served as delegate, Annual Conference, Minnesota Council on Family Life.

FRANK W. FORBES received a Twenty-Year Service Award from the U.S. Department of Agriculture; and served as liaison person, *Journal of Cooperative Extension*, Agricultural Extension Service; and liaison person, U.S. Department of Agriculture Club.

LAVERN A. FREEH received an honorary State Farmer Degree from the Minnesota Future Farmers of America Association; and served as member, Planning Committee, and participant, Eleventh Foreign Training Conference (Washington, D.C.); and chairman, Planning Committee, National Conference on Short Courses.

CLIFTON F. HALSEY served as member, Training and Education Committee, Minnesota Department of Civil Defense.

MELVIN L. HAMRE served as chairman, Egg Cooking Contest Committee, and member, Minnesota Committee, Poultry and Egg National Board, Poultry Industry Council; member, Advisory Committee, Minnesota Poultry Testing Association; and member, Arrangements and Staging Committee, Annual Conference, Agricultural Extension Service.

LOWELL D. HANSON received the Distinguished Service Award from the Minneapolis Chamber of Commerce.

LEONARD L. HARKNESS served as representative, U.S. Extension Service, International Seminar on Rural Youth Programs (West Germany); chairman, Advisory Committee, International Farm Youth Exchange, National 4-H Club Foundation; and member, Governor's Advisory Committee on Children and Youth.

EVELYN D. HARNE served as chairman, Youth Power Advisory Committee, various food industries; and subcommittee chairman, Core Committee on 4-H Home Furnishings.

PAUL R. HASBARGEN served as member, North Central Farm Management Extension Committee, Extension Service Farm Foundation.

JOHN S. HOYT, JR., served as session chairman, National Meeting, American Institute of Church Engineers.

ROBERT E. JACOBS served as manager, Meat Animal Show, Minnesota 4-H Club; superintendent, Swine Department, Minnesota State Fair; and member, Program Committee, Animal Husbandry Conference, North Central Region Extension Service.

MINERVA O. JENSON served as participant, Home Economics Division Meeting, National Association of State Universities and Land-Grant Colleges; and participant, Regional Meeting, Cooperative Extension Directors and State Leaders of Home Economics Programs (Ohio State University).

HERBERT G. JOHNSON served as visiting professor at Cornell University (Ithaca, N.Y.); and contact, Mycotoxins, U.S. Department of Agriculture.

EDNA K. JORDAHL served as president, and panel participant, Time and Energy Management, State Extension Agents Conference; and member, Evaluation Committee, National Home Management Conference.

MARY F. LAMISON served as group chairman, Home Management Section Meeting, and group chairman and discussion leader, National Home Management Meeting, American Home Economics Association; member, Organization Committee, moderator, Conference on Low Income Families, and member, Housing Committee, Minnesota Home Economics Association; participant,

National Home Economics Meeting; and participant, 4-H Club Congress, 4-H Farm Extension Service.

MARIAN O. LARSON served as member, National Task Force for Low Income Rural Youth, Extension Committee on Organization and Policy.

JOHN A. LOFGREN served as chairman, International Great Plains Conference of Entomologists.

GLENN T. McCLEARY was named Honorary State Farmer by the Future Farmers of America Association.

STANLEY R. MEINEN served as coordinator, International Farm Youth Exchange Conference; and coordinator, Mid-Point Conference.

MARION MELROSE served as evaluation planner, Interdisciplinary Advisory Committee, Colorado State University; advisor, Joint Committee on Rehabilitation, American Home Economics Association; and participant, Annual Meeting, Minnesota Medical Association, Minnesota Department of Health.

VERNA A. MIKESH served as member, Constitution Committee, and president, Minnesota State Nutrition Council; chairman, Legislative Committee, Minnesota Home Economics Association; member, Membership Committee, St. Paul Business and Professional Women's Association; participant, American Home Economics Convention (San Francisco, Calif.); and workshop participant, National Extension Nutritionists Association (Dallas, Tex.).

WILLIAM A. MILBRATH served as participant, Seminar and Practicum on Work with Families and Youth in Urban Areas, Merrill-Palmer Institute (Detroit, Mich.); and member, Committee on Publication Development, National 4-H Association.

WILLIAM R. MILES served as member, Field Day Committee, and member, Tree Farm Committee, Keep Minnesota Green and Scenic; co-chairman, Governor's Conference on Conservation Education; and vice-chairman, Southern Minnesota Chapter, Society of American Foresters.

GERALD R. MILLER served as chairman, Extension and Teaching Program, and director, North Central Weed Control Conference; and secretary, Weed Control Specialists, North Central Regional Workshop, Cooperative Extension Service.

J. WILLIAM MUDGE served as secretary, North Central Conference, National Association of Animal Breeders.

HARLEY J. OTTO received the Honorary Premier Seed Grower Award; and served as member, Public Relations Committee, Weed Society of America; member, Executive Committee, member, Publicity Committee, member, Board of Directors, secretary, and director, Minnesota Crop Improvement Association; committee member, International Crop Improvement Association; and member, Herbicide Committee, and honorary president, Minnesota Agricultural Chemicals Association.

VERNAL S. PACKARD served as committee chairman and president, Minnesota Dairy Technology Society.

ROSELLA H. QUALEY received the Award of Merit from the Minnesota Safety Council; and served as chairman, Minnesota Farm Home Safety; delegate, American Home Economics Convention, and vice-president, Minnesota Home Economics Association; and secretary, Agricultural Division, Minnesota Safety Council.

DOROTHEA V. RIEMANN served as member, Program Planning Panel, and member, 4-H Development Committee, Annual Conference, New Mexico Extension Service.

MARVIN E. SMITH served as member, Field Day Committee, and chairman, Education Committee, Keep Minnesota Green and Scenic; member, Forest Committee, Minnesota Division, Izaak Walton League; chairman, Publicity Committee, and editor, *UMV Forester*, Minnesota Section, Society of American Foresters; member, Finance Committee, Minnesota Association for Conserva-

tion Education; editor, *Christmas Tree Growers News*, and executive secretary, Board of Directors, Minnesota Christmas Tree Growers Association; and member, Convention Program Committee, National Christmas Tree Growers Association.

RAYMOND B. SOLAC served as member, Governor's Committee on Hog Cholera, State of Minnesota; member, Federal Emergency Disease Committee, Minnesota State Livestock Association; vice-president, Minnesota Mastitis Council; and interagency liaison, Minnesota Emergency Organization and U.S. Department of Agriculture.

JAMES B. SWAN served as chairman, Planning Committee, Annual Conference, Minnesota Association for Conservation Education.

ORRIN C. TURNQUIST received the Past Presidents Gavel from the Potato Association of America; and a travel grant from the Ford Foundation; and served as member, Potato Information Committee, Red River Valley Potato Growers Association; arrangement chairman, and secretary-treasurer, Executive Committee, Minnesota Vegetable Growers Association; member, Policy Committee, and member, Extension Program Committee, Potato Association of America; superintendent, Potatoes and Vegetables, Minnesota State Fair; participant, Triennial Conference, European Association for Potato Research (Zurich, Switzerland); and honorary director, Executive Committee, Minnesota Agricultural Chemicals Association.

RAYMOND D. VLASIN received a travel grant from the American Farm Economics Association; was named an Outstanding Young Man of America by the Junior Chamber of Commerce; and an Outstanding Young Man by the University of Nebraska College of Agriculture; and served as chairman, Highway Research Subcommittee, and chairman, Resource Development Subcommittee, North Central Land Economics Research Committee; participant, Rural Poverty Work Group, and participant, Appalachian Project Review Work Group, U.S. Department of Agriculture; member, Working Group, Northeast Research and Training Conference on the Supply and Demand for Water (Cornell University); member, Land Tenure Work Group, Twelfth Meeting, International Association of Agricultural Economics; member, Policy Committee, National Task Force on Community Resource Development Extension, Association of State Universities and Land-Grant Colleges; and session chairman, Establishing Research Priorities, National Meeting, American Farm Economics Association.

ARLEY D. WALDO served as member, North Central Region Public Affairs Committee.

RALPH W. WAYNE served as secretary, Eckles Club; member, Board of Directors, National Dairy Science Club; and member, Dairy Records Committee, and member, Membership Committee, American Dairy Science Association; and received the Meritorious Service Award from the U.S. Department of Agriculture.

CAROLE B. YOHO served as participant, National Agricultural Policy Conference, Farm Foundation.

MYRA B. ZABEL served as participant, National Art in Home Economics Conference (Ames, Iowa); participant, Annual Meeting, American Home Economics Association; and participant, June International Furniture Market, Merchandise Mart (Chicago, Ill.).

College of Agriculture, Forestry, and Home Economics

WENDELL J. DEBOER served as discussion participant, National Association of College Teachers of Agriculture (Cape Girardeau, Mo.); participant, Spring Meeting, North Central Region Resident Instruction Section, Division of Agriculture, Association of State Universities and Land-Grant Colleges (Ohio State University); and participant, Third Symposium on Veterinary Medical Education, Council on Education, Agriculture and Veterinary Medicine Association and Michigan State College of Veterinary Medicine.

KEITH N. MCFARLAND served as workshop planner, Division of Agriculture, Association of State Universities and Land-Grant Colleges; and member, Visiting Panel (Mississippi State University), Commission on Education in Agriculture and Natural Resources, National Research Council and National Academy of Science.

DEANE A. TURNER served as president, Minnesota Association for Conservation Education.

Department of Agronomy and Plant Genetics

RICHARD BEHRENS served as member, Terminology Committee, member, Subcommittee on Abbreviations, Terms, and Definitions, member, Executive Committee, and chairman, Editorial Selection Committee, Weed Society of America; chairman, NC-61 Regional Committee, U.S. Department of Agriculture; and program participant, Corn Congress.

CARL BORGESON served as member, Seedstocks Committee, and chairman, International Crop Improvement Association.

CHARLES R. BURNHAM served as participant, Annual Meetings, American Society of Agronomy; participant, Annual Meetings, Genetics Society of America; and participant, Maize Genetics Conference, Corn Genetics Cooperatives.

WILLIAM A. COMPTON served as participant, North Carolina State University Mission to Peru, Agency for International Development; conference participant, Quantitative Genetics in Maize for South America, Rockefeller Foundation; participant, Annual Meetings, American Society of Agronomy; and participant, Annual Meetings, Genetics Society of America.

LADDIE J. ELLING received a fellowship from the American Association for the Advancement of Science; and served as president, Torch International; member, Advisory Committee, Certified Alfalfa Seed Council; member, Coaches Committee, College Crops Contest; secretary, NC-83 Regional Committee; and member, Planning Committee, National Foundation for Seedstocks.

HERBERT W. JOHNSON served as member, Advisory Board, Variety Standards Registration Committee, member, Committee on Nomination of Fellows, and member, Board of Directors, American Society of Agronomy; member, Research Committee, Soybean Council of America; member, Board of Directors, Minnesota Crop Improvement Association; and member, Subpanel 1, World Food Panel, President's Science Advisory Committee.

DAVID R. JOHNSTON served as member, Spring Wheat Improvement Committee.

ROGER A. KLEESE served as participant, Annual Meeting, American Society of Agronomy; and member, Discussion Panel, Plant Breeding Symposium, Iowa State University.

JEAN W. LAMBERT served as research consultant, Chilean Agricultural Program, Rockefeller Foundation; program participant, Minnesota Soybean Growers Association; and program participant, Collaborator's Conference, U.S. Regional Soybean Laboratory (Urbana, Ill.).

DONALD C. RASMUSSEN served as program chairman, Crop Science Society of America; and participant, Plant Breeding Symposium, Iowa State University.

ROBERT G. ROBINSON served as participant, First International Sunflower Conference; and member, Industrial Utilization of Crops Subcommittee, American Society of Agronomy.

LAWRENCE H. SMITH served as chairman-elect, Resident Instruction Division, and chairman, Student Awards Committee, American Society of Agronomy.

HORACE L. THOMAS received the Minnesota Premier Seed Grower Award from the Crop Improvement Association; and served as participant, Improvement of Bromegrass Variety, Minnesota Crop Improvement Association.

Department of Animal Science

CLARENCE L. COLE received the Premier Dairyman Gold Medal from the Minnesota Power and Light Company.

JOHN C. FORREST served as participant, Symposium, University of Wisconsin and National Institutes of Health.

EDMUND F. GRAHAM received the Man of the Year Award from the Tri-State Breeding Association.

LESTER E. HANSON served as evaluator, Task Force Committee, U.S. Department of Agriculture.

ROBERT M. JORDAN served as participant, Annual International Congress on Animal Production (England and Scotland).

ROBERT J. MEADE served as chairman, Nutrition Program Committee, vice-president, Midwestern Section, and member, Editorial Board, *Journal of Animal Science*, American Society of Animal Science; and participant, Animal Nutrition Seminar, Feed Grains Council.

JAY C. MEISKE served as member, Registration and Facilities Committee, Midwest Section, and presiding chairman, Report Section, American Society of Animal Science.

ALVIN L. MELLIERE served as participant, Midwest Section Meeting (University of Illinois), American Society of Animal Science.

RICHARD E. PHILLIPS served as participant, Ninth International Ethology Conference (Switzerland).

WILLIAM E. REMPEL served as teacher, Summer Institute, National Science Foundation and University of Wisconsin; and consultant, Site Visit, National Institutes of Health.

ROBERT N. SHOFFNER served as president, Poultry Science Association.

DAVID C. SNETSINGER served as invited participant, Symposium on Amino Acid Nutrition, British Egg Marketing Board.

PAUL E. WAIBEL served as chairman, Minnesota Nutrition Conference, Northwestern and American Feed Manufacturers Associations.

JESSE B. WILLIAMS received a service award from the Future Farmers of America.

CHARLES W. YOUNG served as secretary, NC-2 Technical Committee, Agricultural Research Service; and member, Dairy Breeding Committee, American Dairy Science Association.

Department of Entomology and Economic Zoology

JAMES R. BEER served as editor, *Journal of Mammalogy*, American Society of Mammalogists.

HUAI C. CHIANG served as chairman, North Central Regional Research Technical Committee; participant, Symposium on Aphidophagus Insects, Czechoslovakian Academy of Science; participant, Symposium on Biological Control, Entomological Society of America; member, Working Group, International Biological Program; and member, Advisory Committee, International Organization of Biological Control.

PHILLIP K. HAREIN served as participant, Plant Quarantine Treatments Training Course, Plant Quarantine Division, and meeting participant, Armed Forces Pest Control Board, U.S. Department of Agriculture; and meeting participant, Georgia and North Carolina Corn Millers, American Corn Millers Federation.

ALEXANDER C. HODSON served as member, Governing Board, and member, Editorial Board, *Annual Review of Entomology*, Entomological Society of America; committee chairman, Ecological Society of America; and member,

Administrative Committee, Biometeorology Program, Committee on Institutional Cooperation.

KE CHUNG KIM received a research grant from the National Institutes of Health.

ALLAN G. PETERSON served as member, Insect Migrations Regional Project, and member, Cereal Leaf Beetle Regional Project, Federal and State Experiment Stations; and participant, Conference on Corn Virus, U.S. Department of Agriculture.

EDWARD B. RADCLIFFE served as participant, International Great Plains Conference of Entomologists (Manitoba); and participant, Potato Research Conferences.

LLOYD L. SMITH received an award for the best fishing research paper from the American Fishery Society; and served as member, Treaty Review Committee, Great Lakes Fishery Commission; and representative, International Symposium on the Biological Basis of Fish Production (Reading, England).

THOMAS F. WATERS served as member, Advisory Committee, Water Resources Research Center; participant, Symposium, Stream Ecology, Ecological Society of America; and associate editor, American Fisheries Society.

Department of Food Science and Industries

SAMUEL T. COULTER served as fellow, American Association for the Advancement of Science.

JAMES J. JEZESKI served as panel chairman, Annual Meeting, International Association of Milk and Food Sanitarians; and member, Regulations Committee, State Department of Agriculture.

HOWARD A. MORRIS served as member, Biological Sciences Action Committee, National Research Council and National Academy of Sciences; member, Editorial Committee, American Dairy Science Association; chairman, Biology Topical Group, American Chemical Society; member, Program Committee, Annual Meeting, North Carolina Cheese Industries Association; program participant, Annual Meeting, South Dakota Dairy Association; and member, Planning Committee, Midwest Milk Proteins Seminar; and received a research contract from the U.S. Army (Natick Laboratories).

JOSEPH C. OLSON, JR., received a Citation Award from the International Association of Milk and Food Sanitarians; and served as member, Food Technology Education Board, and editor, *Journal of Milk and Food Technology*, International Association of Milk and Food Sanitarians; technical advisor, Quality Control Committee, Minneapolis and St. Paul Dairy Associations; member, Dairy Products Examining Subcommittee, American Public Health Association; member, Advisory Committee, Dairy Society International, and member, Board of Directors, American Dairy Science Association; consultant, Milk Ordinance and Code Committee, Minnesota Milk Council; consultant, Taft Sanitation Engineer Center, Public Health Service; and member, Executive Board, Minnesota Chapter, Institute of Food Technologists.

ELMER L. THOMAS served as chairman, Milk Judging Contest, Future Farmers of America; faculty advisor, Dairy Science Club of Minnesota, and member, Student Affiliate Committee, American Dairy Science Association.

School of Forestry

CLIFFORD E. AHLGREN received a travel award from the Society of American Foresters and the National Science Foundation; and served as member, Summer Meeting Committee, and member, Forest Management Committee, Upper Mississippi Valley Society of American Foresters; and member, Executive Board, Keep Minnesota Green.

EGOLFS V. BAKUZIS served as participant, Annual Meeting, Hetah Physics, Oak Ridge National Laboratory, U.S. Atomic Energy Commission.

R. O. GETJEJANSEN served as member, Publications Committee, Society of Wood Science and Technology; and participant, Annual Meeting, Forest Products Research Society.

ALVIN R. HALLGREN served as chairman, Minnesota Timber Law Committee, Minnesota Department of Conservation.

HENRY L. HANSEN served as chairman, Research Subcommittee, Advisory Committee on Natural and Scientific Areas, Minnesota Department of Conservation; chairman, Recreation and Wildlife Committee, Upper Mississippi Valley Section, and Minnesota representative, Natural Area Committee, Society of American Foresters; member, Farm Forum Committee, Minnesota Department of Conservation and U.S. Department of Agriculture; participant, Minnesota Project Environment Committee; and participant, Conference, National Christmas Tree Growers Association.

JOHN G. HAYGREEN served as section chairman, Joint Liaison Committee, chairman, Wood-Drying Technology Division, secretary, Fundamental Properties Technology Division, and member, Hitchcock Award Committee, Forest Products Research Society; subcommittee chairman, Task Groups, American Society for Testing Materials; and secretary-treasurer, Society of Wood Science and Technology.

RALPH L. HOSSFELD served as discussant, American Chemical Forestry Symposium.

FRANK D. IRVING served as chairman, Professional Status Committee, and chairman, Foresters Management Committee, *UMV* and Society of American Foresters; vice-president, Keep Minnesota Green; and panel member, Lake States Forest Experiment Station, U.S. Department of Agriculture.

ELMER M. JOHNSON was named an Outstanding Citizen in the State of Minnesota by the Republican State Central Committee; and served as secretary and trustee, Minnesota Municipal Judges Association.

FRANK H. KAUFERT served as committee chairman, Forest Products Research Society; president, Forest History Society; president, Foundation of Professors of Forestry; member, Advisory Board, McIntire-Stennis Cooperative Forestry Research; board member, American Forestry Association; and participant, World Forestry Congress (Spain).

LAWRENCE C. MERRIAM, JR., served as trustee, National Parks Association; secretary, Association of Western Forestry Recreation Institute; and coordinator, Recreation Design Planning Conference (University of Montana).

MERLE P. MEYER received a visiting scientist lectureship from the Society of American Foresters and the National Science Foundation; and served as chairman, Minnesota Forest Research Council, Society of American Foresters; member, National Photo Interpretation Committee, American Society of Photogrammetry; and member, Survey Steering Committee, and member, Forest Research Council, Minnesota Forestry Industry.

SCOTT S. PAULEY served as member, Advisory Committee, Quetico-Superior Wilderness Research Center; chairman, Lake States Tree Improvement Conference; participant, Tree Improvement Workshop, Society of American Foresters; and visiting scientist lecturer, Society of American Foresters and National Science Foundation.

CARL H. REIDEL served as member, Advisory Committee, Memorial Hardwood Forest, Minnesota Department of Conservation.

RICHARD A. SKOK served as vice-chairman, Southern Chapter, Upper Mississippi Valley Section, and participant, Annual Meeting, Division of Forestry Education, Society of American Foresters; discussion leader, Midwest Forestry Economics Conference, Lake States Forest Experiment Station; member, Minnesota Farmers Forestry Council; member, Forestry Economic Concepts Committee, Council of Forestry School Executives; chairman, Minnesota Forest

Products Marketing and Utilization Coordinating Committee; and discussion leader, Midwest Forestry Economics Council (University of Wisconsin).

ROBERT D. THOMPSON served as convention participant, Northwest Lumber Dealers Association; convention participant, Midwest Lumber Dealers Association; participant, Forest Industries Marketing Conference; and member, Forest Products Marketing and Utilization Coordinating Committee, Minnesota Department of Forestry.

KENNETH E. WINSNESS received the Standard Oil Foundation Award.

School of Home Economics

DONALD R. BENDER received a National Defense Foreign Language Fellowship to study Yoruba at Duquesne University.

SUZANNE DAVISON served as member, Technological Committee for Regional Research, Minnesota Agricultural Experiment Stations; participant, Celanese Textile Conference, Celanese Corporation (Charlotte, N.C.); and participant, Textile Seminar, University of Missouri.

GERTRUDE A. ESTEROS served as president-elect, American Association of Housing Educators.

ROBERT J. FORSYTH served as consultant, Gallery of Modern Art; and leader, Home Economics Workshop, University of Toronto.

NATALIE S. GALLAGHER served as program planner, Strengthening Family Life, Governor's Advisory Council on Children and Youth; Minnesota delegate, Conference on Working with Low Income Families, American Home Economics Association; participant, Low Income Problems Meeting, Minnesota Home Economics Association; program planner, Annual Meeting, National Council on Family Relations; and participant, Annual Meeting, Minnesota Council on Family Life.

MARGARET P. GRINDERENG served as member, Advisory Committee, Central Region College Teachers of Textiles and Clothing, American Home Economics Association.

GRACE M. HENDEL served as section chairman, Minnesota Dietetics Association; and section chairman, American Dietetics Association.

MARY J. HITCHCOCK served as cochairman, Conference, College and University Teachers of Institutional Management; and member, National Liaison Committee, American Home Economics Association and American Dietetic Association.

LURA M. MORSE served as chairman, National Research Awards Committee, Sigma Delta Epsilon; and member, Executive Board, Minnesota Nutrition Council.

JULIETTE I. MYREN served as committee chairman, American Home Economics Association; and chairman, Advisory Committee, Phi Upsilon Omicron.

M. VIRGINIA NAGLE served as participant, Investing Committee, Governor's Business and Development Committee.

ROBERT J. SIRNY received a fellowship from the American Association for the Advancement of Science; and served as member, NC-74 Technological Committee, and member, Home Economics Review Committee (Ohio State University), U.S. Department of Agriculture; member, Food and Nutrition Concepts Committee, U.S. Office of Education; and program director, Graduate Training Grants in Nutrition, Public Health Service.

LOUISE A. STEDMAN served as subcommittee member, Governor's Committee on Status of Women, and member, Education Subcommittee, Governor's Committee on Children, State of Minnesota; participant, Conference, Fifth Regional Home Economics Administration, North Central Association; member, Scholastic Committee, Phi Upsilon Omicron; and board member, Minnesota Home Economics Association.

PATRICIA B. SWAN served as program participant, Minnesota Nutrition Council.

GLORIA WILLIAMS served as chairman, Subject Matter Section, Minnesota Home Economics Association.

Department of Horticultural Science

EMIL T. ANDERSEN served as board member, Minnesota Fruit Growers Association; committee chairman, Minnesota Horticultural Society; and advisor, Fruits Department, Minnesota State Fair.

FLORIAN I. LAUER served as chairman, Technical Committee, Inter-Regional 1, and chairman, Technical Committee, North Central Regions 65 and 84, United States Government.

PEN HSIANG LI received the Dow Chemical Company Award; and the Alex Laurie Award from the American Society for Horticultural Science; and served as president, Research Results, Midwest Section, American Society of Plant Physiology; and president, Research Results, American Society for Horticultural Science (Colorado).

ROBERT MULLIN served as member, Editorial Committee, *Minnesota Farm and Home Science*.

SHIRLEY T. MUNSON was named to the Packaging Hall of Fame by the Minnesota Chapter of the Society of Packaging and Handling Engineers; and served as chairman, Minnesota State Nutrition Council; and participant, International Meetings, Institute of Food Technologists.

ROBERT E. NYLUND served as president, Minnesota Chapter, Gamma Sigma Delta; member, Packing and Marketing Committee, Potato Association of America; chairman, Awards and Honorary Membership Committee, Weed Society of America; and participant, Plant Science Symposium, Campbell Soup Company; and received the Award of Excellence as Coauthor from the Weed Society of America.

LEON C. SNYDER served as member, Tree and Shrub Committee, International Shade Tree Conference; and chairman, Plant Hardiness Committee, American Association for Botanical Gardens.

CONRAD J. WEISER received the Alex Laurie Award from the American Society for Horticultural Science.

DONALD B. WHITE served as chairman, Committee 10 on Turf, North Central Research Committee; symposium participant, American Society for Agronomy; and symposium participant, Minnesota Golf Course Superintendents.

RICHARD E. WIDMER was named an honorary member of the American Carnation Society; honorary member of the Minnesota Dahlia Society; and honorary member of the Minnesota Commercial Flower Growers; served as committee member, American Society for Horticultural Science; member, Planning Committee, Short Course, Minnesota Allied Florists Association; and chairman, Planning Committee, Short Course, Minnesota Commercial Flower Growers Association; and received the Award of Merit from the Minnesota State Horticultural Society.

Department of Information and Agricultural Journalism

GERALD R. MCKAY served as judge and evaluator, Regional Film Contest, Twin City Council of Camera Clubs.

JOSEPHINE B. NELSON served as committee chairman, Minnesota Nutrition Council; and received an "excellent" rating in Radio Service from the American Association of Agricultural College Editors.

HARLAN R. STOHR received "excellent" and "good" ratings in Publications from the American Association of Agricultural College Editors; and served

as participant, Seminar for Science Writers, National Science Foundation; and participant, Summer Session for Extension Work, University of Wisconsin.

HAROLD B. SWANSON received the Best Article of the Year Award from the American Association of Agricultural College Editors; and served as committee chairman, American Association of Agricultural College Editors; member, Public Relations Advisory Committee, Federal Extension Service; and participant, Information Review Team, U.S. Department of Agriculture and University of Kentucky.

RAYMOND S. WOLF received the Minute Man Statuette from the U.S. Treasury Department; and the Blue Ribbon Radio and Television Awards from the American Association of Agricultural College Editors; and served as chairman, Kickoff Luncheon, Minnesota Safety Council; registrar, Annual Meeting, chairman, Board of Directors, and chairman, Program Committee, Minnesota Adult Education Association; and editor, *ACE*, Minnesota Section, American Association of Agricultural College Editors.

North Central School of Agriculture

WILLIAM MATALAMAKI received a certificate of service from the Boy Scouts of America; and served as technical advisor, Instituto Agricola, Pascual Barburizza (Los Andes, Chile), University of Minnesota and Ford Foundation.

Northwest School of Agriculture

BRUCE C. BERESFORD served as chairman, Potato Judging Contests, Red River Valley Shows.

R. D. CHRISTENSON served as panel moderator, Problems in Engineering Education, American Society of Engineering Education.

GEORGE D. MARX served as discussant, Milking Research Conference, National Mastitis Council.

EUGENE C. MILLER served as participant, Training Institute, Teachers of Technical Programs in Agriculture, U.S. Office of Education (Cobleskill, N.Y.).

OLAF C. SOINE received the Honorary State Farmer Award from Future Farmers of America.

Department of Plant Pathology and Physiology

ERNEST E. BANTTARI received a fellowship from the National Science Foundation.

THOR KOMMEDAHL received the Award of Excellence from the Weed Science Society of America; and served as committee chairman, Soil Microbiology and Root Disease, NC-70, U.S. Department of Agriculture; and member, Publications Committee, American Phytopathological Society.

CHESTER J. MIROCHA served as chairman, Seminar, United States-Japanese Cooperative Science Program, National Science Foundation; participant, Second International Congress of Food Technology (Warsaw, Poland), National Institutes of Health; participant, Symposium on Microbial Toxins, American Chemical Society (New York); member, Governor's Committee on Air Pollution; participant, Collaborators Conference, Mycotoxins, Midwest Utilization Research and Development Division; participant, Collaborators Conference, The Importance of Mold Metabolites in Agricultural Products, Western Utilization and Development Division; and participant, J. C. Walker Conference on Pathogenesis and Metabolism in Plants, Rockefeller Foundation; and was awarded grants in the Research Participation for College Teachers Program from the National Science Foundation.

Department of Rhetoric

JAMES I. BROWN received the Hall of Fame Award from Tarkio College (Missouri).

Department of Soil Science

RUSSELL S. ADAMS served as member, Terminology Committee, Soil Science Society of America.

DONALD G. BAKER served as president, Twin Cities Chapter, American Meteorological Society; and member, Advisory Committee, North Central Research on Water Center, U.S. Department of Agriculture and American Research Society.

GEORGE R. BLAKE served as sponsor, Seminar on Forestry Science, National Science Foundation.

PAUL M. BURSON received the Excellence in Journalism Award from the American Society of Agronomy.

ALFRED C. CALDWELL served as scientific secretary, Use of Isotopes and Radiation in Soil-Plant Nutrition Studies, International Agricultural Education Association and the Turkish Government.

WILLIAM P. MARTIN served as president, Soil Science Society of America; participant, Inter-Society Coordinating Committee, Revision of Official Committee Manual, and member, Executive Committee, American Society of Agronomy; member, Research Committee, Soil Conservation Society; collaborator, Soil and Water Research Division, U.S. Department of Agriculture and American Research Society; program reviewer, Division of Biology and Medicine, National Science Foundation; honorary director, Minnesota Plant Food Association; board member, Minnesota Conservation Education Association; program participant, Symposium on Agricultural Ammonia, Agriculture Ammonia Institute and Soil Science Society of America; program participant, Symposium on Pesticide Research, Soil Science Society of America; member, Advisory Committee, Division of Agronomy Service, Minnesota Department of Agriculture; and chairman, Subcommittee on Pesticidal Research, and member, Conference Committee on Physical Science, International Biology Program, National Academy of Science and National Research Council.

RICHARD H. RUST served as member, Water Infiltration Committee, and member, Soil Survey Committee, North Central Region.

Southern School of Agriculture

ROBERT M. COLLINS served as director, Science Teachers Conference, Minnesota Academy of Science.

HELEN C. GERTH served as member, Hiawatha Valley Music Faculty Camp; and member, Music Board, Rochester Symphony Band.

DORIS E. NELSON served as instructor, Career Clinic for Mature Women, United Fund and Minneapolis Vocational School.

GARY L. SHELDON served as participant, Annual Convention, American Personnel and Guidance Association; and chairman, Recreation Committee, Spring Workshop, Minnesota Counselors Association.

College of Biological Sciences*Department of Biochemistry*

JOHN E. GANDER served as participant, Interdisciplinary Conference on Time, New York Academy of Science.

ROBERT L. GLASS served as participant, Fourth National Wheat Utilization Research Conference (Boise, Idaho).

LAVELL M. HENDERSON served as member, Nutrition Training Committee, National Institutes of Health; and member, Advisory Committee for Facilities Grants, and site visitor, U.S. Office of Education and National Science Foundation.

ROBERT JENNESS served as chairman, Inter-University Seminar on Milk Proteins; and chairman, Panel Discussion, Physical Stability of Milk Proteins, Seventh Conference on Milk Concentrates, Eastern Regional Laboratory, U.S. Department of Agriculture (Philadelphia, Pa.).

BERTHA A. LEWIS received the Iota Sigma Pi Research Award.

IRVIN E. LIENER was elected to honorary membership in the Venezuelan Association for the Advancement of Science; and served as member, Editorial Board, *Journal of Food Science*.

WALTER O. LUNDBERG served as representative, American Chemical Society, Food Protection Committee, National Academy of Sciences; member, Governing Board, American Oil Chemical Society; chairman, Technical Services Advisory Committee, State of Minnesota; and chairman, Editorial Advisory Board, *Progress in the Chemistry of Fats and Other Lipids*.

HERMANN SCHLENK served as chairman, Lipids Subcommittee, National Research Council; program participant, Gordon Conference; and program participant, Burr Symposium, American Oil Chemical Society.

MAX O. SCHULTZE served as member, Editorial Board, *Journal of Nutrition*.

Department of Botany

ERNST C. ABBE received a fellowship from the Linnean Society (London, England).

ALAN J. BROOK received a fellowship from the Royal Society of Edinburgh (Scotland); a fellowship from the Botanical Society of Edinburgh; and a fellowship from the Linnean Society (London, England).

WILLIAM P. CUNNINGHAM received a fellowship from the National Institutes of Health.

EDWARD J. CUSHING received a postdoctoral fellowship from the North Atlantic Treaty Organization.

A. ORVILLE DAHL served as section vice-chairman, Second International Conference on Palynology (Utrecht, Netherlands); and received a research grant from the National Aeronautics and Space Administration.

DONALD B. LAWRENCE received a Fulbright Research Fellowship; and served as participant, Environmental Recreational Land Use Project, Committee on Institutional Cooperation, W. K. Kellogg Biological Station.

Department of Genetics

V. ELVING ANDERSON served as president, Academy Conference, American Association for the Advancement of Science.

RALPH E. COMSTOCK served as director, Genetics Training Program, National Institutes of Health.

FRANKLIN D. ENFIELD served as program chairman, Animal Breeding and Genetics Annual Meeting, American Society of Animal Science; and representative, Technical Committee, Beef Cattle Breeding, U.S. Department of Agriculture.

SHELDON C. REED served as member, Research Board, National Association for Retarded Children; member, Governor's Advisory Committee on Mental Retardation; president, Minnesota Human Genetics League; president, American Society of Human Genetics; and chairman, Human Genetics Committee, Minnesota Board of Health.

Museum of Natural History

WALTER J. BRECKENRIDGE received the Robert G. Green Conservation Award from the Minneapolis Junior Chamber of Commerce; and the Thomas S.

Roberts Memorial Award from the Minnesota Ornithologists Union; and served as member, Board of Governors, Phi Beta Kappa; member, Policy Committee, Minnesota Ornithological Union; fellow, American Association for the Advancement of Science; fellow, American Ornithological Union; and member, Executive Board, Wilson Ornithological Society.

SAMUEL EDDY served as consultant, Aquatic Biology and Ichthyology, University of Texas.

ALBERT W. ERICKSON received a fellowship from the National Institutes of Health; a research grant from the World Wildlife Fund; and a research grant from the New York Zoological Society.

EUGENE A. LEFEBVRE was elected to membership in Sigma Xi.

D. FRANK MCKINNEY served as member, Editorial Board, American Ornithological Union; and received a European travel grant from the National Science Foundation.

DONALD B. SINIFF was elected to membership in Sigma Xi.

JOHN R. TESTER served as member, Telemetry Committee, Wildlife Society; member, Bioinstrumentation Advisory Committee, American Institute of Biological Sciences; and member, Radioecology Committee, Ecological Society of America.

DWAIN W. WARNER served as committee member, St. Paul Science Museum; and member, McKnight Family Scientific Award Committee.

School of Business Administration

Administration

PAUL V. GRAMBSCH was named an honorary member of the Minnesota Society of Certified Public Accountants; and served as chairman, Standards Committee, American Association for Schools of Business; member, Advisory Committee, Aerospace Research Applications Center (Indiana University); member, Advisory Committee, President's Professional Association, American Management Association; member, Advisory Committee, Management Education, Department of Defense; member, Advisory Committee, Business Horizons (Indiana University School of Business); and member, Research Advisory Committee, Metropolitan Tax Study.

Department of Accounting

GORDON B. DAVIS served as chairman, Task Force, Auditing Electronic Data Processing, American Institute of Certified Public Accountants; member, X3 Committee on Electronic Data Processing, U.S. Standards Institute; and member, Management Accounting Committee, American Accounting Association.

JOHN C. GRAY received a Certificate of Merit from the National Association of Accountants; and served as panel member, Annual Meeting, member, Research and Study Committee, member, Project Editing Consultant Committee, and presiding leader, Statistical Sampling for Auditors, Institute of Internal Auditors; and seminar leader, Rochester Personnel Association.

CHARLES R. PURDY served as session chairman, Annual Tax Institute, Minnesota Association of Public Accountants and State Association of Public and Tax Accountants; administrator, Accounting Program, National Convention, American Personnel and Guidance Association; area chairman, Accounting Careers Council, American Accounting Association; and member, Professional Development Committee, seminar leader, Improving Profits Through Cost Control, and seminar leader, Deferred Income Taxes, Minnesota Society of Certified Public Accountants.

JAY M. SMITH, JR., served as panel member, Annual Meeting, member, Membership Committee, and member, Research and Development Committee,

American Accounting Association; panel member, Annual Meeting, Minnesota Chapter, American Institute of Certified Public Accountants; and participant, National Controller's Congress, National Retailers Association.

CURTIS H. STANLEY served as leader, Faculty Seminar, Yale University Economics Department.

Department of Finance and Insurance

J. RUSSELL NELSON served as session chairman, and chairman, Planning Committee, Symposia on Ethics and Marketing, Merrill Cohen Fund.

HAROLD W. STEVENSON served as organizer, Review of Counseling, Twin Cities Society of Financial Security Analysts.

ALBERT K. WICKESBERG served as panel leader and discussant, Long-Range Planning Committee, Society for the Advancement of Management; participant, Educators Seminar, International Meeting, Administration Service Society; and seminar leader, Organization, Twin Cities Association of Purchasing Agents.

C. ARTHUR WILLIAMS served as member, Administrative Board, Huebner Foundation for Insurance Education; chairman, Social Insurance Terminology Committee, president, and board member, American Risk and Insurance Association; president, University of Minnesota Chapter, and member, Executive Committee, American Association of University Professors; participant, Safety and Financial Responsibility Study Group, Minnesota Highway Traffic Safety Study; vice-president, State Capitol Credit Union; consultant, North Star Research and Development Institute; consultant, Harvard Auto Claims Study; and consultant, Agency for International Development (South Korea).

Industrial Relations Center

RENE V. DAWIS received the Annual Research Award from the American Rehabilitation Counseling Association; and served as program participant, Annual Convention, American Personnel and Guidance Association; and program participant, Annual Convention, Minnesota Psychiatry Association.

GEORGE W. ENGLAND received a Ford Foundation Faculty Fellowship; and the Award for Significant Research on Vocational Guidance from the American Personnel and Guidance Association.

JOHN J. FLAGLER received the Labor Arbitration Award from the Commerce Clearing House; and served as secretary, International Association of Personnel and Employees; chairman, Local 189, American Federation of Teachers; member, Executive Board, Economic Opportunity Committee, and member, Board of Directors, Community Health and Welfare Committee, Hennepin County Health and Welfare Council; member, Board of Directors, Minnesota Council on Economic Education; member, University Consultant's Committee, Bureau of Employment Security, U.S. Department of Labor; member, National Panel of Arbitrators, American Arbitrators Association; member, Advisory Council, State Department of Employment Security; member, Board of Directors, American Histadrut Cultural Exchange Institute; and member, Board of Governors, Israeli-American Cultural Exchange Institute.

HERBERT G. HENEMAN, JR., served as chairman, Advisory Council, Minnesota Department of Employment Security; program participant, Executive Development, University of Richmond; member, Standards Review Panel, U.S. Civil Service Commission; member, Labor Relations Committee, Glass Container Manufacturers Association; participant, Management Institute, American Society of Personnel Administration; and member, University Consultants Committee, Bureau of Employment Security, U.S. Department of Labor.

THOMAS H. JERDEE served as consultant, Selective Service Rejectees Project, U.S. Department of Labor.

THOMAS A. MAHONEY served as member, Manpower Development Committee, Governor's Advisory Commission; and participant, Educators Symposium, General Electric Corporation.

THOMAS F. SIESS served as recorder, Annual Convention, American Personnel and Guidance Association.

CYRUS F. SMYTHE, JR., served as arbitrator, State of Minnesota.

DAVID J. WEISS received a research award from the American Rehabilitation Counseling Association.

Department of Management, Production and Transportation

GARY W. DICKSON served as workshop director, Conference, U.S. Government Accountants Association.

NICHOLAS A. GLASKOWSKY, JR., received a Computer Study Symposium Fellowship from International Business Machines and Tulane University; and served as session chairman, National Meeting, Institute of Management Sciences and Operations Research Society of America; discussion leader, Communication-3 Seminar, and discussion leader, Processes Seminar, Minneapolis Chamber of Commerce; and discussion leader, Management Seminar, U.S. Civil Service Commission.

DONALD V. HARPER was admitted by examination to the Association of Interstate Commerce Commission Practitioners.

EDMUND A. NIGHTINGALE received a Commendation for Outstanding Service from the Secretary of Agriculture; and served as member, Governor's Task Committee on Urban Transportation, State of Minnesota; member, Transportation Committee, St. Paul Chamber of Commerce; judge, National Essay Contest, Association of Interstate Commerce Commission Practitioners; and member, Market Research Advisory Committee, U.S. Department of Agriculture.

ALLEN R. SOLEM served as participant, Interpersonal Skills Symposium, American Psychiatry Association.

Department of Marketing and Business Law

ELLEN S. BERSCHIED served as researcher and symposium participant, National Convention, American Psychiatry Association.

ROBERT S. HANCOCK served as session chairman, Marketing Symposium, University of Illinois.

ROBERT J. HOLLOWAY received a research grant from the Ford Foundation.

EDWIN H. LEWIS served as editor, Book Series, American Marketing Association.

Department of Quantitative Analysis

GARY M. ANDREW served as president, Tau Beta Pi; treasurer, Upper Midwest Chapter, Institute of Management Sciences and Operations Research Society of America; and session subchairman, American Statistical Association (Cleveland, Ohio).

DELBERT C. HASTINGS served as Ford Foundation advisor to Jordan.

RICHARD L. KOZELKA served as president, Midwest Economic Association; member, Board of Directors, Northwestern National Life Insurance Company; consultant, University of Jordan, Ford Foundation; and member, Board of Governors, American Association of Schools of Business.

JOHN NETER received a fellowship from the American Statistical Association; and a fellowship from the American Association for the Advancement of Science; and served as member, Committee on Economic Status, Minnesota Chapter, American Association of University Professors; and chairman, Pro-

gram Committee, National Convention, and member, Executive Committee, Section on Training, American Statistical Association.

RAYMOND E. WILLIS, JR., served as session chairman, National Convention, and chairman, Membership Committee, Local Chapter, American Statistical Association; secretary-treasurer, Local Chapter, Society for the Advancement of Management; and secretary, Local Chapter, Institute of Management Sciences.

Department of Concerts and Lectures

JAMES S. LOMBARD received the Sibelius Medal commemorating the 100th anniversary of the birth of Jean Sibelius from the Government of Finland; and the Community Music Award from Sigma Alpha Iota; and served as chairman, Membership Committee, and chairman, Promotions and Publicity Committee, International Association of Concert Managers; and chairman, Nominating Committee, Association of College and University Concert Managers.

School of Dentistry

DWIGHT L. ANDERSON served as session cochairman, Third European Regional Conference, International Federation of Societies for Electron Microscopes.

HENRY B. CLARK, JR., received an honorary membership in Sigma Xi; and served as member, Editorial Board, *Dental Monographs*, and editor, *Yearbook of Dentistry*, *Yearbook of Medicine Publishers*.

ROBERT J. GORLIN received an honorary membership in the Hollywood Academy of Medicine; and served as member, Board of Directors, Minnesota Human Genetics League; president-elect, American Academy of Oral Pathology; and chief, Collaborating Center, World Health Organization Center for Histologic Nomenclature and Classification of Odontogenic Tumors and Allied Lesions.

MELLOR R. HOLLAND received a special achievement award for contributions to dental education from Psi Omega; and served as president, Minnesota Section, American College of Dentists; board member, Minnesota Dental Research Foundation; member, Executive Council, Minneapolis District Dental Society; consultant, Veterans Administration Hospital (Minneapolis); and consultant, Minnesota Chapter, National Hemophilia Foundation.

ROBERT J. ISAACSON served as program director, Postdoctoral Research Training Program, National Institute of Dental Research; participant, Annual Meetings, Minnesota Dental Association; participant, Annual Meeting, American Association of Orthodontics; and member, Dental Subcommittee, Committee on Institutional Cooperation.

IONE M. JACKSON received an honorary membership in Omicron Kappa Upsilon; and served as member, Scholarship Committee, American Dental Hygiene Association.

JAMES R. JENSEN served as consultant, St. Cloud Veterans Administration Hospital; consultant, Minneapolis Veterans Administration Hospital; consultant, Council on Dental Education and Council on Federal Dental Service, American Dental Association; chairman, Federal Service Committee, Minnesota Dental Association; and member, Program Committee, and member, Civil Defense Committee, Minneapolis District Dental Society.

RONALD E. LABELLE served as clinician, Conference, Minnesota Dental Association; participant, World Workshop on Periodontics (University of Michigan); and participant, Preventive Dentistry Seminar, U.S. Army Dental Corps and American Dental Association.

MAURICE W. MEYER served as participant, Minnesota Section Meeting, and participant, National Meeting, International Association of Dental Research; and meeting participant, American Physiological Society.

ANDREW T. MORSTAD served as participant, Research Training in Bone Physiology, and participant, Study of Mandibular Bone Research, Radiation Laboratories, University of Utah Department of Medicine.

E. SEVERN OLSEN was named an associate fellow of the Academy of Dental Prosthetics; and a fellow of the American College of Dentistry; and served as chairman, Judges of Student Clinical Program Committee, vice-chairman, Partial Denture Section, and chairman, Partial Prosthetics Section, Science Council, American Dental Association; member, Publications Committee, and chairman, Study Course Committee, Minneapolis District Dental Society; and chairman, Program Committee, Dental Alumni Association.

EUGENE E. PETERSEN served as member, Advisory Committee on Radiation, Minnesota Board of Health; and member, Awards Committee, American Academy of Oral Roentgenology.

PATRICIA P. SANDER served as vice-president and president-elect, Minnesota Dental Hygiene Association.

LEON SINGER served as faculty member, Midwest Seminar on Oral Medicine; and member, Dental Study Section, National Institute of Histology.

RICHARD E. STALLARD was named a fellow of the American Association for the Advancement of Science; and served as chairman, Committee on Dental Research, American Society of Periodontics.

HELEN M. TUCHNER served as vice-chairman, Education Committee, district trustee, National Meeting, district trustee, Chicago Midwinter Meeting, and district trustee, Special Education Conference, American Dental Assistants Association; chairman, Past Presidents Council, and chairman, Career Committee, Minnesota Dental Assistants Association; advisor, Committee of Dental Health Education, Minnesota Dental Association; and workshop participant, Dental Auxiliary Utilities Training Conference, Department of Health, Education, and Welfare.

CESAR R. UMANA served as member, Board of Medical Education, University of San Carlos; and member, Planning Committee, Symposium on Medical Genetics, and member, Board of Scientific Advisors, Eleventh Congress of Medicine in Central America, College of Physicians of Guatemala.

JOHN W. WAKELY served as member, Advisory Council, Minneapolis District Dental Society; and delegate, National Meeting, American Dental Association.

GEORGE M. YAMANE was named a fellow of the American Academy of Oral Pathology; and a fellow of the American Association for the Advancement of Science; and served as vice-chairman, Cancer Liaison Committee, Minnesota Dental Association.

DOUGLAS H. YOCK was named a fellow of the American College of Dentists; and served as consultant, Area Dental Conference, Veterans Administration; section secretary, Annual Meeting, American Association of Dental Schools; subcommittee chairman, Insurance Committee, and clinical chairman, State Meeting, Minnesota Dental Association; participant, Annual Meeting, International Association for Dental Research; president, Executive Committee, Minnesota Academy of Restorative Dentistry; and committee chairman, Annual Meetings, American Academy of Crown and Bridge Prosthodontics.

University of Minnesota, Duluth

Administration

WESLEY T. SHEPARD served as consultant, State Convention, Minnesota School Board Association.

CHESTER W. WOOD served as chairman, Evaluation Committee, North Central Association of Colleges and Secondary Schools.

Division of Education and Psychology

IVER BOGEN served as participant, Institute, West Central Counselors Association.

MERLE L. BRYANT served as program participant, Tri-State Meeting, Association for Student Teaching.

THOMAS J. BUKVICH served as secretary, Phi Delta Kappa; delegate, Minnesota State High School League; chief-of-staff, Civil Defense, St. Louis County; vice-president, U.S. Naval Reserve Association; and member, Mayor's Committee (Duluth), Economic Recovery Act.

ELEANOR M. COLLINS served as member, Scholarship Committee, Minnesota Home Economics Association.

DEAN A. CRAWFORD served as official delegate, National Conference, American Association of University Professors; and executive Secretary, Educational Research and Development Council of Northeast Minnesota, U.S. Office of Education.

KENNETH N. DEYOUNG served as president, Northern Minnesota Psychology Association; participant, Management Institute in Leadership Methods, University of Wisconsin Extension Division; consultant, Minnesota Power and Light Company; consultant, Minnesota Department of Education; and consultant, Duluth Public Schools.

RAKEL L. ERICKSON served as participant, Social Studies Research, County Institute on Curriculum.

ROBERT J. FALK served as member, Duluth Area Economic Opportunity Council.

MOY F. GUM served as chairman, Advisory Committee on Counseling and Testing, and consultant, Elementary Guidance Demonstration Project, Office of Guidance, State Department of Education; panel member, Summer Workshop on Elementary Guidance, St. Cloud State College and Office of Guidance, State Department of Education; panel member, Conference, National Vocational Guidance Association; and chairman, State Membership Committee, Association of Counselors, Educators, and Supervisors, American Personnel and Guidance Association.

EDWARD G. HILL served as participant, Trade and Industrial Conference, Vocational Teacher Training.

HARRY C. JOHNSON served as member, Board of Directors, North Park College and Theological Seminary.

SUZANNE E. KNUCKEY served as researcher, Creative Gymnastics Institute, Northeastern Area Teachers Association.

MURIEL I. LEHMAN served as member, Executive Board, Colleges and Universities Committee, Minnesota Home Economics Association.

HUBERT M. LOY served as member, Auditing Committee, and vice-president, Tri-State Association of Student Teachers.

CHARLES W. MCKAIN served as secretary and vice-president, Northern Minnesota Psychology Association; consultant, Group Leadership Seminar, State Parent-Teacher Association and Social Service Agency; reviewer, McGraw-Hill Publishing Company; consultant, Title I Projects, Duluth Board of Education; and field director, Classroom Study, Educational Testing Service.

CYRIL M. MILBRATH served as resource person, Annual Meeting and Midwest Workshop Conference, National Education Association (University of Omaha); participant, Midwest Drive-In Conference, and participant, National Seminar, Professors of Educational Administration, American Association of School Administrators and National Education Association; participant, National Conference of Professors of Educational Administration (New York University); coordinator, Range Principals' Winter Workshop, Minnesota As-

sociation of Secondary School Principals; and evaluator, Adult Education Workshop, Michigan Association of Educational Administrators.

RUTH PALMER served as chairman, Advisory Committee, Home Economics Program, Rehabilitation in Northeastern Minnesota; member, Advisory Board, Homemakers Program, St. Louis County Welfare Department; member, Advisory Committee, Minnesota Home Economics Association; member, Advisory Committee on Vocational Education, and member, Advisory Committee on Comprehensive Facility, Duluth Board of Education; and local chairman, Fall In-Service Meeting, State Department of Education.

CRAIG E. PETERSON served as participant, Extramural Meet, Intramural Tourney, Twin Cities Colleges, Minnesota Intercollegiate Athletic Conference.

VALWORTH R. PLUMB served as member, Advisory Committee, Teacher Education, State of Minnesota.

RUTH H. RICHARDS served as member, Curriculum Committee, State of Minnesota; and committee member, Competition for Girls and Women, Women's Physical Education Association and State of Minnesota.

LEWIS J. RICKERT served as chairman, Membership Committee, National College Physical Education Association.

ELEANOR C. RYNDA served as director of women, Coaching School, Sports International, Inc., and Department of State; coach, Track and Field Clinic, and coach, Young Athletes Training Camp, Royal Canadian Legion (Ottawa, Canada); chairman, Track and Field Committee, and coach, Track and Field Workshop, Minnesota Division of Girls' and Women's Sports; and meeting participant, Minnesota Education Association, Minnesota Association of Health, Physical Education, and Recreation, and Division of Girls' and Women's Sports.

VERNON L. SIMULA served as committee member, Preparation of Teachers for Disadvantaged, Minnesota Department of Education.

ARMAS W. TAMMINEN served as chairman, Board of Directors, chairman, By-Laws Committee, and member, Mental Hygiene Committee, Duluth Mental Hygiene Clinic; consultant, Job Evaluation Committee, Duluth Welfare Council; director, Leadership Seminar, Minnesota Parent-Teacher Association; consultant, Leadership Development Conference, U.S. Forestry Service; and member, Paterson Award Committee, Minnesota Personnel Association.

GORDON O. VOSS served as conference participant, Minnesota Department of Education; participant, Mississippi Valley Industrial Arts Conference; and conference participant, U.S. Office of Education.

WARD M. WELLS received an honor award from the Central Division and served as program chairman, Winter Sports Section, American Association of Health, Physical Education, and Recreation.

Division of Humanities

ADDISON M. ALSPACH served as panel chairman, Regional Symposium, Music in Adult Education (Lincoln, Neb.).

DONALD H. ANDREWS served as performer, Organ Recital, and dean, American Guild of Organists; board member, Matinee Musicale; judge, Duluth Music Teachers Association; and organ consultant, Northland College.

WILLIAM G. BOYCE received a life membership in the National Education Association; and served as president, and chairman, Coordinating Council, Minnesota Art Education Association.

H. BOYD CHRISTENSEN received a merit award in the Biennial Exhibition of Painting and Sculpture, Walker Art Center.

JACQUES C. COMEAUX served as participant, Foreign Language Conference (New York).

RICHARD J. DE LUCA served as panel chairman, Minnesota Arrowhead Foreign Language Conference.

HENRY J. EHLERS served as visiting professor, University of Bridgeport; and visiting professor, University of Washington.

PACY FRIEDMAN served as planner, State Convention, Minnesota Speech and Hearing Association; seminar participant, Aural Rehabilitation in Adults, Western Reserve University; audiology consultant, Crippled Children's Services, Minnesota Department of Welfare; and audiology consultant, Crippled Children's Services, Wisconsin Department of Welfare.

WENDELL P. GLICK served as editor, *Thoreau Edition*, Center for American Editions.

ROBERT W. HOUSE served as member, Editorial Committee, *Journal on Research in Music Education*; panel participant, Music Education National Conference; member, Advisory Board, Educational Policies Committee, National Education Association; committee chairman, Teacher Education in Music, and member, Music Education Subcommittee, Curriculum Committee, National Association of Schools of Music; vice-president, Executive Board, Minnesota Music Education Association; and member, Consulting Committee, Revision of Graduate Record Examination in Music, Educational Testing Service.

DONALD W. LARMOUTH served as program coordinator, First Regional Meeting, Chicago Linguistic Society.

PHILIP K. MEANY received a life membership in the Art Institute of Chicago.

FREDDY M. MUNOZ received the Ford Foundation Purchase Award in painting from the Walker Art Center.

GLENN C. NELSON served as panel member, Spring Meeting, Minnesota Crafts Council.

JOHN H. NESS served as member, Board of Governors, Speech Association of Minnesota.

ROBERT F. PIERCE served as speech consultant, Dental and Facial Team, Minnesota Department of Welfare; and member, Governor's Advisory Committee, Service for Hearing Impaired.

RUDOLPH I. SCHAUER served as art juror, Hibbing Art Fair; and received first prize for water color painting at the Duluth Annual Art Exhibition.

FRED E. H. SCHROEDER served as group chairman, Convention, Minnesota Council of Teachers of English.

JAMES E. SMITH served as judge, E. S. Kelley Young Artist Competition, Federation of Music Clubs; and judge, Iron Range Music Festival, Eastern Range District, Minnesota Music Education Association.

ANNA L. STENSLAND served as director, National Defense Education Act Institute; and executive secretary, Minnesota Council of Teachers of English.

ALBERT TEZLA served as visiting professor, Hungarian Literature, Columbia University.

Library

RUDOLPH JOHNSON served as secretary, American Association of University Professors; president, Academic Section, member, Awards Jury, and vice-president, College Section, Minnesota Library Association; and member, Awards Jury, American Library Association.

Division of Science and Mathematics

EDWARD J. COWLES served as participant, Summer Conference, Electric Transmission, National Science Foundation, Petroleum Research Foundation, and American Chemical Society.

EDWARD FLACCUS served as section vice-chairman, Minnesota Academy of Science.

JOHN C. GREEN served as college consultant, Earth Science Curriculum Project, American Geological Institute and National Science Foundation.

HOWARD G. HANSON served as representative, Minnesota Section, American Association of Physics Teachers.

DONALD K. HARRISS served as chairman, Lake Superior Section, American Chemical Society.

ROBERT L. HELLER received the Neil Miner Award; and served as participant, Summer Writing Conference, member, Steering Committee, member, Advisory Board, and director, Earth Science Curriculum Project, American Geological Institute and National Science Foundation; member, Distinguished Lecture Committee, American Association of Petroleum Geologists; consultant, Regional America Series, Time-Life, Inc.; consultant, National Association on Standard Medical Vocabulary; member, Evaluation Panel, participant, Curriculum Study Advisory Conference, and chairman, Academic Year Institute Directors Meeting, National Science Foundation; and participant, Junior High School Conference, American Association for the Advancement of Science.

PERSHING B. HOFSLUND received a fellowship from the Academy of Zoology; and served as secretary, Wilson Ornithological Society; and local chairman, Annual Meeting, American Ornithologists Union.

DONALD H. JACKSON served as member, Education Committee, and president, American Society of Civil Engineers; and conference member, Royal Astronomical Society of Canada.

JOHN L. KROENING served as participant, International Ozone Symposium, World Meteorology Organization (Germany and Switzerland).

BLANCHARD O. KROGSTAD served as member, Regional Council, American Institute of Biological Science and National Academy of Science.

PAUL H. MONSON served as participant, Academic Year Institute, National Science Foundation and Brown University.

JAMES C. NICHOL served as chairman, Lake Superior Section, American Chemical Society; and visiting professor, University of Wisconsin.

RICHARD W. OJAKANGAS served as codirector, In-Service Institute of Secondary Science Teachers, Minnesota Academy of Science.

LARRY C. THOMPSON served as chairman, Lake Superior Section, and participant, Symposium on Rare Earths, American Chemical Society; and visiting scientist, Minnesota Academy of Science.

LARRY L. TIESZEN received a fellowship from the Kettering Foundation and the Great Lakes Colleges Association.

LEROY E. WARREN served as arrangement director, Regional Science Fair, Minnesota Junior Academy of Science.

Division of Social Science

WALTER L. BAEUMLER served as member, Shipboard Program Planning Committee, Council on Student Travel.

JOHN W. BOYER, JR., served as faculty member, Iron Range Labor Assembly Conference, Labor Education Service and University of Minnesota; faculty member, A.F.L.-C.I.O. Teaching Methods Seminar (Michigan State University); faculty member, Annual Steelworkers Summer Institute, United Steel Workers Association and University of Minnesota.

ROBERT E. CURTIS served as member, Education Committee, Minnesota Society of Certified Public Accountants.

JOHN A. DETTMANN served as vice-president, Minnesota Economics Association; and member, Executive Board, North Central Business Education Association.

M. HARRY LEASE, JR., served as panel member, Reapportionment in Minnesota Committee, Minnesota Academy of Science; and member, Advisory Committee, Governor's Committee on Reapportionment.

RICHARD A. MORRIS served as member, Panel on DeGaulle and France, State Department.

RICHARD O. SIELAFF served as chairman, United Business Education Association.

FRANCES E. SKINNER served as committee member, National Association of Social Workers; member, Board Institute Committee, Duluth Welfare Council; secretary, Fair Employment and Housing Practices Committee, City of Duluth; and chairman, Undergraduate Program Committee, Annual Meeting, Council on Social Work Education.

FRANK L. VINCENT served as president, Northern Minnesota Psychology Association.

FREDERICK T. WITZIG served as director, Institute in Geography, National Defense Education Act.

College of Education

Administration

STANLEY B. KEGLER served as vice-chairman, Advisory Committee on Language Arts and Related Humanities, and member, Advisory Committee on Elementary Education, State Board of Education; director, Minnesota Curriculum Development Center, and executive director, Upper Midwest Region Educational Laboratory, U.S. Office of Education; chairman, Resolutions Committee, member, Research Committee, and director-at-large, Board of Directors, National Council of Teachers of English; and member, Executive Committee, Annual English Education Conference.

ROBERT J. KELLER served as chairman, Education Research Panel, National Talent Study; chairman, Publications and Public Information Committee, accrediting commissioner, Minnesota State Committee, member, Colleges and Universities Commission, member, Specialists and Doctors Degree Commission, chairman, Review Visiting Teams (Loyola University and Oklahoma State University), member, Post-Baccalaureate Education Subcommittee, Liaison Committee, and panel chairman, Fifth and Sixth Year Graduate Programs, North Central Association; member, Study Commission (Israel), American Association of Colleges for Teacher Education; and consultant, Agricultural Teacher Education Project (Brazil), Ford Foundation.

Department of Agricultural Education

ROBERT P. MARVIN received an honorary State Farmer Degree from the Future Farmers of America; and served as director, Summer Institute, National Science Foundation; state director, and member, Planning Committee, Rural Education Association Conference (San Diego, Calif.), National Education Association; and consultant, Agricultural Education (El Salvador and Guatemala), U.S. Department of Agriculture.

MIL0 J. PETERSON received a Distinguished Service Award from the American Association of Teacher Education in Agriculture; and an Outstanding Service Award from the American Vocational Association; and served as literary consultant (Iran), Agency for International Development; consultant (Brazil), Ford Foundation; and superintendent, Education Department, Minnesota State Fair.

GORDON I. SWANSON served as member, International Education Committee, National Education Association; member, Education, Manpower, and Economic Growth Commission, presiding officer, Biennial Council, chairman, Past Presidents Advisory Committee, and member, Board of Editorial Consultants, Phi Delta Kappa; member, Advisory Committee (France), United Nations Educational, Scientific, and Cultural Organization; consultant, Research Program, U.S. Office of Education; participant, Research Organization Conference, American Educational Research Association and Phi Delta Kappa; member, Advisory Committee, Youth Opportunity Center, Minneapolis Public Schools; participant, Research Training Seminar, Ohio State University; chairman, International Education Committee, American Vocational Association; participant, Invitational Symposium, National Board of Foreign Scholarships; member, Planning Committee, Education, Manpower, and Economic Growth Symposium, University of Illinois, Phi Delta Kappa, and U.S. Office of Education; and consultant (Brazil), Ford Foundation.

Department of Art Education

CLIFTON A. GAYNE, JR., served as panel member, Convention, National Art Education Association; and jurist, State Competitive Exhibit and Program, Wisconsin State College.

Institute of Child Development

WILLIAM R. CHARLESWORTH served as occupational consultant, *Journal of Child Development*, Society for Research in Child Development; and consultant, Early Learning Program, Time-Life, Inc.; and received National Institutes of Health research grants from the Public Health Service.

WILLARD W. HARTUP served as chairman, Program Committee, Biennial Convention, and member, Constitution Committee, Society for Research in Child Development; member, Review Panel, Project Head Start, Office of Economic Opportunity; and member, Awards Committee, and member, Executive Committee, Division 7, American Psychological Association.

JOHN P. HILL served as symposium chairman, and member, Local Arrangement Committee, Biennial Meeting, Society for Research in Child Development; and symposium chairman, Convention, American Psychological Association.

SALLY J. KILMER served as vice-chairman, Legislation Committee, Midwest Association for Nursery Education; chairman, Standards Committee, Midwest Association for Education of Young Children; and member, Certification Committee, Nursery School Teachers, Minnesota Department of Public Welfare and Minnesota Department of Education.

SHIRLEY G. MOORE served as president and board member, Midwest Association for Education of Young Children; treasurer, National Association for Education of Young Children; consultant, Training Program for Teachers of Emotionally Disturbed Preschoolers, National Institute of Mental Health (University of Michigan); and member, Advisory Committee, Research and Evaluation Division, Project Head Start, Office of Economic Opportunity.

HERBERT L. PICK, JR., received a Career Development Fellowship from the National Institutes of Health.

HAROLD W. STEVENSON served as member, Publications Board, and president, Division 7, American Psychological Association; and chairman, Convention, Learned and Non-Learned Behavior, Social Science Research Council.

MILDRED C. TEMPLIN served as vice-president and chairman, Convention Program Committee, American Speech and Hearing Association.

DOROTHY L. WADE served as delegate, Conference, Midwest Association for Education of Young Children.

Department of Educational Administration

DONALD E. DAVIS served as participant, Systems Analysis, program contributor, and seminar director (University of Iowa and Auburn University), University Council of Educational Administration.

VERNON L. HENDRIX served as committee member, National Conference, Association for Higher Education; council member, Annual Convention, and member, College and University Professors Commission, American Association of Junior Colleges; committee member, Fall Meeting, Association of Minnesota Colleges; consultant, Institute, Moorhead State College; and co-organizer, Task Force, and participant, Career Seminar (University of Buffalo), University Council of Educational Administration.

CLIFFORD P. HOOKER served as member, Board of Directors, and participant, Seminar, University Council for Educational Administration; member, Board of Directors, National Conference, Professors of Educational Administration; and member, Regulations Committee, American Educational Research Association.

VAN D. MUELLER served as member, Educational Task Force, Minnesota Mental Retardation Planning Council; executive secretary, Planning Committee, School Study Council Association; project director, Data Processing Planning, U.S. Office of Education; financial officer, Cooperative School Rehabilitation Center, Vocational Rehabilitation Association; and executive secretary, Educational Research and Development Council of the Twin Cities Metropolitan Area, Inc.

NEAL C. NICKERSON, JR., served as president, Phi Delta Kappa; participant, Conference (Evanston, Ill.), participant, National Convention, and participant, Summer Workshop, National Association of Secondary School Principals; member, Board Meetings, chairman, Winter Workshop, and director, Principals Workshop, Minnesota Association of Secondary School Principals; member, Administration Commission, director, Principals Workshop, and director, Computer Study (Memphis, Tenn.), Educational Research and Development Council; participant, Convention, Minnesota Education Association; seminars participant (University of Iowa and University of Arkansas), and participant, Task Force, University Council for Educational Administration; and workshop director, Minnesota Elementary School Principals Association.

DOUGLAS R. PIERCE served as conference participant, University Council for Educational Administration; and cochairman, Interest Group, National Conference, Professors of Educational Administration.

SAMUEL H. POPPER served as consultant, Board of Directors, and participant, Annual Seminar, Minnesota Chapter, National School Public Relations Association; participant, Review Committee on Best Lecture, participant, Task Force, In-Service Seminar for Superintendents, member, Task Force, Consulting Panel, Preparation of Urban School Administrators, University Council for Educational Administration; and consultant, Advisory Panel, U.S. Department of Education.

Department of Educational Psychology

DOUGLAS H. ANDERSON served as member, Advisory Committee, Educational Research and Development Council of the Twin Cities Metropolitan Area, Inc.

DONALD H. BLOCHER served as chairman, Minnesota Counselors Association; chairman, Training Committee, and consultant, Hospital Counselors Psychiatric Training Program, Veterans Administration Hospital; member, Executive Council, program chairman, Convention, and chairman, Research Committee, Association of Counselor Educators and Supervisors; and program chairman, Convention, American Personnel and Guidance Association.

RUSSELL W. BURRIS served as member, Program Committee, and session chairman, Annual Convention, Division 15, American Psychological Association; and consultant, Site Evaluation, Language Division, and participant and

consultant, Invitational Conference, Higher Education Division, U.S. Office of Education.

RAYMOND O. COLLIER received a research project award from the Office of Education Cooperative Research Board; and a fellowship from the National Institute of Mental Health; and served as member, Editorial Board, *Encyclopedia of Educational Research*, member, Recruitment and Training of Research Workers Committee, member, Writings in Educational Research Committee, and program chairman, Measurement and Research Methodology Division, American Educational Research Association.

PAUL E. JOHNSON served as fellow, and member, Conference (Stanford University), Learning and the Educational Process, Social Science Research Council.

DONALD G. MACEACHERN served as program participant, Convention, American Educational Research Association; program participant, Seminar on Research in Vocational Education, U.S. Office of Education; consultant, St. Cloud Veterans Administration Hospital; and member, Language Camps Council, Concordia College (Moorhead).

JACK C. MERWIN served as member, Educational Advisory Committee on Guidance, Counseling, and Testing, and subcommittee chairman, Minnesota State Department; member, Continuing Study of Higher Education Committee, Association of Minnesota Colleges; member, Editorial Board, *Personnel and Guidance Journal*; chairman, Research Paper Committee, Annual Conference, American Personnel and Guidance Association; and staff director, Exploratory Committee, Assessment of Progress in Education, Carnegie Corporation.

DANIEL C. NEALE served as member, Recorded Episodes for Teacher Education Committee. Committee for Institutional Cooperation; and evaluator, Brooklyn Center High School, North Central Association.

CLYDE A. PARKER served as member, Monograph Commission, chairman, Commission 12, and member, Editorial Board, American College Personnel Association; member, Ad Hoc Committee, Student Personnel Work, Committee for Institutional Cooperation; committee member, American Personnel and Guidance Association; and representative, Council of Student Personnel Association.

W. WESLEY TENNYSON received a service award from WCCO Radio and Television; and served as member, Executive Council, American Personnel and Guidance Association; president, Minnesota Association of Counselor Educators and Supervisors; member, Guidance Advisory Committee, and surveyor, Guidance in Area Vocational and Technical Schools, Minnesota Department of Education; member, Film Standards Committee, member, Commission on Occupational Curriculum, chairman, Invitational Conference, Career Development and the Curriculum, and president, National Vocational Guidance Association; vocational consultant, Social Security Administration, and representative and program participant, Vocational Education Conference, Department of Health, Education, and Welfare; and consultant, Twin Cities Occupational Skills Survey, Minnesota Department of Employment Security.

ROGER E. WILK received a Distinguished Service Award from Kansas State University; and a Service Award from the Student Personnel Association for Teacher Education; and served as member, Editorial Board, *Journal*, committee chairman, Conference Program, Student Personnel Association for Teacher Education; member, Recruitment and Induction Committee, National Committee on Teacher Education Professional Standards; and field evaluator, Research Program, U.S. Office of Education.

Department of Elementary Education

NAOMI C. CHASE served as chairman, English Advisory Committee, member, Elementary Education Advisory Committee, and member, Speech and Theatre Advisory Committee, State of Minnesota; member, Program Com-

mittee, Carnegie Conference, and director, National Council for Teachers of English; and planning consultant, Creative Drama Institute, U.S. Office of Education.

JAMES R. CURTIN served as president, Association for Evaluation of Elementary Schools; consultant, Evaluation of Elementary Education Programs, Minnesota Department of Education; and consultant, School Survey (Brentwood, Mo.), Bureau of Field Studies.

ROBERT DYKSTRA served as delegate, District Conference, Phi Delta Kappa; associate director and director, Cooperative Research Program in First Grade Reading Institute, and associate director, Conference, Directors of First Grade Reading Projects, U.S. Office of Education; member, Abstracts and Information Retrieval Committee, member, Committee to Evaluate National Defense Education Act Reading Institutes, and chairman, International Reading Association; and member, Visiting Accreditation Committee (Northwestern College).

CARL V. GOOSSEN served as committee chairman, Minnesota Elementary Principals Association; and consultant, Board of Directors, Governor's Conference on Conservation Education.

EVERETT T. KEACH, JR., served as consultant in social studies, Association for Supervision and Curriculum Development; staff member, Project Social Studies; and consultant, Teacher Training Proposals, U.S. Office of Education.

R. NORINE ODLAND served as associate chairman, College Teaching, and member, Steering Committee, Evaluation of Literature Appreciation, National Council of Teachers of English.

VINCENT R. ROGERS received a grant from the U.S. Office of Education; a fellowship in international education from Kappa Delta Pi; and a Senior Research Fulbright Fellowship; and served as member, Advisory Board on Social Education, and member, Supplement in Elementary Education Advisory Board, National Council for Social Studies; editorial advisor, Phi Delta Kappa; and visiting scholar, University of London.

Department of Foundations of Education

AYERS BAGLEY served as representative, Conference Planning Committee, Teacher Education in Intergroup Relations, Governor's Human Rights Commission; and president, Regional Philosophy of Education Society.

Department of Home Economics Education

MARJORIE M. BROWN served as workshop leader, Home Economics Division, Canadian Learned Society; and consultant, State Home Economics Teachers, North Carolina Department of Education.

ROXANA R. FORD served as president, Pi Lambda Theta; leader, Teachers in Adult Homemaking Education Conference, member, Advisory Committee, State Conference, Minnesota Department of Education; member, Working Conference, Implications of 1963 Legislation, U.S. Office of Education and Minnesota Department of Education; participant, Personnel Development Conference, Cooperative Extension Service; and participant, National Convention, and presiding officer, Research Seminar, American Vocational Association.

ARDELL H. WANTOCH served as treasurer, Pi Lambda Theta.

Department of Music Education

ROBERT L. BORG served as president, Pi Kappa Lambda; adjudicator, District and State Music Contests (Minnesota and Wisconsin); chairman, Elementary Music Education Workshop; secretary, Eta Chapter, and delegate, Thirtieth Biennial Conference, Phi Delta Kappa; general music clinician, Minnesota Music Education Association; and evaluator, Curriculum in Music and

Art, Osseo and New Ulm Public Schools; and was named a life member of the National Education Association.

CHARLES L. BYRNE served as district chairman, Music Contest, and district chairman, All-State Choir, Minnesota Music Education Association.

ARNOLD F. CASWELL served as provisional governor, National Conference, Phi Mu Alpha Sinfonia; state chairman, and representative, National Conference, American Choral Directors Association; clinician, Choral Festivals, University of South Dakota and Deadwood Falls School; and representative, Program Instructors Conference, University of Wisconsin.

RICHARD E. SIEBER served as adjudicator, Wisconsin State Music Festival; and adjudicator, American Congress of Strings Awards.

Department of Physical Education for Men

JOHN F. ALEXANDER was named a fellow of the American College of Sports Media; and served as consultant, Physical Fitness Committee, Minneapolis Young Men's Christian Association; member, Governor's Committee on Physical Fitness; consultant, Physical Activities, National Health Examination Survey; consultant, Physical Activities and Coronary Heart Diseases Study, Laboratory of Physiological Hygiene; organizer, Work Capacity Test, Lunex II Project, Honeywell Systems and Research Division; sponsor, Exercise Physiology Workshop, St. Olaf College; and administrator and developer, Officer Candidates Fitness Tests, Minnesota Highway Patrol.

BRUCE D. ANDERSON served as panel member, Intramural Directors Conference, Big Ten; and instructor and demonstrator, Sports Clinic, Minnesota Golf Coaches.

JACKSON M. ANDERSON served as secretary-treasurer, Federation of National Professional Organization for Recreation; aquatic chairman, Council of National Cooperatives; resource consultant, Natural Beauty, President of the United States; and member, Executive Committee, National Areas and Facilities Congress, and member, Planning Committee, National Recreation Research Conference, American Association for Health, Physical Education, and Recreation.

PATRICK J. BIRD served as participant, Central District and National Meetings, American Association for Health, Physical Education, and Recreation; and participant, Meetings, College Physical Education Association.

LESTER H. BOLSTAD served as member, Education Committee, Professional Golfers Association; program participant, Coaches Clinic (River Falls, Wis.); and director, Golf Safari (Europe and Great Britain).

FREDERICK M. CHAPMAN served as member, Governor's Advisory Council on Physical Fitness.

RICHARD J. DONNELLY served as recorder, American Association for Health, Physical Education, and Recreation; member, Research Committee, Phi Epsilon Kappa; member, Advisory Committee on Health and Physical Education, Minnesota Board of Education; member, Advisory Committee, Governor's Council on Physical Fitness; publicity chairman, Conference, and president-elect, College Physical Education Association; secretary-treasurer, District Physical Education Conference, Central District Association for Health, Physical Education, and Recreation; and president, National College Physical Education Association for Men.

H. ROBERT GILES served as planning advisor, Health and Physical Education Committee, Minneapolis Jewish Community Center; advisor, Outdoor Facilities Committee, St. Paul Jewish Community Center; advisor, Park Planning, Brainerd Park Department; and examiner, Minneapolis Civil Service Board.

ROBERT E. McADAM served as vice-president, Physical Education Section, Minnesota Association for Health, Physical Education, and Recreation; co-

ordinator, Teacher Education Project, North Central Association; and member, Research Committee, National Industrial Recreation Association.

G. ROBERT MOWERSON served as chairman, All-American Swimming Committee, Swimming Coaches Association, National Collegiate Athletic Association; and president, Big Ten Swimming Coaches Association.

CLARENCE E. MUELLER served as member, Executive Board, Sigma Delta Psi; committee member, College Physical Education Association; manager, State Wrestling Tournament, Minnesota High School League; and instructor, Intramural Sports Clinics (Europe), U.S. Department of the Army.

MAURICE E. OSTRANDER received an Outstanding Service Award from the Minneapolis Association for Retarded Children; and served as member, Executive Board, Minnesota Camping Association; and member, Planning Committee, Recreation Leaders Laboratory, Northland Recreation Laboratory.

RALPH A. PIPER served as member, Research Committee, National Association of Gymnastics Coaches; member, International Relations Committee, participant, National Gymnastics Clinic, and participant, National Gymnastics Coaches Congress, U.S. Gymnastics Federation; member, Folk Dance Commission, and participant, International Folk Music Contest (Ghana), International Folk Music Council; member, Advisory Committee on Standards for Gym Equipment, American Sports Association and International Sports Association; chairman, Dance Forms Section, National Convention, American Association for Health, Physical Education, and Recreation; and participant, International Sports Seminar (Budapest); and received a travel grant to Iraq from the State Department.

DEANE E. RICHARDSON served as chairman-elect, Organization and Administration Section, American Association for Health, Physical Education, and Recreation; manager, Annual Conference, National College Physical Education Association for Men; and member, Health and Physical Education Advisory Commission, State Board of Education.

DONALD C. SAZIMA served as advisor, International Congress for Health, Physical Education, and Recreation (Ethiopia).

JOHN H. SCHULTZ served as editor, Minnesota Recreation Association; and member, Leisure Time Committee, Governor's Council on Aging.

ROBERT C. SERFASS served as participant, Intramural Meeting, Western Conference, National Intramural Association; member, Registration Committee, National College Physical Education Association for Men; and participant, Minnesota Convention, and participant, National Convention, American Association for Health, Physical Education, and Recreation.

Department of Physical Education for Women

NANCY E. CATO served as participant, Seminar on Physical Education for the Mentally Retarded, Kennedy Foundation and American Association for Health, Physical Education, and Recreation.

BELMAR S. GUNDERSON served as chairman, Badminton Section, and chairman, Tennis Section, Minnesota Division of Girls' and Women's Sports; chairman, Minnesota Board of Women Officials; member, Field Hockey Unit, Minnesota State Curriculum Revision Committee; president and umpire chairman, Minnesota Field Hockey Club; conference participant, and member, Research Committee, Central Association for Physical Education for College Women; member, Joint Committee, and chairman of representatives, American Association for Health, Physical Education, and Recreation, and U.S. Lawn Tennis Association; and member, Committee on Competition, Minnesota College Women.

HELEN P. HAUPTFUHRER served as member, International Relations Committee, Central Association for Health, Physical Education, and Recreation; and recorder, Fall Conference, Central Association, and chairman, State Membership, National Association of Physical Education for College Women.

ELOISE M. JAEGER served as member, Professional Preparation Panel, American Association for Health, Physical Education, and Recreation.

MARY B. LAMPE served as advisor, Midwestern Collegiate Golf Tournament.

JERALYN J. PLACK served as participant, Fall Conference, Minnesota Association for College Teachers of Physical Education; representative, Health Workshop, State of Minnesota; program participant, Tri-State Research Convention (State University of Iowa); representative, Central District Convention, and representative, National Convention, American Association for Health, Physical Education, and Recreation; and program participant, Conference, and representative, Colloquium on Motor Learning, Central Association of Physical Education for College Women.

JACQUELINE M. SCHICK served as representative, Fall Conference, Minnesota Association for College Teachers of Physical Education; program participant, Tri-State Research Convention (State University of Iowa); representative, Central District Convention, and representative, National Convention, American Association for Health, Physical Education, and Recreation; and representative, Colloquium on Motor Learning, Central Association of Physical Education for College Women.

ETHEL O. SCOTT served as member, Legislative Committee, Hospital Section, American Recreation Society; and member, Civil Defense Committee, member, Legislative Committee, and member, Personnel Standards Committee, North Carolina Recreation Society.

HELEN M. SLOCUM was named a fellow of the American Public Health Association; and served as member, Recognition Committee, chairman, Structure and Functions Committee, and vice-president and chairman, Health Education Division, American Association for Health, Physical Education, and Recreation; member, Joint Committee, American Association for Health, Physical Education, and Recreation and American School Health Association; member, Executive Committee, Minnesota Public Health Association; member, Education Advisory Committee, Minnesota Department of Public Welfare; member, Preparation and Certification Committee, Evaluation of Health Educators, American Public Health Association; and member, Research Abstract Committee, American College Health Association.

LELA J. STONER received an Outstanding Research Award from Delta Psi Kappa; and served as research chairman, Central Association of Physical Education for College Women; member, Research Committee, National Association of Physical Education for College Women; and research chairman, Minnesota Association for Health, Physical Education, and Recreation.

FLORENCE TENNEY served as assistant instructor, Archery Workshop, Outdoor Education Project, American Association for Health, Physical Education, and Recreation.

MARJORIE U. WILSON served as judge, Research Award Committee, National Delta Psi Kappa; state test administrator, member, Planning Committee, Fall Conference, and member, Physical Fitness Committee, Governor's Council on Children and Youth; member, Section Guide Revision Committee, Child Adapted Physical Education, State Department of Education; member, Advisory Committee, *Research Quarterly*, member, Nominating Committee, Research Section, member, Membership Committee, Research Council, and member, Advisory Committee, Fitness Section, American Association for Health, Physical Education, and Recreation; and president, Legislative Board, president, Executive Board, Central District, member, Site Committee, and chairman, Nominating Committee, National Association of Physical Education for College Women.

Department of Secondary Education and Business Education

ROBERT W. BEERY served as consultant, Social Studies Curriculum Revision Group, Burnsville Public Schools; and discussant, Fall Convention, Minnesota Council for Social Studies.

CLARENCE H. BOECK served as vice-president and chairman, Education Section, fellow, and commissioner, American Association for the Advancement of Science; member, Board of Directors, Central Association of Science and Mathematics Teachers; member, Executive Committee, president, and section chairman, National Convention, National Association for Research in Science Teaching; chairman, Publications Committee, Minnesota Academy of Science; member, Teacher Education Advisory Committee, State Board of Education; consultant, Teacher Preparation, Earth Science Curriculum Project; committee member, Certification of Junior High School Teachers, Minnesota Department of Education; conference participant, Centers for Science Education, Ohio State University; and member, Educational Advisory Board, *Minneapolis Tribune*.

GERALD R. FIRTH served as vice-president, Minnesota Association, and group resource consultant, National Conference, Association for Supervision and Curriculum Development; member, Planning Committee, Conference, Minnesota Core Teachers Association; member, Reviewing Committee, Annual Conference (Chicago, Ill.), and chairman, Accreditation Visiting Teams, North Central Association; chairman, Accreditation Visiting Teams, Senate Institutional Relationships Committee, State of Minnesota; and member, Curriculum and Instruction Committee, Educational Research and Development Council of the Twin City Metropolitan Area, Inc.

WILLIAM E. GARDNER served as executive secretary, Minnesota Council for Social Studies; member, Social Studies Advisory Board, State Department of Education; research director and coordinator, Project Social Studies, U.S. Office of Education; and program participant, National Council for Social Studies.

EUGENE D. GENNARO served as treasurer, Phi Delta Kappa; member, School Evaluation Committee, North Central Association; member, Conference Planning Committee, Minnesota Association for Conservation Education; and member, Consultative Council, Minneapolis School Board.

LARRY L. HATFIELD served as member, Board of Directors, chairman, Professional Studies Committee, member, Future Teachers Committee, and member, Planning Committee, Spring Conference, Minnesota Council of Teachers of Mathematics.

DONOVAN A. JOHNSON served as council member, Conference Board of Mathematical Sciences; chairman, Yearbook Committee, member, Educational Media Committee, member, Executive Committee, and participant, Conference on Media, National Council of Teachers of Mathematics; and chairman, Mathematics Advisory Committee, Minnesota Department of Education.

MARY K. KLAURENS served as president, Delta Pi Epsilon; editor, Minnesota Vocational Association; member, National Convention Committee, American Vocational Association; consultant, Teacher Education Conference, U.S. Office of Education; participant, Conference on Guidance in Vocational Education, National Vocational Guidance Association and Ohio Center; participant, Research in Vocational Education Seminar, American Vocational Association and U.S. Office of Education.

DALE L. LANGE served as member, Executive Board, and conference participant, Minnesota Council of Foreign Language Teachers; member, Planning Committee, Fall Meeting, Minnesota Education Association and Minnesota Council of Foreign Language Teachers; and codirector, National Defense Education Act Institute, College and University Trainers of Prospective Modern Language Teachers, U.S. Office of Education and University of Minnesota.

WARREN G. MEYER was nominated for the Standard Oil Foundation Undergraduate Education Award; and served as participant, Research in Vocational Education Seminar; director, Curriculum Guide Project, program participant, Region Six Conference on Vocational Education, and research consultant, U.S. Office of Education; chairman, District Education Research Committee, member, National Research Committee, and president-elect, District Teacher Education Council, American Vocational Association; member, Teacher Education Curriculum Committee, University of Massachusetts; conference partici-

pant, State Planning for Vocational Education, member, Business Teachers Education Committee, consultant, Advisory Council, Minnesota Diversified Vocation Clubs, and participant, State Coordinators Conference, Minnesota Department of Education; member, Long Range Planning Committee, member, Teacher Education Committee, and chairman, Convention Program Committee, Minnesota Vocational Association; planning participant, National Leadership Conference, Distributive Education Clubs of America; and member, Distributive Education Advisory Committee, Center for Vocational and Technical Education, Ohio State University.

DUANE C. SCRIBNER served as president, English Section, Minnesota Education Association.

Department of Special Education

BRUCE E. BALOW received a Distinguished Service to Education Award from the Community Schools Education Association (Hayward, Wis.); and served as committee chairman and recorder, Invitational Conference on Professional Standards, Council for Exceptional Children; member, Remedial Reading Subcommittee, and member, Advisory Committee on Handicapped and Exceptional Children, State of Minnesota; consultant, Neurological Diseases Collaboration Project, consultant, Perinatal Research Branch, and chairman, Invitational Research Conference, National Institute of Neurological Diseases and Blindness; consultant, Review Panel on Research Grant Applications in Education of Emotionally Disturbed, and consultant, First Grade Reading Research Project, U.S. Office of Education; and member, Curriculum Coordinating Council, Minneapolis Public Schools.

JAN D. DUKER served as president and board member, Minnesota Schools Psychological Association; member, Executive Council, and chairman, Program Committee, Minnesota Psychological Association; member, Highway Safety Study Group, Minnesota Highway Department; participant, Training in School Psychology Conference, National Institute of Mental Health; member, Membership Committee, and member, Education and Training Committee, Division 16, American Psychological Association; member, Advisory Committee on Child Development Training, St. Mary's Junior College; and chairman, School Psychologists Certification Committee, and member, Guidance and Testing Committee, State Department of Education.

DEWEY G. FORCE, JR., served as chairman, Program Committee, and chairman, Crippled Children Section, National Convention, Council for Exceptional Children; participant, Research Project, Minnesota Epilepsy League; and member, Staffing Task Force, Governor's Council on Mental Retardation.

MARIAN D. HALL served as consulting psychologist, Minneapolis Public Schools.

FRANK B. WILDERSON served as program chairman, Conference, member, Executive Committee, and president, Council for Children with Behavioral Disorders; program chairman, Conference, Council for Exceptional Children; and consultant, University Programs Panel (Washington, D.C.), and conference participant, U.S. Office of Education.

Student Personnel Office

WILLIAM H. EDSON served as chairman, Elections Committee, and president, Student Personnel Association for Teacher Education; and member, Elections Committee, member, Executive Council, and member, Standards Committee, Preparation of Student Personnel Workers, American Personnel and Guidance Association.

CHARLES J. GLOTZBACH served as member, Professional Preparation and Standards Committee, Student Personnel Association for Teacher Education; member, Joint Committee, Role and Preparation of Counselors and Personnel in Higher Education, American Personnel and Guidance Association; and member, Convention Planning Liaison Committee, American Personnel and

Guidance Association and Student Personnel Association for Teacher Education.

Department of Student Teaching

GORDON M. MORK served as member, Visiting Team (University of Chicago and University of Iowa), National Council for Accreditation of Teacher Education; and participant, National Teacher Education Symposium, Phi Delta Kappa.

Department of Trade and Industrial Education

WILLIAM A. KAVANAUGH served as principal investigator, Training Program Development, Minnesota Vocational Department and U.S. Office of Education; consultant, Minneapolis Electronics, Minneapolis Board of Education; chairman, Courtesy Committee, Convention, American Vocational Association; participant, Federal Aid for Industrial Arts Conference, American Industrial Arts Association and National Education Association; electrician examiner, Minnesota State Board of Electricity; institute director, Proposal for North Dakota Education Association, U.S. Office of Education; and consultant, Science Research Association.

STEPHEN J. MILETICH served as vice-president and president, Phi Delta Kappa; leader, State Field Instructors Conference; member, State Advisory Committee, Electronics Curriculum Conference; leader, Workshop, Rural Electrification Association and Municipal Utilities Association; and consultant, Quad State Executive Committee, Safety Conference, Rural Electrification Association.

JEROME MOSS, JR., served as member, Teacher Education Committee, Minnesota Vocational Association; chairman, Graduate Studies in Industrial Arts Teacher Education, American Council of Industrial Arts Teacher Education; codirector, Minnesota Occupational Education Research Coordinators Unit, U.S. Office of Education; participant, Guidance Division, and program chairman, Trade Industry Division, American Vocational Association; associate editor, *Journal of Industrial Teacher Education*, National Association of Industrial Teacher Education; member, Framework for Research in Vocational and Technological Education Advisory Committee, Pennsylvania State University; member, Apprenticeship Evaluation Project Advisory Committee, Purdue University; participant, Invitational Conference on Vocational Development Implications for Curriculum, U.S. Office of Education and National Vocational Guidance Association; and program chairman, Convention, American Council for Industrial Arts Teacher Education and American Industrial Arts Association.

HOWARD F. NELSON served as vice-president, program chairman, and president, American Council for Industrial Arts Teacher Education; chairman, Third National Seminar on Research in Vocational Education, cochairman, Minnesota Research Coordinators Unit, and director, Research Training Summer Institute, U.S. Office of Education; and member, Advisory Committee, Red Wing Training School.

DAVID J. PUCEL served as participant, National Institute for Research in Vocational Education (Georgia and New York), U.S. Office of Education; and member, North Central Evaluation Committee (Robbinsdale High School).

University High School

THOMAS D. BACIG served as lecture recorder, Conference on English Education Workshop, National Council of Teachers of English.

JUDITH H. BOGARD served as program participant, Conference on English Education, National Council of Teachers of English (Urbana, Ill.).

WALETA D. HAMERSTON served as secretary, Theta Sigma Phi; and participant, Yearbooks and Newspapers Conference, Minnesota High School Press Association.

THOMAS E. KIEREN served as member, Board of Directors, member, Affiliated Groups Committee, and newsletter editor, Minnesota Council for Teachers of Mathematics; presiding officer, Fall Conference, Minnesota Council for Teachers of Mathematics, Minnesota Education Association, and Minnesota Federation of Teachers; and member, Mathematics Curriculum Guide Committee, State of Minnesota.

KENNETH F. METZ served as research assistant, National Health Survey, National Institutes of Health.

FRANK C. PRATZNER served as member, Research Committee, American Vocational Association.

ROBERT R. RANDEMAN served as newsletter editor, Minnesota Council of Teachers of English; editor, *Report*, and executive secretary, Minnesota Industrial Arts Association; member, Yearbook Planning Committee, and program cochairman, Convention, American Council for Industrial Arts Teacher Education; consultant, Minneapolis Youth Development Project; member, Vocational Education Subcommittee, Education Research and Development Council; consultant, Third National Seminar on Research in Vocational Education, U.S. Office of Education; and member, Evaluation Team, North Central Association of Secondary Schools and Colleges and University of Minnesota Bureau of Field Studies.

ROBERT W. SURPLUS served as judge, Wisconsin State Music Contest.

EDITH WEST served as chairman, Social Studies Advisory Committee, Minnesota Board of Education; and director, Project Social Studies Curriculum Center, U.S. Office of Education.

Extension Division

HAROLD J. ALFORD served as chairman, Board of Directors, School for Social Development.

AUSTIN G. ANDERSON served as secretary, Association of Continuing Legal Education Administrators.

ELIZABETH L. CLESS served as state university representative, British-American Women's Education Conference, Rockefeller Foundation; consultant, Special Consultation Committee, University of Winnipeg; consultant, Meeting on Continuing Education for Women, University of Georgia; participant, Women's Higher Education Conference (Bellagio, Italy), Rockefeller Foundation and Carnegie Corporation; and consultant, Continuing Education for Women, Claremont College.

MERRILL K. CRAGUN served as vice-president, Upper Midwest Hospitality, Inc.

HULDAH W. CURL served as member, Arts and Humanities Committee, National University Extension Association (University of New Mexico).

ELEANOR S. FENTON served as official liaison with Association for Higher Education, member, Inter-Associational Relations Committee, and member, Awards Committee, National University Extension Association.

SHELDON GOLDSTEIN served as applications review consultant, Higher Education Act of 1965, Minnesota Liaison and Facilities Commission for Higher Education; and chairman, Educational Television Committee, State Institutions of Higher Learning.

DONALD C. HODGES served as mayor, Village of Mounds View, Minnesota.

CLARA KANUN served as editor, American Association of University Professors.

LEAH M. LEWIS served as participant, National Interior Design Educators Council, Parsons School of Design; and member, Curriculum Committee, and participant, Conference, National Association of Interior Decorators.

BURTON PAULU received a research grant from the Ford Foundation.

ELIZABETH F. PETERSON served as director, Discussion Leadership Institute; and director, Sex Education Institute.

ORVILLE C. PETERSON served as executive secretary, League of Minnesota Municipalities; member, Executive Committee, Minnesota Safety Council; and member, Civil Defense Advisory Committee, Governor of Minnesota.

WILLIAM J. PRICE served as counselor, Minnesota Academy of Science; and was named a life member of the National Education Association.

WILLIAM C. ROGERS served as consultant, White House Education Conference, President of the United States; and secretary-treasurer, National University Extension Association.

BEVERLY SNYDER served as executive secretary, North Central Theatre Association Convention; moderator, Guthrie Tour, Minnesota Theatre Company and General Extension Division; designer, *A Streetcar Named Desire*, Theatre in the Round; member, Board of Directors, Moppet Players; and member, Educational Advisory Board, Tyrone Guthrie Theatre.

E. EUGENE SYLVESTRE, JR., served as director, Minneapolis Civic Orchestra.

WILLARD L. THOMPSON served as member, Finance Committee, member, Publications Committee, and member, Constitutional Revision Committee, National University Extension Association; secretary, Executive Committee, Extension Commission, National Association of State Universities and Land-Grant Colleges; chairman, generalist, and examiner, Accreditation and Review Visits, North Central Association of Colleges and Secondary Schools; and member, Upper Midwest Research and Development Council, Wingspread Conference, Johnson Foundation.

DONALD Z. WOODS served as chairman, Division of Evening Colleges and Class Extension, and member, Board of Directors, Educational Agriculture Extension Service Workers, National University Extension Association.

General College

FRED M. AMRAM served as judge, Region 4 Debate Contest, Minnesota State High School League.

WAYNE J. ANDERSON served as member, Executive Committee, Minnesota Council on Family Life; advisor, Mormon Fellowship; consultant, Strengthening Family Life Committee, Governor's Advisory Council on Children and Youth; and member, International Advisory Board, Parents Without Partners.

HENRY BOROW served as fellow, American Psychological Association; life member, American Personnel and Guidance Association; diplomate, American Board of Examiners in Psychiatry; symposium chairman, Annual Convention, American Educational Research Association; consultant, Counselor Preparatory Unit, and consultant, Bureau of Research, U.S. Office of Education; and member, Board of Trustees, National Vocational Guidance Association.

JEROME E. GATES served as member, Restorative Art Committee, National Association of Colleges of Mortuary Science.

PAUL S. HAGEN served as judge, Speech Contests, District 14 and Anoka 4-H Club.

FORREST J. HARRIS served as consultant, Historical Promotion, General Mills Corporation.

J. MERLE HARRIS served as field trip leader, Fall Meeting, Minnesota Academy of Science; and consultant, State Park Managers Training Program, National Park Service.

THEODORE D. HARRIS served as member, Board of Editors, *Negro Historical Bulletin*, Association for the Study of Negro Life and History; and chairman, Program Committee, Annual Joint Meeting, Western Historical Association and Association for State and Local History.

LESLIE A. KING served as president, and member, Board of Trustees, Twin Cities Vocational Guidance Association.

G. GORDON KINGSLEY served as special program chairman, Convention, American Personnel and Guidance Association.

PATRICK A. KROLL served as corresponding secretary, Delta Pi Epsilon.

ALEX KURAK served as consultant, Efficient Reading, Northern States Power Company.

ROGER A. LARSON served as reviewer, Research in Distributive Education, Center for Vocational and Technical Education, Ohio State University.

GEORGE H. MCCUNE received the Education Award from the Minnesota State Association; and served as consultant, Higher Education Workshop, North Central Association; subcommittee member, Audio-Visual Education Advisory Board, Minnesota Department of Education; judge, Minnesota State Fair; member, Research Committee, Division of Audio-Visual Instructors, National Education Association; and education consultant, Ottawa College.

NORMAN W. MOEN served as abstractor, *British History Since 1795*, American Bibliographical Center (Santa Barbara, Calif.); and consulting editor, Augsburg Publishing House.

OLIVER S. OWEN received a research fellowship from Cornell University; a research grant from the American Museum of Natural History; and a research grant from the Public Health Service.

MERRILL P. RASSWEILER served as member, Executive Council, American Association for General and Liberal Studies.

LOUIS T. SAFER served as judge, Art Show, Summit School for Girls.

SOLOMON SHAPIRO served as cochairman and faculty member, Behavior Modification Workshop, and president, Twin City Vocational Guidance Association; member, Publications Board, *Journal of Jewish Communal Service*; and president, Minnesota Rehabilitation Counselors Association.

DOROTHY L. SHELDON served as member, Advisory Board, Twin City International Program for Youth Leaders and Social Workers; and member, Governor's Correction and Parole Advisory Committee.

FREDRIC R. STEINHAUSER served as coordinator, National Council for Geographic Education; secretary, Social Studies Advisory Committee, State Department of Education; chairman, Geography Section, Minnesota Academy of Science; chairman, Geography Section, Minnesota Education Association; and member, Military Academy, State of Minnesota.

ERIC N. STOKES served as member, Arts Council, Walker Art Center; and member, Minneapolis Civic Orchestra.

ALFRED L. VAUGHAN served as member, General Education Committee, Association for Higher Education.

MARY L. WYVELL served as alternate, Indian Civilization Summer Institute, Committee on International Exchange of Persons and Conference Board, Associated Research Councils.

Graduate School

Administration

FRANCIS M. BODDY served as member, Board of Directors, National Bureau of Economic Research; member, International Education Committee, Association of Graduate Schools; and project advisor, University of Concepcion, Chile, U.S. Government.

BRYCE CRAWFORD, JR., served as president, Association of Midwest Universities; member, Liaison Committee, Council of Graduate Schools and Association of Graduate Schools; member, Graduate Work Evaluation and Accreditation Committee, Council of Graduate Schools; member, Policies Committee, Association of Graduate Schools; member, Institutional Relations Advisory Committee, National Science Foundation; and chairman, Chemistry Section, and member, Chemistry Survey Committee, National Academy of Sciences; and received a Fulbright Fellowship from the U.S. Government.

Hormel Institute

JACQUES R. CHIPAULT served as member, Instrument Analysis Committee, member, Gas Chromatography Subcommittee, member, Spectroscopy Subcommittee, and member, Methyl Ester Preparation Committee, American Oil Chemistry Society.

KIRSTEN CHRISTIANSEN received a Fulbright Travel Grant from the U.S. Education Foundation.

RALPH T. HOLMAN received the Borden Award from the American Institute of Nutrition; and served as member, Program Planning Committee, member, Journal Committee, chairman, Mass Spectrometry Symposium, chairman, Essential Fatty Acids Symposium, and associate editor, *Lipids*, American Oil Chemistry Society; member, Editorial Board, *Journal of Nutrition*, American Institute of Nutrition; and member, Fats Committee, Food and Nutrition Board.

BENNY JENSEN received a Fulbright Travel Grant from the U.S. Education Foundation.

VAIDYAMATH MAHADEVAN served as chairman, Literary Review Committee, and member, Journal Committee, American Oil Chemistry Society.

HELMUT K. MANGOLD served as chairman, European Atomic Energy Conference (Belgium).

ORVILLE S. PRIVETT received a travel grant to the Seventh International Biochemistry Congress (Tokyo, Japan); and served as member, Educational and Biochemical Methods Committee, American Oil Chemistry Society.

Mayo Graduate School of Medicine

EUGENE ACKERMAN served as member, Epidemiology and Biometry Advisory Committee, National Institutes of Health.

ALEXANDER ALBERT served as member, Research Career Awards Committee, and member, Pituitary Hormone Disorders Committee, National Institutes of Health and Public Health Service.

HOWARD A. ANDERSEN served as chairman, National Program Committee, member, Pulmonary Diseases Committee, and president, Minnesota Chapter, American College of Chest Physicians; chairman, Pulmonary Disease Committee, Minnesota Medical Association; and member, Governor's Air Resources Advisory Commission.

MILTON W. ANDERSON served as associate editor, *Diseases of the Chest*; and member, Electrocardiography Committee, American College of Chest Physicians.

ARCHIE H. BAGGENSTOSS served as secretary, Pathology and Physiology Section, American Medical Association; and counselor, American Association for Study of Diseases of the Liver.

EDWARD A. BANNER served as member, Executive Council, Continental Gynecologic Society.

MAURICE J. BARRY, JR., served as council member, Minnesota Psychiatric Society.

LLOYD G. BARTHOLOMEW served as secretary, Gastroenterology Section, American Medical Association; and president, Southern Minnesota Medical Association.

EDWIN D. BAYRD served as president, Central Clinical Research Club; member, Editorial Staff, *Minnesota Medicine*, Minnesota Medical Association; and chairman, Membership Committee, American Society of Hematology.

OLIVER BEARNS served as chairman, Program Committee, and president-elect, Executive Council, Society of Head and Neck Surgeons; and member, Cancer Committee, American College of Surgeons.

KENNETH G. BERGE served as member, Steering Committee, Cooperative Drug Heart Study, National Heart Institute.

ANTHONY J. BIANCO, JR., served as chairman, Auto Injuries Committee, and delegate, House of Delegates, Minnesota Medical Association.

WILLIAM H. BICKEL served as president, American Academy of Orthopedic Surgeons; and surgical consultant, U.S. Army.

REGINALD G. BICKFORD served as member, Computer Research Study Section, National Institutes of Health.

HARRY F. BISEL served as member, Cancer Training Committee, and consultant, National Cancer Institute; member, Board of Directors, American Cancer Society; and president, American Society of Clinical Oncology.

DAVID A. BOYD, JR., served as member, Psychiatry and Neurology Residency Review Committee, American Medical Association.

ROBERT O. BRANDENBURG served as member, Executive Committee, and chairman, Nominating Committee, American Heart Association; and member, Board of Directors, Minnesota Heart Association.

JOE R. BROWN served as member, Medical Advisory Board, National Multiple Sclerosis Society; member, Editorial Board, American Academy of Neurology; president-elect, Central Neuropsychology Association; and consultant, Veterans Administration.

HOWARD B. BURCHELL served as member, Medical Advisory Heart Council, National Institutes of Health; and editor-in-chief, *Circulation*.

HUGH R. BUTT served as regent, American College of Physicians; chairman, Subspecialty Board of Gastroenterology; and chairman, Board of Scientific Counselors, National Cancer Institute.

JAMES C. CAIN served as member, National Heart Council, National Research Council; president, Minnesota Board of Medical Examiners; and member, National Security Council, American Medical Association.

JOHN A. CALLAHAN served as vice-president, Minnesota Board of Basic Sciences Examiners.

DAVID T. CARR served as member, Board of Directors, National Tuberculosis Association; vice-president, American Thoracic Society; president, Minnesota Thoracic Society; and vice-president, Mississippi Valley Tuberculosis Conference.

HADDON M. CARRER served as council member, Minnesota Medical Association.

EARL T. CARTER served as member, Research Advisory Council, Federal Aviation Agency.

DONALD S. CHILDS, JR., served as member, Medical Uses of Isotopes Committee, Atomic Energy Commission; and member, Board of Trustees, American Board of Radiology.

NORMAN A. CHRISTENSEN served as member, Clinical Cardiovascular Diseases Committee, American College of Chest Physicians.

CHARLES F. CODE served as president, American Gastroenterological Association.

MARK B. COVENTRY served as bulletin editor, American Academy of Orthopedic Surgeons.

CLYDE E. CULP served as member, Board of Trustees, Northwest Proctologic Society.

ORMOND S. CULP served as governor, Minnesota Section, American College of Surgeons; president, North Central Section, American Urological Association; vice-president, Clinical Society of Genito-Urinary Surgeons; vice-president, Pan-American Medical Association; and urologic consultant, U.S. Air Force.

DAVID C. DAHLIN served as chairman, Anatomy and Pathology Council, American Society of Clinical Pathologists.

FREDERIC L. DARLEY served as speech pathology consultant, Audiology and Speech Center, U.S. Army; consultant and site visitor, National Institute of Child Health and Human Development; and director, Board of Examiners, Speech Pathology and Audiology, American Speech and Hearing Association.

WILLIAM H. DEARING served as chairman, Gastroenterology Section, American Medical Association.

DAVID G. DECKER served as member, Board of Directors, and member, Executive Committee, Minnesota Division, American Cancer Society.

GRANT R. DIESSNER served as vice-president, Minnesota Medical Association; member, Medical Economics Committee, Governor's Citizens Council on Aging; and member, Advisory Group, Minnesota Traffic Safety Committee.

MALCOLM B. DOCKERTY served as consultant, Armed Forces Institute of Pathology.

FRANCIS E. DONOGHUE served as member, House of Delegates, Minnesota Medical Association.

JAMES W. DUSHANE served as member, Board of Directors, Minnesota Heart Association.

PETER J. DYCK served as member, Board of Editors, *Minnesota Medicine*.

JOHN A. DYER served as member, Executive Committee, Contact Lens Association of Ophthalmologists.

EARL C. ELKINS served as chairman, American Registry of Physical Therapists; consultant, Physical Medicine, Department of the Army; and secretary-treasurer, American Board for Physical Medicine and Rehabilitation.

FRANKLIN H. ELLIS, JR., served as member, Research Allocations Committee, Minnesota Heart Association.

DONALD J. ERICKSON served as area consultant on Physical Medicine and Rehabilitation, Veterans Administration; and member, Care of Handicapped Children Subcommittee, Minnesota Department of Welfare.

JOHN E. FABER served as member, Executive Committee, American College of Obstetricians and Gynecologists; and president, Minnesota Obstetrics and Gynecology Society.

JOHN F. FAIRBAIRN, II, served as member, Medical Advisory Board, Circulation Council, American Heart Association.

ALBERT FAULCONER, JR., served as anesthesiology consultant, U.S. Army; secretary-treasurer, Advisory Board for Medical Specialty; and director, American Board of Anesthesiology.

DEWARD O. FERRIS served as president, Mayo Foundation Chapter, Sigma Xi.

WARD S. FOWLER served as member, Physiology Training Committee, National Institutes of Health.

CLIFFORD F. GASTINEAU served as member, Editorial Board, *Journal of Diabetes*, and editor, *Forecast*, American Diabetes Association.

JOSEPH E. GERACT served as vice-president, Minnesota Chapter, American College of Chest Physicians.

JOSEPH A. GIBILISCO served as chairman, Dental Research Conference, National Institute of Dental Research; and consultant, Dental Research, U.S. Air Force School of Aviation Medicine.

EMILIO R. GIULIANI served as chairman, Student Scholarships Committee, Minnesota Heart Association.

CLARENCE A. GOOD, JR., served as member, Executive Council, and secretary, American Roentgen Ray Society; and president, American Board of Radiology.

LAURENCE F. GREENE served as consultant, Drugs Council, American Medical Association.

JOHN B. GROSS served as member, Research Committee, American Gastroenterological Association.

MALCOLM M. HARGRAVES served as chairman, State Water Pollution Committee.

LEROY D. HEDGECOCK served as member, Special Advisory Committee on Education of the Deaf, Minnesota Department of Health, Education, and Welfare.

EDWARD D. HENDERSON served as chairman, Program Committee, Clinical Orthopedic Society; associate editor, *Journal of Orthopedics*; civilian consultant, Fifth U.S. Army; and chairman, Athletic Injuries Committee, Minnesota Medical Association.

JOHN W. HENDERSON served as chairman, Midwestern Section, Association for Research in Ophthalmology.

LOWELL L. HENDERSON served as president-elect, American College of Allergists; chairman, Allergy Subspecialty Board, American Board of Internal Medicine; and member, Board of Medical Directors, Allergy Foundation of America.

CORRIN H. HODGSON served as president, Minnesota Medical Foundation.

JOHN R. HODGSON served as member, Board of Directors, Radiological Society of North America; counselor, American College of Radiology; and member, Executive Committee, Minnesota Radiological Society.

ROBERT W. HOLLENHORST served as consultant, Services for the Blind, and member, Medical Advisory Board, State Department of Public Welfare.

WILLIAM H. HOLLINSHEAD served as member, Anatomy Test Committee, National Board of Medical Examiners.

COLIN B. HOLMAN served as member, Executive Committee, American Roentgen Ray Society.

ARTHUR B. HUNT served as member, Executive Council, Minnesota Historical Society; and director, Children's Home Society.

JAMES C. HUNT served as medical advisor, Cooperative Study Board, Renal Vascular Hypertension, National Heart Institute.

RAYMOND J. JACKMAN served as chairman, Proctology Section, American Medical Association; and vice-president, American Proctologic Society.

EDWARD S. JUDD, JR., served as governor, Minnesota Section, American College of Surgeons; and president, Central Surgical Association.

JOHN L. JUERGENS served as member, Board of Directors, and secretary, Minnesota Heart Association.

ALFRED G. KARLSON served as member, Mycobacteria Taxonomy Committee, American Society for Microbiology; editor, Veterinary Science Section, *Biological Abstracts*; member, Board of Directors, National Tuberculosis Association; and secretary-treasurer, Mayo Foundation Chapter, Sigma Xi.

FRANCIS R. KEATING served as consultant, Radiation Branch, Public Health Service.

PATRICK J. KELLY served as member, Editorial Board, *Journal of Bone and Joint Surgery*.

ROBERT R. KIERLAND served as president, American Academy of Dermatology; member, Dermatology Foundation; and member, Editorial Board, *Archives of Dermatology*.

OWINGS W. KINCAID served as consultant, Cardiovascular Diseases, Alaska Native Health Service.

THOMAS J. KIRBY, JR., served as consultant, Ophthalmology Division, Indian Health Service, Public Health Service.

JOHN W. KIRKLIN served as member, Editorial Board, *American Heart Journal*; member, Surgery Study Section, National Institutes of Health; member, Editorial Board, *Circulation*; and member, Editorial Board, *Yearbook of Cardiovascular Disease*.

DONALD W. KLASS served as member, Certification Examining Board, American Society of Electroencephalography Technicians.

GILES A. KOELSCH served as secretary, Allergy Foundation of America.

EDWARD H. LAMBERT served as member, Research Division, Neurology Study Section, Department of Health, Education, and Welfare and Public Health Service; member, Editorial Board, *American Journal of Physiology*; and member, Editorial Board, *American Journal of Applied Physiology*.

WILLIAM R. LANEY served as president, Minnesota Section, International Association for Dental Research.

PAUL R. LIPSCOMB served as chairman, Orthopedic Surgery Section, American Medical Association.

EDWARD M. LITIN served as chairman, Mental Hospitals Committee, American Psychiatric Association; and psychiatric consultant, Peace Corps.

GEORGE B. LOGAN served as member, Executive Board, American Academy of Pediatrics; chairman, Pediatric Allergy Sub-Board; and member, Editorial Board, *American Journal of Diseases of Children*.

STANLEY A. LOVESTEDT served as member, Board of Regents, and vice-president, American College of Dentists; and member, Dental Study Section, National Institutes of Health.

HUGH B. LYNN served as chairman, Executive Committee, and chairman, Surgical Section, American Academy of Pediatrics.

COLLIN S. MACCARTY served as member, Executive Committee, Neurosurgical Society of America.

THEODORE G. MARTENS served as member, Vision Committee, U.S. Armed Forces and National Research Council.

GORDON M. MARTIN served as secretary, Physical Medicine and Rehabilitation Section, American Medical Association.

HAROLD R. MARTIN served as member, Rehabilitation Counseling Advisory Panel, Department of Health, Education, and Welfare; and psychiatric consultant, Regional Office, Division of Vocational Rehabilitation.

JOHN T. MARTIN served as president-elect, Minnesota Society of Anesthesiologists.

WILLIAM J. MARTIN served as associate editor, *Minnesota Medicine*.

HAROLD L. MASON served as president, Endocrine Society; member, Board of Directors, Minnesota Academy of Science; and member, Board of Directors, Rochester Methodist Hospital.

JAMES K. MASSON served as vice-president, Midwestern Association of Plastic Surgeons.

DON R. MATHIESON served as member, Board of Directors, Minnesota Association of Blood Banks.

VERNON R. MATTOX served as member, Editorial Board, *Journal of Clinical Endocrinology and Metabolism*.

WILLIAM M. MCCONAHEY served as treasurer, American Thyroid Association.

WARREN F. MCGUCKIN served as chairman, Midwest Section, American Association of Clinical Chemists.

CLARK H. MILLIKAN served as member, Board of Directors, American Heart Association; member, Cerebrovascular Disease Subcommittee, National Heart Institute; and chairman, Advisory Group, National Institute of Neurologic Disease and Blindness.

DONALD W. MULDER served as president, Minnesota Society of Neurological Sciences.

KENNETH N. OGLE served as member, Vision Committee, U.S. Armed Forces and National Research Council; and special consultant, Vision Research Training Committee, National Institute of Neurologic Disease and Blindness; and received the degree Doctor of Science Honoris Causa from Colorado College.

ARTHUR M. OLSEN served as chairman, Board of Regents, and member, Bronchoesophagology Committee, American College of Chest Physicians; and president, Minnesota Tuberculosis and Health Association.

ALAN L. ORVIS served as chairman, Radiological Safety Advisory Committee, Minnesota Board of Health.

JOHN S. PEARSON served as consultant, Clinical Psychology, Veterans Administration; member, Human Genetics Advisory Committee, Minnesota Department of Health; and director, Minnesota Human Genetics League.

HOWARD F. POLLEY served as president, American Rheumatism Association; associate editor, *Arthritis and Rheumatism*; and editorial advisor, Public Health Service.

JAMES T. PRIESTLEY served as chairman, Board of Regents, and president, American College of Surgeons.

CHARLES M. REEVE served as president, Minnesota Section, International Association for Dental Research.

WILLIAM H. REMINE, JR., served as president-elect, Minnesota Surgical Society.

HOWARD P. ROME served as chairman, Nervous and Mental Disease Section, American Medical Association; president and council member, American Psychiatric Association; consultant, National Association for Mental Health; psychiatry consultant, Surgeon General, U.S. Navy and U.S. Army; member, Federal Hospital Council, Public Health Service; and psychiatry consultant and council member, National Institute of Mental Health.

THOMAS H. SELDON served as chairman, Blood and Blood Banks Committee, Minnesota Medical Association; and chief, Whole Blood Program, State Civil Defense Service.

JOHN T. SHEPHERD served as member, Editorial Board, *American Journal of Physiology*, and member, Editorial Board, *Journal of Applied Physiology*, American Physiological Society.

ROBERT G. SIEKERT served as president, Central Society for Neurologic Research; member, Editorial Board, *Minnesota Medicine*, Minnesota Medical Association; and member, Executive Committee, American Academy for Cerebral Palsy.

CHARLES H. SLOCUMB served as vice-president, Arthritis and Rheumatism Foundation.

RALPH E. SMITH served as governor, American College of Cardiology.

JOHN A. SPITTELL, JR., served as member, Board of Directors, and member, Professional Education Committee, Minnesota Heart Association.

RANDALL G. SPRAGUE served as regional evaluator, Internal Medicine Residency Review Committee, American Medical Association; and council member, National Institute of Dental Research; and received the honorary degree Doctor of Philosophy from the University of Toronto.

RICHARD M. STEINHILBER served as examiner, American Board of Neurology and Psychiatry.

GUNNAR B. STICKLER served as member, Editorial Board, *Clinical Pediatrics*.

JAMES M. STICKNEY served as Minnesota delegate, American Medical Association; investigator, Acute Leukemia Group B, National Institutes of Health; and president, Minnesota Medical Association.

GEORGE K. STILLWELL served as member, Editorial Board, *Archives of Physical Medicine and Rehabilitation*.

GEORGE G. STILWELL served as chairman, Board of Trustees, American Medical Writers Association; and member, Board of Editors, Minnesota Medical Association.

WENDELL M. SWENSON served as member, Board of Directors, Minnesota Association for Mental Health.

WELBY N. TAUXE served as secretary-treasurer, Central Chapter, Society of Nuclear Medicine; chairman, Isotope Council, American Society of Clinical Pathology; and consultant, Atomic Energy Commission.

JAN H. TILLISCH served as member, Advisory Editorial Board, *Aerospace Medicine*; and consultant, Surgeon General, U.S. Air Force.

JOHN A. ULRICH served as chairman, Bacteriology and Mycology Study Section, National Institutes of Health.

LAURENTIUS O. UNDERDAHL served as president-elect, American Diabetes Association; and member, Executive Committee, and president-elect, Minnesota Society of Internal Medicine.

DAVID C. UTZ served as assistant secretary, Urology Section, American Medical Association.

DANIEL E. WAITE served as member, Examining Board, American Board of Oral Surgery.

KHALIL G. WAKIM served as member, Editorial Board, *American Journal of Physical Medicine*; consultant, Army Medical Center; and consultant, Basic Medical Education, Surgeon General, U.S. Armed Forces.

LOUIS E. WARD served as member, Editorial Board, and member, Executive Committee, American Rheumatism Association.

LYLE A. WEED served as member, Editorial Board, *American Journal of Clinical Pathology*; pathology consultant, U.S. Army Biological Welfare Laboratory; and member, Editorial Board, *Survey of Pathology in Medicine and Surgery*.

WILLIAM H. WEIDMAN served as president-elect, Midwest Society for Pediatric Research.

JACK P. WHISNANT served as president, Central Society for Neurological Research.

MARVIN M. WILLIAMS served as second vice-president, American Radium Society; board member and president, American Association of Physicists in Medicine; and member, American Board of Health Physics.

ROBERT B. WILSON served as secretary, American Association of Obstetrics and Gynecology.

RICHARD K. WINKELMANN served as member, Board of Directors, and associate editor, *Dermatology Digest*, American Academy of Dermatology; and

member, Board of Directors, and associate editor, *Journal of Investigative Dermatology*, Society for Investigative Dermatology.

DAVID M. WITTEN served as secretary-treasurer, Society of Clinical Radiologists.

EARL H. WOOD served as member, Executive Committee, Circulation Group, American Physiological Society; member, Man in Space Committee, National Academy of Sciences; member, Research Career Award Committee, National Institute of General Medical Sciences, National Institutes of Health; member, White House Bioastronautics Committee, President's Scientific Advisory Committee; member, Ad Hoc Medical Advisory Panel, National Aeronautics and Space Administration; and member, Medical Advisory Group, U.S. Air Force Manned Orbital Laboratory.

LEWIS B. WOOLNER served as president, Minnesota Society of Clinical Pathology.

PAUL E. ZOLLMAN served as secretary, Southeastern Minnesota Veterinary Medicine Society; and director, Upper Midwest Animal Care Panel.

Bureau of Institutional Research

CLARENCE H. BAGLEY served as editor and panel leader, National Institutional Research Forum, Association for Institutional Research; and president, Research Committee, Washington Pre-College Testing Program.

MARY E. CORCORAN served as member, Advisory Committee, Seminar, Student Personnel Service for South Asia; and member, Fellowship Awards Committee, Pi Lambda Theta.

ROBERT H. FENSKE served as panelist, Vocational Education Leadership Conference, Wisconsin Vocational Board and U.S. Office of Education.

EARL N. RINGO served as secretary, Institutional Research Council of Eleven, Western Conference Universities and University of Chicago; and member, Higher Education Research Staff, Liaison Committee for Higher Education.

FRANK H. SMITH served as program vice-president, treasurer, and historian, Phi Delta Kappa; and professional advisor, Board of Education, Scott County.

JOHN E. STECKLEIN served as member, Constitution Committee, member, Executive Committee, member, Program Planning and Membership Committee, and president, Association for Institutional Research; panelist, American Higher Education, National Education Association; chairman, Accreditation Visits, North Central Association of Colleges and Secondary Schools; chairman, Conference, Association for Educational Data Systems; and panelist, Institutional Research Conference, Wisconsin State University System.

Office of International Programs

GERTRUDE A. KUEHL served as rapporteur, Wingspread Conference on West European and Atlantic Studies, Johnson Foundation (University of Minnesota and Indiana University).

ROBERT R. TRUMBLE served as member, Community Action Committee, Office of Economic Opportunity.

Law School

CARL A. AUERBACH served as visiting professor of law, Columbia University and University of Utah; member, Board of Trustees, Law and Society Association; chairman, Joint Administrative Law Committee, American Association of Law Schools and American Political Science Association; and member, Governor's Bi-Partisan Legislative Reapportionment Commission; and received a travel grant to Central America from the Agency for International Development.

CAROLINE BREDE served as chairman, Memorials Committee, president, Minnesota Chapter, and secretary-treasurer, American Association of Law Libraries.

VERA R. CARLSSON served as president, Minnesota Chapter, and committee chairman, American Association of Law Libraries.

JOHN J. COUND served as advisor, Governor's Reapportionment Committee.

ROBERT F. GRABB was named to the Legion of Merit, U.S. Army Register.

DAVID L. GRAVEN served as secretary, Minnesota Judicial Council; and coordinator, Criminal Law Refresher Course, Minnesota Council for Continuing Legal Education and State Public Defender's Office.

BRUNO H. GREENE served as member, Foreign Law Committee, Teachers of Comparative Law Conference (Parker School, Columbia University); and was admitted to the Minnesota Bar Association.

JAMES L. HETLAND, JR., served as committee chairman, Association of American Law Schools; member, Continuing Education of the Bar Committee, and committee chairman, Hennepin County Bar Association; member, Advisory Committee, Minnesota Supreme Court; chairman, Charter Committee, City of Minneapolis; and reporter, *Jury Instruction Guide, Volume Two*, District Court Judges Association.

JAMES R. HOGG served as committee chairman, International Law Association; member, International Law Council Draft Committee, Treaties Convention, American Society of International Law; and visiting professor, Naval War College (Newport, R.I.).

STANLEY V. KINYON served as consultant, Uniform Commercial Code Hearings, Minnesota Legislature.

ROBERT J. LEVY served as consultant, Children's Bureau, Department of Health, Education, and Welfare; member, Law Advisory Committee, Social Welfare Law Project, New York University; and member, Study Advisory Committee, Conciliation of Marriages through the Judiciary, American Bar Foundation.

WILLIAM B. LOCKHART served as council member, American Law Institute; member, Legal Education Committee, and member, Legal Assistance Committee, Association of American Law Schools; and member, Joint Accreditation Committee, American Bar Association and Association of American Law Schools.

ALLAN H. MCCOY served as member, Law and Medicine Committee, Association of American Law Schools.

MAYNARD E. PIRSIG served as chairman, Uniform Juvenile Court Act Committee, National Conference, Uniform State Laws Commissioners.

ROBERT A. STEIN served as member, Real Property and Trust Law Section, American Bar Association; and presiding officer, Real Estate Law Forum, Continuing Legal Education Association.

College of Liberal Arts

Administration

MAXWELL E. ALVORD served as member, Executive Committee, and co-chairman, First Annual Workshop, Minnesota College Federation Council; and member, State Legislature Liaison Committee, Midwest College Placement Association.

JOHN D. HURRELL served as editor, *Drama Survey*; member, Regional Selection Committee, Woodrow Wilson National Fellowship Foundation; member, Guthrie Theatre Educational Advisory Committee, Minnesota Theatre Foundation; participant, Annual Meeting, National Council of Teachers of English; and panel member, Conference on Drama Research, U.S. Office of Education.

ROGER B. PAGE served as member, High School and College Relations Committee, Minnesota Association of Colleges.

MABEL K. POWERS served as member, Executive Board, Twin City Vocational Guidance Association.

JAMES B. PREUS served as discussant, Convention, American Personnel and Guidance Association.

JOHN G. TURNBULL served as consultant, North Star Research and Development Institute; participant, Annual Meeting, Econometric Society; chairman, Midwest Economic Association; participant, Conference on Aging and Social Policy, Duke University; member, Board of Directors, Minnesota State Council on Economic Education; and member, Executive Committee, Minnesota Association of Colleges.

E. WILLIAM ZIEBARTH served as president, National Association of Deans and Directors; member, Board of Directors, Public Health Association; member, Board of Directors, Midwest Educational Network; member, Board of Directors, Hennepin County Tuberculosis Association; member, St. Paul Council of Arts and Sciences; member, Atlantic Council of the United States; member, St. Paul Board of Education; member, Board of Directors, Twin City Educational Television Corporation; and member, Board of Trustees, Macalester College.

Department of Anthropology

LUTHER P. GERLACH served as consultant, Special Warfare School; consultant, Advanced Research Projects Agency, Department of Defense; consultant, Schjeldahl Corporation (Northfield); participant, Agricultural Development Council; and participant, Meeting, Central States Anthropology Association.

JAMES L. GIBBS, JR., served as chairman, Nominating Committee, African Studies Association; and consultant, Human Ecology Section, National Institutes of Health.

E. ADAMSON HOEBEL served as member, Behavioral Science Graduate Training Programs Committee, Division of General Medical Sciences, National Institutes of Health.

FRANK C. MILLER received a fellowship from the National Science Foundation.

PERTTI J. PELTO served as participant, Conference, American Anthropological Association; participant, Seminar, Department of Public Health; and consultant, Research Project, Upper Mississippi Mental Health Center.

ROBERT F. SPENCER attended the Seventh International Congress of Anthropological Sciences (Moscow, U.S.S.R.), Social Science Research Council and American Anthropological Association.

Department of Art

GUY H. BENSON received a special award from the Minneapolis Institute of Art.

PETER BUSA served as consultant, National Committee for Art Education; chairman, Artists Advisory Council; member, National Executive Board, and president, Artists Equity Association; advisory delegate, Minnesota Arts Council; participant, "Art Across America," Mead Corporation and Columbus Gallery of Art.

MILTON B. HOWARD served as member, School Art League, New York City Board of Education.

WARREN D. MACKENZIE conducted a pottery workshop, Creative Arts Festival, Bemidji State College; and served as juror, International Ceramic Exchange, Syracuse Museum.

SHEILA McNALLY served as seminar director, Smith College.

MALCOLM H. MYERS served as panel chairman, "Print-Making Today," Midwestern Art Conference (University of Kansas); and judge, Wisconsin State Print Annual (Stout State University).

KATHERINE E. NASH served as regional director, Artists Equity Association; organizer, Society of Minnesota Sculptors; lecturer, Art Association (Sioux Falls, S.D.); lecturer, and juror, Art Exhibition, Neville Public Museum; and member, Building Committee, Minnetonka Center of Arts and Education.

DONALD R. TORBERT served as historian, Minneapolis City Planning Commission, American Institute of Architects.

DIMITRI T. TSELOS served as participant, Board Meetings, College Art Association.

Department of Classics

MARGARET M. FORBES served as member, Executive Board, Minnesota Classical Conference; member, Executive Board, and member, Scholarship Committee, Virgilian Society of the United States of America; and board member, American Classical League.

WILLIAM A. McDONALD served as board member, American School of Classical Studies (Athens, Greece).

Communication Program

DANIEL V. BRYAN served as local chairman, and member, Evaluation Committee, Conference on College Composition and Communication.

J. VERNON JENSEN served as chairman, National Council of Teachers of English; and participant, Convention, Central States Speech Association.

Department of Economics

OSWALD H. BROWNLEE served as member, Committee on Highway Research, Highway Research Board.

JOHN A. BUTTRICK received a specialist grant from the U.S. Government; and served as visiting professor, Universidad de Los Andes (Bogotá, Colombia); participant, Malaya Economic Society; participant, Economic Club of Osaka; and participant, Tokyo Economic Research Center.

EDWARD M. FOSTER spent two years in Colombia, South America, with the Minnesota Agency for International Development Project to establish an M.A. Program in Economics.

CLIFFORD HILDRETH served as council member, and editor, *Journal*, American Statistical Association.

RALPH H. HOFMEISTER served as visiting professor, Universidad de Los Andes (Bogotá, Colombia).

LEONID HURWICZ served as consultant, Executive Office of the President, Office of Science and Technology; member, Special Commission on Weather Modification, National Science Foundation; and member, Board of Directors, North Star Research and Development Institute.

GEORGE L. PERRY served as consultant, Council of Economic Advisors (Washington, D.C.); consultant, National Automation Commission; participant, Meeting, American Statistical Association; and participant, Conference on Investment Behavior, National Bureau of Economic Research.

JACOB SCHMOOKLER served as consultant, Battelle Memorial Institute; and chairman, Planning Committee, Conference on Technological Change, Ford Foundation.

NORMAN J. SIMLER served as program participant, Meeting, Midwest Economic Association; and participant, Annual Meeting, Econometric Society.

Department of English

HAROLD B. ALLEN served as member, Executive Committee, American Dialect Society; chairman, Minnesota Group for Linguistics; director, Linguistics Workshop, Northern Michigan University; member, Liaison Committee, National Council of Teachers of English and Speech Association of America; director, Commission on English Language, member, College Selection Committee, member, Committee on Censorship Studies, chairman, Advisory Board, and editor, U.S. Information Agency Textbook Series, National Council of Teachers of English; member, Advisory Committee on Social Dialectology, and member, National Advisory Council on Teaching English as a Foreign Language, Center for Applied Linguistics; chairman, Linguistics Nominating Committee, Midwest Modern Language Association; member, Nominating Committee, Linguistic Society of America; member, Advisory Board, *American Speech*; member, Advisory Board on Teaching English as a Foreign Language, Curriculum Project, U.S. Office of Education and Council for Better Schools; codirector, Minnesota Project English, and director, Status Study of Teaching English as a Foreign Language, U.S. Office of Education; chairman, Advisory Board of Language Arts, Minnesota Board of Education; member, Planning Committee, National Advisory Council, Teachers of English as a Foreign Language; and president, Teachers of English to Speakers of Other Languages.

JOHN W. CLARK served as member, Panel of Visitors, North Central Association of Colleges and Secondary Schools.

AVROM H. FLEISHMAN served as participant, Conference on Modern Literature, Michigan State University.

CHARLES H. FOSTER served as visiting professor, Bowdoin College.

RICHARD J. FOSTER served as visiting associate professor, Williams College; lecturer, Northeast National Council of Teachers of English (Williams College); and lecturer, Brown University Graduate English Colloquium.

CLIFFORD I. HAGA served as leader, Management Seminar, American Management Association; panel moderator, Meeting (Michigan State University), International Systems and Procedures Association; chairman, English Staff Conference, Avco, Inc., and Franklin Elevator Motor Company; workshop participant, Institute for Executive Growth, Earlham College; and participant, Regional Conference, Internal Revenue Service.

JACOB C. LEVENSON served as participant, Orientation Program, Twin Cities International Program; member, Executive Council, and president, Regional Association, American Studies Association; treasurer, Alpha Chapter, Phi Beta Kappa; member, Ad Hoc Committee on English, Harvard University; and participant, Annual Meeting, Modern Language Association of America.

CHARLES S. LEVY received a fellowship from the American Council of Learned Societies.

SAMUEL H. MONK received a research fellowship at William Andrews Clark Library (Los Angeles, Calif.); and a resident fellowship at the Folger Shakespeare Library (Washington, D.C.); and served as member, Executive Council, Modern Language Association of America.

LEE A. PEDERSON served as panel chairman, Conference on College Composition and Communication.

PETER J. REED served as member, Bibliography Committee, *Twentieth Century Literature*.

G. ROBERT STANGE served as committee member, Modern Language Association of America; president, Phi Beta Kappa; and representative, Woodrow Wilson National Fellowships Foundation.

MARTIN STEINMANN, JR., served as general editor, Scribner Research Anthologies, Charles Scribner's Sons.

MARGERY STRICKER served as lecturer, National Defense Education Act Institute (St. Thomas College); and member, Steering Committee, and lecturer, Conference on Values and Higher Education, Young Men's Christian Association.

ALLEN TATE served as senior fellow, Indiana School of Letters; honorary fellow, American Academy in Rome; and member, National Institute of Arts and Letters.

MARY C. TURPIE served as president, American Studies Group, Minnesota and the Dakotas.

SARAH H. YOUNGBLOOD served as outside examiner, Honors Program, Macalester College; judge, Fiction Contest, Humanities Awards Program, McKnight Foundation; lecturer, National Conference of Teachers of Singing; and lecturer, Creative Arts Conference, Oklahoma City University.

Family Study Center

JOAN ALDOUS received a grant from the Institute of Life Insurance; a grant from the National Institute of Mental Health; and a grant from the National Science Foundation.

RICHARD N. HEY served as chairman, Executive Committee, and program participant, Annual Meeting, National Council on Family Relations; member, Committee on Training, American Association of Marriage Counselors; and fellow, Institute on Family, Sexuality, and Marriage Counseling, Bowman-Gray Medical School.

ELNORA T. HUYCK served as cochairman, Marriage Counselors Association; and panel member, "College Days," American Association of University Women.

GERHARD NEUBECK served as cochairman, Committee on Strengthening Family Life; member, Governor's Council on Children and Youth; member, Executive Board, program chairman, Annual Meeting, and fellow, American Association of Marriage Counselors.

WILLIAM SILVERMAN served as president, Alpha Kappa Delta.

Department of Geography

WARD J. BARRETT served as member, Committee on Physical Geography, Pan-American Institute of Geographers and Historians; and participant, National Defense Education Act Institute for Geography Teachers (University of Hawaii).

JOHN R. BORCHERT served as participant, National Meeting, American Society of Civil Engineers; participant, Wingspread Conference, Upper Midwest Council; participant, Conference on Geographic Environment, National Aeronautics and Space Administration; participant, National Convention, National Council of Geographic Education; consultant, Minnesota Legislative Commission; member, Steering Committee, High School Geography Project, National Science Foundation and Association of American Geographers; member, Advisory Committee, Geographic Branch, National Academy of Sciences and National Research Council; member, Advisory Committee on Social Studies, Minnesota Department of Education; chairman, Earth Sciences Division, National Resources Council of America and National Academy of Sciences; and member, Board of Directors, Social Science Resources Council, Association of American Geographers.

JAN O. BROEK served as member, Board of Directors, Society for Economic and Social Geography; and director, South Asia Atlas Project, Department of Education and University of Minnesota.

PHILIP W. PORTER served as participant, Symposium, University of Michigan Institute of Science and Technology; participant, Symposium, American Anthropological Association; participant, Fiftieth Annual Meeting, National Council on Geographic Education; panel member, Conference on Spacecraft, National Academy of Sciences, Office of Naval Research, and National Aeronautics and Space Administration; and chairman, Annual Meeting, Association of American Geographers.

JOSEPH E. SCHWARTZBERG received a National Science Foundation Institute Grant; and a National Defense Education Act Title VI Grant for Publication Subvention; and served as participant, Symposium, Duke University; participant, Conference, Wenner-Gren Foundation; lecturer, Peace Corps India Project; and lecturer, Institute of South and Southeastern Asia, Hamline University.

JOHN W. WEBB served as participant, National Defense Education Act Institute in Advanced Geography, U.S. Office of Education; participant, Conference, International Geographical Union and United Nations Educational, Scientific, and Cultural Organization; and participant, Meeting (Ohio State University), Association of American Geographers.

Department of German

EVELYN S. COLEMAN served as member, Advisory Committee, and participant, National Congress, Modern Language Association of America; and member, Advisory Committee, Midwest Modern Language Association.

FRANK D. HIRSCHBACH served as participant, Conference, Modern Language Association of America.

HERMAN RAMRAS served as president, Lambda Alpha Psi; and committee chairman, American Association of University Professors.

GERHARD H. WEISS served as secretary, and member, Nominating Committee, Spring Meeting, Midwest Modern Language Association; and director, National Defense Education Act Summer Institute, U.S. Office of Education.

FRANK H. WOOD served as committee member, Arthur Schnitzler, Gesellschaft.

Department of History

W. DONALD BEATTY served as participant, Ford Faculty Exchange (Latin America), Ford Foundation.

ROBERT F. BERKHOFER served as member, Executive Board, American Indian Ethnohistorical Conference.

KINLEY J. BRAVER received the McKnight Foundation Humanities Award.

RICHARD D. BURNS served as director, Research Project, U.S. Arms Control Agency.

CLARKE A. CHAMBERS served as associate director, Institute of International Education; vice-president, Social Welfare History Archives Committee; member, Board of Directors, St. Paul Urban League; member, Board of Directors, St. Paul Council of Churches; seminar leader, World Press Institute (Macalester College); director, Orientation Program, Twin Cities International Program for Visiting Social Workers; participant, Conference on Information Retrieval, National Conference on Social Welfare; and member, Advisory Committee, Federal Social Security Administration.

HAROLD C. DEUTSCH served as judge, McKnight Foundation; member, Board of Trustees, Institute of Documentary Research on Foreign Nations; commentator, Conference on Western Defense, Ohio State University; and senior chairman and panelist, Conference on Atlantic Problems, Indiana University.

RALPH E. GIESEY served as committee member, American Numismatic Society.

JOHN R. HOWE, JR., served as participant, Conference, American Studies Group of Minnesota and the Dakotas.

ROBERT S. HOYT served as fellow, Royal Historical Society (England); correspondent, Selden Society (England); president, Phi Beta Kappa; and council member, Annual Convention, Mediaeval Academy of America.

PHILIP D. JORDAN served as advisor, Phi Alpha Theta; participant, Conference of College Teachers of History, Missouri Valley Conference; participant, American-Yugoslavian Conference, U.S. Department of State; member, Editorial Board, *Gopher Historian*; and member, Advisory Committee on Medical Publications, American Public Health Association.

ERLE LEICHTY received a fellowship from the Guggenheim Foundation; and a grant from the American Philosophical Society; and served as secretary, Minnesota Society, Archaeological Institute of America.

RODNEY C. LOEHR served as president, Agricultural History Society; vice-president, National Reserve Officers Training Corps Colleges Association; and was appointed honorary fellow, Forest History Society.

JOHN K. MULHOLLAND received a travel grant from the McMillan Fund.

PAUL L. MURPHY served as member, State Board of Directors, Civil Liberties Union; visiting lecturer, Barry College; visiting lecturer, State University of New York; and discussant, Convention, Southern Historical Association; and received a fellowship from the Guggenheim Foundation.

OTTO PFLANZE received a research fellowship from the Guggenheim Foundation.

DARRETT B. RUTMAN served as participant, Convention, Early American Historians (Vanderbilt University); participant, Convention, Canadian Association of American Studies (University of Toronto); and received a travel grant from the McMillan Fund.

TIMOTHY L. SMITH served as visiting professor of history, University of Michigan; and member, Committee on the Role of Education in American History; and received a research fellowship from the American Philosophical Society.

THEOFANIS STAVROU served as director, American Association for the Advancement of Slavonic Studies; and received an Inter-University Committee Travel Grant for research in the Soviet Union.

BURTON STEIN served as committee member, Association for Asian Studies; and committee member, American Historical Association.

ROMEYN TAYLOR served as participant, Conference on Ming Governmental Institutions, and contributor, Ming Biography Historical Project, Association for Asian Studies.

DAVID H. WILLSON served as chairman, Upper Midwest Conference of Historians; president, Conference on British Studies, American Historical Association; member, Advisory Council, Yale University Parliamentary Diaries Project; and visiting professor, University of Texas.

JOHN B. WOLF served as committee member, and chairman, Modern European History Section, American Historical Association; and chairman, Koren Prize Committee.

Humanities Program

GEORGE AMBERG served as member, Advisory Board, Creative Film Foundation; trustee, International Film Seminars; and member, Advisory Board, Society of Cinematologists.

JOHN BERRYMAN received the Pulitzer Prize for poetry.

JOSEPH J. KWIAT served as member, Literature and Related Arts Committee, and member, Literature and Society Committee, Modern Language

Association of America; committee member, American Studies Association; member, Screening Committee on American Literature, International Exchange of Persons Conference, Board of Associated Research Councils, Fulbright-Hayes; and member, Advisory Committee, Grants-in-Aid for Research, American Council of Learned Societies.

RALPH G. ROSS served as philosophy advisor, St. Martin's Press; and member, Editorial Board, *Journal of Existentialism*.

Department of International Relations and Area Studies

SAMUEL M. BURKE received a travel and study award from the Ford Foundation; and served as lecturer, Council on Foreign Relations; and lecturer, Canadian Council on International Relations.

School of Journalism

ROY E. CARTER, JR., served as delegate, Annual Meeting, American Academy of Political and Social Science; member, Executive Committee, Planning Conference, Agency for International Development (Michigan State University); participant, Advisory Committee, Fulbright Commission; delegate, Latin American Social Congress; panel chairman, Latin America Week, People-to-People Program; moderator, Television Series, World Affairs Center; and participant, Annual Meeting, American Personnel and Guidance Association.

MITCHELL V. CHARNLEY served as committee member, Association for Education in Journalism; committee member, Northwest Broadcasting News Association; member, Board of Directors, Minnesota Association for Mental Health; and vice-chairman, Committee on Ethics and Standards, Radio-Television News Directors Association.

W. EDWIN EMERY served as member, Executive Board, American Association of University Professors; editor, *Journalism Quarterly*; member, Council on Research, member, Executive Committee, member, Advisory Board, and editor, Association for Education in Journalism; member, Executive Committee, Committee on Historical Press, International Congress on Historical Science; and member, Research Award Committee, Sigma Delta Chi.

J. EDWARD GERALD served as committee member, Association for Education in Journalism; committee chairman, American Association of University Professors; consultant, Brookings Institute; and visiting professor, University of Texas.

GEORGE S. HAGE served as advisor, Kappa Tau Alpha; and cochairman, Conference, Minneapolis Planning Commission.

ROBERT L. JONES served as program participant, Invitational Conference on Newspaper Research, Association of Press Managers and Editors.

FRED L. KILDOW served as advisor, National Association of Journalism Directors.

ROBERT LINDSAY served as coordinator, Annual Seminar, Northwest Broadcasting News Association; participant, Annual Conference, and participant, Regional Conference, Radio-Television News Directors Association; member, Educational Committee, Minnesota Press Club; discussant, Meeting, Public Relations Society of America; participant, Meeting, American Studies Association; participant, Conference, American College Public Relations Association; judge, Annual Contest, Tennessee Press Association; judge, Annual Conference, Minnesota High School Press Association; judge, Editorial Contest, Iowa Press Association; participant, Annual Meeting, Minnesota Newspaper Association; and seminar participant, United Nations Educational, Scientific, and Cultural Organization.

WILLIAM A. MINDAK served as vice-president, Alpha Delta Sigma; workshop participant, Rural Electric Cooperative Association; workshop partici-

pant, State Welfare Commission; and workshop participant, International League of Credit Unions.

RAYMOND B. NIXON served as president, International Association for Mass Communication Research, United Nations Educational, Scientific, and Cultural Organization; editor, Association for Education in Journalism; seminar advisor, International Center of Higher Studies in Journalism for Latin America; and consultant, Taiwan Newspaper Publishers Association.

JOHN C. SIM served as participant, Suburban Press Foundation; panelist, District Convention, Minnesota Newspaper Association; judge, Twin City Newspaper Contest, and judge, School Bell Awards, Minnesota Education Association; judge, National Contest, Sigma Delta Chi; judge, Newspaper Contest, Texas College Press; and chairman, Press Committee on Youth in Government, Young Men's Christian Association.

HAROLD W. WILSON served as participant, Newspaper Conference, Saskatchewan Newspaper Association; and received a grant for a filmstrip on Typography from Minnesota Mining and Manufacturing Company; and a grant for a filmstrip on Company Publications from the Northwest International Council of Industrial Editors.

Department of Library Science

DAVID K. BERNINGHAUSEN served as council member, American Library Association; president, Minnesota Library Association; president, Association of American Library Schools; chapter president, American Association of University Professors; vice-president, Minnesota Branch, American Civil Liberties Union; and member, Board of Trustees, Citizens for Responsible Government.

NANCY J. FREEMAN served as member, Survey Team, North Dakota State Library Commission and North Dakota Historical Society.

LOWELL E. OLSON served as director, National Defense Education Act School Library Institute, U.S. Office of Education.

RAYMOND H. SHOVE served as chairman, Archives Committee, Association of American Library Schools.

WESLEY C. SIMONTON served as secretary-treasurer, Association of American Library Schools; and participant, Conference, member, Editorial Committee, and president, Resources and Technical Services Division, American Library Association.

Department of Music

DOMINICK J. ARGENTO composed incidental music for Tyrone Guthrie Theatre productions of *Saint Joan* and *Volpone*.

FRANK BENCRISSUTTO received the Man of Note Award from *Instrumentalist Magazine*; and served as guest conductor and instructor, Summer Workshop, University of Wisconsin; lecturer, Music Division, Northern Music Education Convention; and chairman, College Band Directors National Association.

RUDOLPH B. BERRYMAN served as member, National Council, Association of Disciples of Music.

JOHANNES U. DAHLE served as adjudicator, Contest, Schubert Club of St. Paul; guest director, 4-H Leadership Conference; adjudicator, State-Regional Music Festival, Minnesota Public School Music League; and guest leader, Career Days, Bloomington High School.

PAUL FETLER served as member, Committee for Upper Midwest Center for Music Arts.

HEINRICH FLEISCHER served as member, Executive Board, Twin Cities Chapter, judge, Regional Contest, and examiner-at-large, American Guild of Organists; and judge, Minnesota Music Teachers Association.

MARTHA M. IVORY served as chairman, Schubert Club of St. Paul.

PAUL R. KNOWLES served as treasurer, National Association of Teachers of Singing; treasurer, Pi Kappa Lambda; board member, National Council, Metropolitan Opera Guild; and member, Planning Committee, Central Opera Service Conference.

ROBERT T. LAUDON served as judge, State Music Contest; test planner, Theory Committee, and chairman, Nominating Committee, Minnesota Music Teachers Association; and planner, District Convention, and member, Musical Committee, National Music Teachers Association.

MARY E. MALCOLM served as treasurer, Pi Kappa Lambda.

PAUL P. MCINTYRE served as committee member, International Webern Society.

DUNCAN R. McNAB served as member, Executive Committee, Kugler Collection of Instruments; member, Board of Directors, and member, Executive Committee, Metropolitan Youth Orchestra; contributing editor, *Jahrbuch fur Liturgik und Hymnologie*; and contributing editor, *Koutakte*.

PAUL M. OBERG served as member, Graduate Committee, National Association of Schools of Music; and participant, Fine Arts Festival, Michigan State University.

MARCELLA L. OJA served as vocal adjudicator, Wisconsin State Music Festival; registrar, National Convention, National Association of Teachers of Singing; member, Hospitality Committee, National Convention, Sigma Alpha Iota; and secretary, Pi Kappa Lambda.

JOHANNES RIEDEL served as member, Board of Directors, Metropolitan Youth Orchestra; and member, Executive Board, Music and the Arts.

ROY A. SCHUESSLER served as program chairman, Minnesota Music Teachers Association; participant, National Convention, Association of Teachers of Singing; soloist, Bach Society (St. John's University); and program developer and host, "The Singer," KTCA.

CHARLES F. SCHWARTZ served as vice-president, Pi Kappa Lambda.

Department of Philosophy

MAY BRODBECK served as associate editor, *Philosophy of Science*; symposiast, Annual Meeting, American Philosophical Association; visiting professor, University of Maryland; and lecturer, Temple University.

HERBERT FEIGL received a fellowship from Australia; and served as participant, Conference on Social Science Education, Purdue University; and participant, Conference on Philosophy of Science, University of California at Los Angeles.

GARETH B. MATTHEWS served as commentator, Philosophical Colloquium, University of Cincinnati; and symposiast, Annual Meeting, Western Division, and commentator, Annual Meeting, Eastern Division, American Philosophical Association.

GROVER E. MAXWELL served as discussant, Social Science Research Group, Northwestern University; discussant, Philosophy of Science Conference, University of Pittsburgh; and chairman, Section Meeting, American Philosophical Association.

KARL H. POTTER served as lecturer, South Asia Program, University of Michigan; lecturer, Lillie Foundation (De Pauw University); member, Program Committee, and participant, Midwest Conference on Asian Affairs; lecturer, Oberlin College; and participant, Conference on Science and Society in South Asia.

BURNHAM TERRELL served as chairman, Committee on Social Arrangements, and member, Program Committee, Western Division, American Philosophical Association; member, Steering Committee, Conference on Values and Higher Education, Young Men's Christian Association; and member, Law Enforcement Committee, Mayor's Committee on Human Relations.

Department of Political Science

CHARLES H. BACKSTROM served as director, Political Science Section, Minnesota Academy of Science; and member, Governor's Committee on Reapportionment; and received a state and local government fellowship from the National Council for Education in Politics.

HAROLD W. CHASE served as member, Civilian Faculty, National War College (Washington, D.C.); member, Program Committee, and speaker, National Convention, American Society for Public Administration; and lecturer, White House Fellows, and speaker, Advanced Study Program, Brookings Institution (Washington, D.C.).

ROBERT T. HOLT received a research grant from the Winters Fund; a research grant from the Social Science Research Council; and a travel grant from the American Political Science Association.

JAMES E. JERNBERG served as discussant, Midwest Conference of Political Scientists.

SAMUEL KRISLOV served as editor, Free Press Series on the Supreme Court; member, Board of Editors, *Background on World Politics*; and member, Program Committee, Midwest Political Science Association; and received a research grant from the Committee for Psychological Study; a curriculum development grant from the U.S. Office of Education; and a travel grant from the American Association of Middle Eastern Studies.

CHARLES H. McLAUGHLIN served as committee chairman, American Association of University Professors.

ORVILLE C. PETERSON served as executive secretary, League of Minnesota Municipalities; member, Executive Committee, Minnesota Safety Council; and member, Governor's Civil Defense Advisory Committee.

DAVID E. REPASS served as president, Pi Sigma Alpha.

ROBERT E. RIGGS served as panel chairman, Annual Convention, Midwest Conference of Political Scientists.

BURTON M. SAPIN served as consultant, Bureau of Intelligence and Research, Department of State; consultant, Technology Planning Center (Ann Arbor, Mich.); chairman, Panel on Relationship of Social Science Community and Foreign Policymakers, National Meeting, and president, Midwest Region, International Studies Association.

THOMAS M. SCOTT served as member, Board of Trustees, League of Minnesota Municipalities.

LLOYD M. SHORT served as vice-president, and member, Executive Council, American Political Science Association; president, and member, Executive Committee, Midwest Conference on Political Science; president, American Society for Public Administration; and chairman, Council on Graduate Education for Public Administration.

MULFORD Q. SIBLEY received a fellowship from the American Association for Advancement of Science; and served as oral examiner, Honors Candidates Examination, Macalester College; and panel member, Midwest Conference of Political Scientists.

FRANCIS J. SORAUF served as member, Board of Editors, *Midwest Journal of Political Science*.

JOHN E. TURNER served as chairman, Program Committee, Midwest Political Science Conference; and member, Editorial Board, American Political

Science Association; and received a grant from the Weyerhaeuser Fund and the American Political Science Association for research on the British elections.

Department of Psychology

JOHN G. DARLEY served as member, Advisory Committee, Information Exchange Project, American Psychological Association and National Science Foundation; and member, Science Advisory Board, U.S. Air Force; and received the E. K. Strong, Jr., Memorial Award.

MARVIN D. DUNNETTE served as president, Twin City Vocational Guidance Association.

PAUL W. FOX served as discussion chairman and session chairman, Conference on Motor Learning and Behavior, Tulane University and U.S. Army; and participant, Conference on Retention and Forgetting (Tulane University), Office of Naval Research.

NORMAN GARMEZY served as chairman, Education and Training Board, American Psychological Association; member, Editorial Board, *Psychological Monographs*; member, Editorial Board, *Journal of Nervous and Mental Disease*; member, Editorial Board, *Journal of Experimental Research on Personality*; advisory editor, McGraw-Hill Book Company; and board member, Mental Health Study Section, National Institute of Mental Health; and received the Stanley R. Dean Award for basic research in schizophrenia.

IRVING I. GOTTESMAN served as discussant, Population, Genetics, and Demography Conference, Population Council, Ford Foundation; and group leader, Human Behavior Genetics, University of Louisville; and received the R. Thornton Wilson Award in Psychological Genetics from the Eastern Psychological Research Association.

JAMES J. JENKINS served as member, Board of Directors, Minnesota Human Genetics League; council member, Midwest Psychological Association; and Phillips lecturer, Haverford College; and received a fellowship from the Minnesota Psychological Association; and a fellowship from the Center for Advanced Study in Behavioral Sciences.

DAVID L. LABERGE served as member, Study Section, National Institutes of Health.

LLOYD H. LOFQUIST served as member, Executive Council, American Rehabilitation Counseling Association; chairman, Scientific Affairs Committee, American Psychological Association; member, Local Manpower Advisory Committee, and member, Advisory Council, St. Paul Youth Opportunity Center, Minnesota Department of Employment Security; member, Senate, and member, Advisory Committee, National Research Project, American Personnel and Guidance Association; and member, National Advisory Committee on Counselor Training, and editor, Monograph Series, Joint Liaison Committee, Vocational Rehabilitation Administration; and received the annual research award from the American Rehabilitation Counseling Association.

KENNETH MACCORQUODALE served as panel member, Research Career Award Program, Public Health Service; member, Surgeon General's Panel on Neuropsychiatry, U.S. Navy; member, Board of Examiners in Psychology, and consultant, Institute for Study of Drug Addiction, State of Minnesota; member, Science and Professional Ethics Committee, American Psychological Association; and visiting professor, University of California at Riverside.

PAUL E. MEEHL served as member, Committee on Scientific and Professional Aims of Psychology, and member, Committee on Relations between Psychology and Law, American Psychological Association; and trustee, Law and Society Association; and received the American Academy of Arts and Sciences Award.

WARREN W. ROBERTS served as member, Experimental Psychology Study Section, National Institute of Mental Health; participant, Session on Biology

of Drives, Neurosciences Research Program (Massachusetts Institute of Technology).

WALLACE A. RUSSELL served as local representative, Midwest Psychological Association; member, Foreign Scholarship Grants Committee, American Psychological Foundation; and member, Board of Advisors, Archives of History of American Psychology (University of Akron); and received a McMillan Fund Travel Grant for the study of the history of psychology.

MILTON A. TRAPOLD served as participant, Conference, Social Science Research Council; consulting editor, *Journal of Experimental Psychology*, and consulting editor, *Psychological Bulletin*, American Psychological Association.

ROBERT G. WARNKEN served as fellow, International Council of Psychologists; representative, Joint Liaison Committee, Vocational Rehabilitation Administration; chairman, Research Awards Committee, American Rehabilitation Counselors Association; and president, Minnesota Rehabilitation Counselors Association.

ROBERT D. WIRT served as member, Mayor's Committee on Narcotics, City of Minneapolis; member, Mental Health Review Committee, and member, Executive Committee, Mental Health Planning Council, Minnesota Department of Public Welfare; consultant, Veterans Administration; consultant, Minneapolis Public Schools; research consultant, Minnesota Department of Correction; and secretary, Training Child Psychologists, American Psychological Association.

Public Administration Center

ALBERT H. ROSENTHAL served as visiting professor, Trinity College (Dublin, Ireland); and lecturer, Royal Dublin Society.

GEORGE A. WARP served as conference panelist, and president, Minnesota Chapter, American Society of Public Administration; member, Citizens Advisory Committee, member, Traffic and Transportation Committee, and member, University Community Committee, City of Minneapolis; and special consultant, Executive Committee, Minnesota College Federation Council.

Department of Romance Languages

SANTIAGO A. CUNEO served as president, American Association of Teachers of Spanish and Portuguese; director, Museo de Belles Artes; editor-in-chief, *Luces Boreales*; and president, Commiccion de Bellas Artes.

JOHN E. FADELL served as panelist, Interdepartmental Medieval Conference, Midwest Modern Language Association.

JOSE R. MANA-LOPEZ served as participant, Spanish Section, Congress for Cultural Freedom.

LAWRENCE C. MANTINI served as participant, Language Learning Research, Center for Programmed Learning.

RICARDO A. NARVAEZ served as secretary, American Association of Teachers of Spanish and Portuguese; and received a Fulbright Lectureship from the Department of State.

ARMAND A. RENAUD served as vice-president and treasurer, Lambda Alpha Psi.

HARRY F. WILLIAMS served as council member, International Arthurian Society; and received a McMillan Travel Fellowship.

Department of Scandinavian

ALRIK GUSTAFSON served as bibliographer, Advisory Board, Modern Language Association of America.

NILS HASSELMO served as board member, Swedish Pioneer Historical Society.

MARION J. NELSON served as member, Building Committee, and director, Museum Board, Norwegian-American Museum Association (Decorah, Iowa); secretary, American Association of Museums Foundation; chairman, Summer School Scholarship Committee, University of Oslo (Norway); chairman, Scholarship Committee, Sons of Norway; and panelist, Decorative Arts Forum, Ford Museum (Michigan); and received a Lithgow Osborne Lecturing Fellowship from the American-Scandinavian Foundation.

Department of Slavic and Oriental Languages

ANWAR G. CHEJNE served as chairman, Examination Committee, University of Puerto Rico; and participant, Meeting, American Oriental Society.

EDWARD M. COPELAND served as participant, Annual Meeting, Association for American Studies; and secretary, Language Instruction Committee, Committee on Institutional Cooperation.

PAUL W. STANESLOW served as secretary, Committee on South Asian Languages, and participant, Conference on Teaching of Hindi, Association for Asian Studies.

Social Science Program

DAVID COOPERMAN served as chairman, Conference on University and Social Problems Research, Eleanor Roosevelt Memorial Foundation.

RICHARD E. SYKES served as president, Minnesota Council on Civil and Human Rights; member, Program Committee, Minnesota Conference on Religion and Race; and consultant, Anti-Poverty Program in Rural Minnesota, Minnesota Office of Economic Opportunity.

School of Social Work

RONALD C. BOUNOUS served as cochairman, Minnesota Welfare Association; and discussion leader, Annual Meeting, Minnesota Department of Correction.

MIRIAM R. COHN served as consultant, Department of Health, Education, and Welfare; chairman, Program Committee, Conference, Minnesota Welfare Association; committee chairman, Advisory Council, Faculty Development of Undergraduates, National Council of Social Work Education; teacher and director, Institute, and participant, Annual Meeting, Council of Jewish Federations and Welfare Funds; commission member, Social Group Work, member, Group Work Service in Schools Committee, and member, Group Work Practice Committee, National Association of Social Workers; and participant, State Welfare Conference Institute, Ohio Welfare Association.

BEULAH E. COMPTON served as consultant, Minnesota Welfare Department; committee chairman, National Association of Social Workers; leader, Institute on Family Functions (University of Nebraska), Department of Health, Education, and Welfare; leader, Institute on Family Functions, Boston University; discussant, Invitational Conference on Multiproblem Families, Boston University Medical School and National Institute of Mental Health; leader, Workshop on Supervision, Missouri Department of Public Welfare; and committee member, Program Planning, National Forum on Social Welfare; and received a stipend for advanced study and research from the University of Chicago and the National Institute of Mental Health; and a Fulbright Award.

JOHN A. CRANE served as committee member, National Association of Social Workers.

JOANN G. GANNON served as participant, Conference, Minnesota Welfare Association; and participant, Conference, Council on Social Work Education.

SUSAN S. GOLDMAN served as chairman, Group Work Section, Minnesota State Welfare Conference, Minnesota Welfare Association.

DOLPH HESS served as member, Task Force on Competence, and member, Committee on Knowledge and Practice, National Association of Social Workers.

CHARLOTTE V. HINN served as panel member, Teacher In-Service Training Program, Minneapolis School District Number One; and member, Planning Committee, Annual Program, Minnesota Welfare Association.

FRANZ X. KAMPS served as lecturer, Institute for Correctional Institutions Personnel, Minnesota Department of Corrections.

HARVEY KAPLAN served as board member, National Association of Social Workers; member, Social Action Committee, Public Welfare Administration; session chairman, Annual Welfare Conference, Minnesota Welfare Association; and member, Study Committee, Family Rehabilitation, Minnesota Department of Public Welfare.

MARY K. KEELEY served as member, Planning Committee, Council on Social Work Education; chairman, United States Committee, International Conference on Social Work; and program chairman, National Conference on Social Welfare.

JOHN C. KIDNEIGH served as member, Community Projects Committee, National Institute of Mental Health; member, Dean's Commission on Public Policy, Council on Social Work Education; and chairman, Training Grants Committee, U.S. Children's Bureau.

GISELA L. KONOPKA served as member, Technical Advisory Council, Citizens Council on Delinquency and Crime; member, Correction Committee, Governor's Advisory Council on Children and Youth; member, International Committee, Southern Minnesota Chapter, National Association of Social Workers; member, Grants Panel, and member, Ad Hoc Committee on Youth, U.S. Children's Bureau; member, Advisory Council, Girl Scouts of the United States of America; and participant, Conference on Internal Manpower, Department of Health, Education, and Welfare.

LAWRENCE F. MERL served as chairman, Steering Committee, member, Cabinet, member, Executive Committee, and chairman, Recruitment Committee, Southern Minnesota Chapter, National Association of Social Workers; and chairman, Social Work Careers in Minnesota, Minnesota Department of Public Welfare.

MAYO K. NEWHOUSE served as educational consultant, Department of Health, Education, and Welfare; member, Education Standards Committee, American Public Welfare Association; committee member, Annual Program, Council on Social Work Education; and committee member, Minnesota Welfare Foundation.

ANNE W. OREN served as member, Executive Committee, panel discussant, and resource person, Admissions Workshop, Minnesota Council on Social Work Education.

JOYCE E. PELTZER served as chairman, Family and Children's Council, National Association of Social Workers.

ALVIN RACKNER served as member, State Committee on Illegitimacy, Department of Public Welfare; member, Committee on Practice, St. Paul Family Center Project; and member, Health Council, St. Paul United Fund.

IDA G. RAPOPORT served as resource person, Poverty Workshop, Minnesota Home Economics Association; member, Psychiatric Social Work Council; member, Committee on Competence, National Association of Social Workers; resource person, Children's Committee, Casework Council, United Fund; and consultant, Refresher Course for Social Workers, American Rehabilitation Foundation.

HENRIETTE E. SALOSHIN served as discussion leader, Workshop on Advanced Education, and member, Task Force, Council on Social Work Education; com-

mittee chairman, Group Work Section Program, member, Special Awards Committee, and member, Board of Directors, Minnesota Welfare Association; and member, Editorial Advisory Board, *Abstracts for Social Workers*, National Association of Social Workers.

LYNDELL B. SCOTT served as committee member, National Association of Social Workers; member, Subcommittee on Research, Advanced Curriculum Committee, Council on Social Work Education; and member, Editorial Board, *Journal of Education for Social Work*.

ANNALEE STEWART served as committee chairman, National Association of Social Workers.

THOMAS H. WALZ served as consultant, Peace Corps; advisor, Volunteers in Service to America, Office of Employment Opportunity; member, Board of Directors, and participant, Undergraduate Institute, Minnesota Conference on Social Work Education; and member, Social Action Committee, and member, Recruitment Committee, Southern Minnesota Chapter, National Association of Social Workers.

DOROTHY A. WHITMORE served as consultant, Minneapolis Department of Public Relief; and consultant, Minnesota Department of Correction.

HELEN C. YESNER served as committee member, Minnesota Welfare Association; member, International Committee, Southern Minnesota Chapter, National Association of Social Workers; and participant, Foreign Leaders Conference, Department of Health, Education, and Welfare.

Department of Sociology

WILLIAM S. BENNETT, JR., served as workshop leader, Probation and Parole Officers Conference, State of Ohio.

ROY G. FRANCIS served as editorial consultant, Society for Study of Social Problems; and editorial consultant, Midwest Sociological Society.

WALTER M. GERSON served as state representative, Marriage and Divorce Regional Committee, American Sociological Association; and discussant, Summer Institute, Minnesota Department of Correction.

REUBEN L. HILL, JR., served as consultant, Population Program, Ford Foundation; fellow, Society for Research in Child Development; chairman, Program Committee, and fellow, American Sociological Association; member, Screening Committee, National Science Foundation Graduate Fellowships, National Academy of Sciences; committee member, National Research Council; and member, Executive Council, International Scientific Commission on Family.

ARTHUR L. JOHNSON served as vice-president, program chairman, Executive Board on Family Life, and consultant, Conference Committee on Leisure Time, Minnesota Council of Churches.

ELIO D. MONACHESI served as fellow, and committee member, American Sociological Association; committee member, Ramsey County Probation Department; committee chairman, Minnesota Department of Correction; board member, Midwest Sociological Association; member, Board of Directors, Big Brothers, Inc.; and commissioner, Hennepin County Youth Development Project.

ARNOLD M. ROSE served as committee chairman, International Sociological Society; member, Executive Committee, Midwest Council for Social Research on the Aging; committee chairman, Annual Conference, American Sociological Association; member, Executive Committee, Society for the Study of Social Problems; member, Advisory Committee on Older Americans, Department of Health, Education, and Welfare; and member, Advisory Committee on Deprived Youth, Department of Labor.

GREGORY P. STONE served as consultant, Japanese-American Research Project, University of California at Los Angeles; chairman, Governor's Task

Force, Mental Retardation Planning Council; consultant, St. Paul Housing and Redevelopment Authority; and consultant, Minnesota Council on Alcohol Problems.

MURRAY A. STRAUS served as member, Committee on Certification of Social Psychologists, American Sociological Association; committee member, Midwest Sociological Society; committee member, Rural Sociological Society; member, Board of Directors, National Council on Family Relations; and visiting scientist, National Science Foundation, American Sociological Association; and received a Fulbright Senior Research Fellowship.

Department of Speech and Theatre Arts

LEE ADEY served as scene designer, Stagecoach Players (Shakopee); advisor, National Collegiate Players; director, St. Louis Park Community Theatre; and judge, One Act Play Festival, State of Minnesota.

LEONARD D. BART served as program participant, Convention, Speech Association of America; and advisor, Correction Officers Institute, Minnesota Department of Correction.

ERNEST G. BORMANN served as member, Study Committee, Religion in American Culture.

JOSEPH B. CHAIKLIN served as member, Committee on Convention Policy, American Speech and Hearing Association; and received a fellowship from the National Institute of Neurological Diseases and Blindness.

VIRGINIA FREDERICKS served as president, and workshop chairman, Contest Judging, Minnesota Speech Association; critic and judge, Minnesota State High School League; member, Advisory Committee, Central States Speech Association; and member, Advisory Committee, State Board of Education.

KENNETH L. GRAHAM served as member, Board of Trustees, American Playwrights Theatre; member, National Committee, University Theatre Festival; member, Board of Directors, Speech Association of America; delegate, Annual Meeting, American Educational Theatre Association; delegate, Creative Behavior in the Arts Conference, University of California at Los Angeles and U.S. Office of Education; and delegate, Annual Meeting, American National Theatre Academy.

LINDA S. GROSSMAN served as secretary, Sigma Alpha Eta.

ERNEST HENRIKSON served as consultant, American Cancer Society; consultant, International Exchange, Veterans Administration Research Council; consulting editor, *Journal of Speech and Hearing Disorders*, participant, Convention, and chairman, Career Problems of Aging Conference, American Speech and Hearing Association; and chairman, Conference, Vocational Rehabilitation Administration.

WILLIAM S. HOWELL served as speech advisor, Minnesota High School League; judge, High School Forensics, Minnesota high schools; and president, International Group Discussion, Speech Association of America.

MAXINE M. KLEIN served as director, Edina Community Theatre; and research assistant, Minnesota Actors Conference, Department of Health, Education, and Welfare.

ROBERT L. SCOTT served as member, Legislative Committee, Speech Association of America.

GEORGE L. SHAPIRO served as program chairman, National Convention, Speech Association of America; program chairman, Convention, National Association of Counseling and Guidance; participant, Training Program, State Department of Correction; and participant, Training Program, Minneapolis Police Department.

DAVID W. THOMPSON served as critic and judge, Speech Festivals, Minnesota High School League.

RONALD W. WENDAHL served as consultant, Community Science Laboratory, University of Florida; member, Program Committee, American Speech and Hearing Association; and panel member, Central States Speech Association.

FRANK M. WHITING served as member, Board of Trustees, National Theatre Conference; and member, Board of Directors, Minnesota Theatre Company Foundation.

Department of Statistics

HERBERT E. ROBBINS served as president, Institute of Mathematical Statistics.

MILTON SOBEL served as fellow, American Statistical Association; and fellow, Institute of Mathematical Statistics.

CHARLOTTE T. STRIEBEL served as visiting assistant professor, University of Chicago.

University Libraries

PAUL D. BERRISFORD served as participant, Ford Foundation Project, University of Minnesota and University of Concepción (Chile); and member, Descriptive Cataloguing Committee, American Library Committee.

RAYMOND A. BOHLING served as president, Minnesota Chapter, Special Libraries Association.

ELIZABETH A. BROWN served as member, Nominations Committee, Academic Section, and member, Membership Committee, Minnesota Library Association; and member, Registration Committee, National Convention, Special Libraries Association.

PAUL P. CHENG served as translator, Library Science Abstracts, American Library Association.

MARIE J. ELLER served as member, Voters Service; and member, Library Committee, League of Women Voters.

LOIS R. FERM served as secretary, Minnesota Library Association; participant, Seminar, Center for Programmed Learning; member, Evaluation Team, Breck School; and member, Library Visitation Committee, State Library Committee.

RALPH H. HOPP served as member, Advisory Council, Center for Research Libraries; lecturer, Federal Library Institutes, U.S. Civil Service Commission; and counselor, American Library Association.

NORMA L. HOVDEN served as member, Membership Committee, American Library Association.

JOHN PARKER served as secretary, Society for the History of Discoveries; participant, International Geographers Congress (London); and participant, North American Fur Trade Conference.

MAGDALENE ROZENTALS served as member, Exhibition Committee, Convention, Special Libraries Association.

HENRY C. SCHOLBERG received an American Institute of Indian Studies Fellowship; and served as participant, Conference on Area Studies and Libraries, University of Chicago Graduate Library School.

EDWARD B. STANFORD served as consultant, Graduate Faculties Branch, Bureau of Higher Education, U.S. Office of Education; and member, Association of College and Research Libraries Council, American Library Association.

College of Medical Sciences*Administration*

RAYMOND N. BIETER served as member, Problems of Drug Dependence Committee, National Academy of Sciences and National Research Council.

H. MEAD CAVERT served as member, Student Affairs Group, Association of American Medical Colleges; consultant, Public Advisory Committee, National Institutes of Health and Public Health Service; and member, Program Project Committee, National Heart Institute.

N. L. GAULT, JR., served as chairman, Site Survey Team, and consultant, Agency for International Development (South Vietnam, Turkey, Lebanon, and South America); and member, Planning Committee, Internal Medicine Education Institute, and chairman, Tenth Annual Medical Graduates Conference, American Association of Medical Colleges.

ROBERT B. HOWARD served as member, Health Research Facilities Advisory Council, Public Health Service; secretary-treasurer, Association of American Medical Colleges; trustee, Hamline University; and member, Education for the Health Professions Commission, National Association of State Universities and Land-Grant Colleges.

WILLIAM N. SPELLACY received a Macy Foundation Fellowship.

Department of Anatomy

GUSTAV E. BAUER received a fellowship from the National Institutes of Health.

ARNOLD LAZAROW served as member, National Advisory Arthritis and Metabolic Diseases Council, Public Health Service.

LEONARD R. MURRELL received a research fellowship from the American Diabetes Association.

MORRIS SMITHBERG received the Distinguished Teaching Award from the Minnesota Medical Foundation.

Department of Biochemistry

WALLACE D. ARMSTRONG received the Biological Mineralization Research Award from the International Association for Dental Research; and served as member, Human Uses of Radioisotopes Committee, Atomic Energy Commission; member, Revision Committee, Radiological Physics Division, Argonne National Laboratory; member, Dental Research Advisory Committee, U.S. Army; and member, Interim Committee, International Association for Dental Research.

MARY E. DEMPSEY served as vice-chairman, Biochemical Topical Group, and feature editor, *Minnesota Chemist*, American Chemical Society; and received a research grant from the Muscular Dystrophy Association, Inc.

ERNEST D. GRAY served as member, Summer Fellowship Committee, Minnesota Heart Association.

FRANK UNGAR served as member, Editorial Board, *Steroids*.

DONALD B. WETLAUFER served as consultant, Military Personnel Supplies Advisory Board, National Academy of Sciences and National Research Council; and visiting professor, University of Illinois.

Department of Continuation Medical Education

W. ALBERT SULLIVAN served as member, Postgraduate Medicine Council, American Medical Association.

University Hospitals

FLORENCE J. JULIAN served as nursing consultant, Veterans Administration Hospital (Minneapolis); and member, Nursing Committee, American Medical Association.

Department of Laboratory Medicine

ELLIS S. BENSON served as member, Pathology Study Section, National Institutes of Health and Public Health Service; member, Pathology Research Evaluation Committee, Veterans Administration; and panelist, Muscle Symposium, Hungarian Academy of Science (Budapest).

LORRAINE M. GONYEA served as coordinator, Coagulation Workshop, Illinois Society of Medical Technologists.

RUTH F. HOVDE served as consultant, Allied Health Professions Committee, Department of Health, Education, and Welfare; consultant, Back-to-Work Task Force, and member, Technical Advisory Committee, Recruitment Film, National Committee on Careers in Medical Technology (Washington, D.C.); and consultant, College Affiliations Meeting (Washington, D.C.), National Council of Medical Technologist Educators.

BARBARA R. MERRITT served as member, State Hospital Laboratory Committee, Minnesota Department of Public Welfare; and secretary, Minnesota Society of Medical Technologists.

VERNA L. RAUSCH served as chairman, Examination Committee, Board of Certified Laboratory Assistants, American Society of Clinical Pathology; and president, American Society of Medical Technologists.

ANDREAS ROSENBERG served as president, Science Committee, National Institutes of Health.

PAUL E. STRANDJORD served as guest faculty member, Clinical Chemistry Council, American Society of Clinical Pathology; and Minnesota representative, Annual Conference, Cardiovascular Training Grant Program Directors, National Heart Institute.

R. DOROTHY SUNDBERG served as member, Hematology Program Review Committee, Veterans Administration (Washington, D.C.); and session chairman, Annual Meeting, American Association of Anatomists.

JORGE J. YUNIS served as cochairman, Cytogenics Session, Third International Human Genetics Congress.

Department of Medicine

IVAN D. FRANTZ, JR., served as member, Metabolism Study Section, National Institutes of Health; member, Special Projects Review Committee, National Heart Institute; president-elect, Minnesota Heart Association; and chairman-elect, Arteriosclerosis Council, American Heart Association.

FREDERICK C. GOETZ served as member, Editorial Board, *Diabetes*, American Diabetes Association; secretary, Minneapolis Society of Internal Medicine; and visiting professor of endocrinology, Lovelace College.

BYRL J. KENNEDY served as member, Fellowship Committee, member, Professional Education Committee, director-at-large, Board of Directors, and member, Medicine and Scientific Committee, American Cancer Society; member, Executive Committee, Cancer Chemotherapy National Service Center; member, Disseminated Disease Task Force, member, Lymphoma Task Force, and chairman, Stomach Cancer Task Force, American Joint Committee on Cancer Staging and End Results Reporting; member, Cancer Committee, American College of Physicians; and member, Program Committee, American Society of Clinical Oncology.

FRANCIS W. LYNCH served as president, American Dermatological Association.

HENRY E. MICHELSON was elected honorary member, Dermatology Section, Royal Society of Medicine.

WILLARD C. PETERSON, JR., served as member, Board of Directors, Nu Sigma Nu; and member, Board of Directors, and chairman, Advisory Committee, Phi Gamma Delta.

WALTER J. RUNGE received a Certificate of Merit from the American Medical Association; and the Sam Becker Gold Medal from the American Academy of Dermatology.

WESLEY W. SPINK received an award and a Citation for Distinguished Achievements in Medicine from Boston City Hospital; and served as visiting professor, Mount Sinai Hospital (Cleveland, Ohio); visiting professor, University of Arkansas; member, Shock Committee, National Research Council; member, Medical Advisory Board, Food and Drug Administration; and president-elect, Medical Alumni Council, Harvard University.

LUIGI TADDEINI received a Hematology Fellowship from the Public Health Service.

LOUIS TOBIAN, JR., served as member, Cardiovascular Section Project Site Visits, National Institutes of Health; and chairman, Research Allocations Committee, Minnesota Heart Association.

YANG WANG served as member, Board of Directors, Minnesota Heart Association; member, Rheumatic Fever Committee, and fellow, American College of Chest Physicians; member-at-large, Great Plains Regional Research Advisory Committee, American Heart Association; fellow, American Association for the Advancement of Science; fellow, American College of Physicians; council member, Central Clinical Research Club; and fellow, American College of Sports and Medicine.

CECIL J. WATSON served as Sidney Thayer Lecturer, Johns Hopkins Hospital; member, Intramural Advisory Council, National Institute for Arthritis and Metabolic Diseases; chairman, Ad Hoc Committee for Consideration of New Medical Section, National Academy of Sciences; and president, American Clinical and Climatological Association.

DOROTHY B. WINDHORST received a fellowship from the National Institute for Arthritis and Metabolic Diseases.

Department of Microbiology

ROBERT W. BERNLOHR served as member, Editorial Board, *Journal of Bacteriology*, American Society of Microbiologists.

S. GAYLEN BRADLEY served as coordinator, Microbial Genetics Short Course, Society of Industrial Microbiologists; and coordinator, Microbial Genetics Short Course, National University of Mexico.

MARTIN DWORKIN served as secretary and vice-chairman, General Division, American Society of Microbiologists.

PETER G. PLAGEMANN received a fellowship from Western Reserve University.

PALMER ROGERS, JR., served as consultant, Microbiology Research Unit, Veterans Administration Hospital.

DENNIS W. WATSON served as chairman, Medicine and Immunology Division, and member, Council Policy Committee, American Society of Microbiologists; council member-at-large, Society for Experimental Biology and Medicine; chairman, Allergy and Infectious Disease Training Grant Committee, National Institutes of Health; member, Board of Governors, and chairman, Medical Division, American Academy of Microbiology; president, Henrici Society for Microbiologists; chairman, Microbiology Committee, Big Ten Universities Institutional Cooperation Committee; and member, Microbiology Panel, Office of Naval Research.

School of Nursing

MARILYNE R. BACKLUND served as member, Legislative Committee, Minnesota Nurses Association; and member, Nominating Committee, Minnesota League for Nursing.

FLORENCE M. BRENNAN served as secretary, Nursing Advisory Board, St. Mary's Junior College; consultant, Curriculum Conference, Mount Alverno College; and consultant, Nursing Education, Javeriana University (Bogotá, Colombia).

NANCY L. COOK served as chairman, Evaluation and Guidance Committee, Minnesota League for Nursing.

BENITA P. COWLISHAW served as coordinator, Nurses in Community Health Conference, University of Colorado.

FRANCES E. DUNNING received a Visiting Research Associate Fellowship to the Institute of Research and Service in Nursing Education, Columbia University Teachers College.

EDNA L. FRITZ served as vice-chairman, Member Agencies Council, and member, Accreditation Visiting Team, National League for Nursing; member, Board of Directors, Minnesota League for Nursing; and member, Advisory Committee, Mental Health and Public Health Nursing, Public Health Service and University of Minnesota.

MARGARET F. GRAINGER received a Service Award from the Minnesota League for Nursing.

HELEN B. HANSON served as first vice-president, member, Legislative Committee, and member, Executive Committee, Third District Nursing Association; member, Nominating Committee, member, Steering Committee, and workshop cochairman, Minnesota League for Nursing; chairman, Convention Program Planning Committee, member, Continuing Education in Nursing Committee, and member, Nursing Refresher Courses Committee, Minnesota Nurses Association; and member, Advisory Committee, Active Nursing Care Demonstration Project, and chairman, Hospital Nursing Subcommittee, Interdisciplinary Committee, Minneapolis Health Department.

M. ISABEL HARRIS served as member, Advisory Committee, consultant, Nursing Review Panel, and member, Review Committee, Construction of Nurse Training Facilities, Public Health Service; and member, Technical Committee, American Nurses Foundation; and received a Certificate of Merit from the American Nurses Foundation.

JOANN R. HUBBARD was elected to membership in Sigma Theta Tau.

GARLAND K. LEWIS received a Certificate of Merit from the Veterans Administration Nursing Service (Washington, D.C.); and served as member, Editorial Board, *Nursing Perspectives*; consultant, Advisory Committee, Minnesota Department of Health; consultant, Department of Health, Education, and Welfare; consultant, National Institute of Mental Health; consultant, Public Health Service; member, Board of Directors, Minnesota League for Nursing; chairman, Nursing Education Committee, National League for Nursing; member, Professional Advisory Committee, Minnesota Association for Mental Health; and member, Comprehensive Mental Health Program Planning Committee, Hennepin County Community Health and Welfare Council.

HELEN J. PETERSON served as chairman, Program Committee, Third District, Minnesota Nurses Association.

GRACE M. SAROSI served as member, Nominating Committee, National League for Nursing; and delegate, Nursing Research Symposium, Western Reserve University.

MARILYN SIME served as recording secretary, Evaluation and Guidance Committee, workshop group leader, and member, Workshop Steering Committee, Minnesota League for Nursing; member, Evaluation and Guidance

Committee, National League for Nursing; and consultant, Baccalaureate Curriculum Conference, Western Reserve University School of Nursing.

EUGENIA R. TAYLOR served as member, Personnel Criteria in Psychological Nursing Study Committee, Minnesota Nurses Association; and member, Conference Planning Committee, Minnesota Licensed Practical Nurses Association and University of Minnesota.

DOROTHY E. TITT served as vice-president, Minnesota Board of Nursing.

Department of Ophthalmology

JOHN E. HARRIS served as chairman, Vision Research Committee, and chairman, Lens Symposium, National Institutes of Health; member, Editorial Board, and chairman, Association for Research in Ophthalmology; chairman, Vision Research Training Committee, National Institute of Neurological Diseases and Blindness; and member, Ophthalmology Committee, and member, Preschool Medical Survey Committee, Minnesota Medical Society.

Department of Otolaryngology

LAWRENCE R. BOIES served as chairman, Communicative Science Study Section, National Institutes of Health; member, Advisory Committee, Neurological and Sensory Disease Service; first vice-president, American Laryngological Association; and president, American Laryngological, Rhinological, and Otolaryngological Society.

ARNDT J. DUVALL, III, served as member, Conservation of Hearing Committee, Minnesota Medical Association.

W. DIXON WARD was named a fellow of the American Speech and Hearing Association; and served as member, Hearing and Bioacoustics Committee, National Academy of Sciences and National Research Council; and coordinator, Literary Abstracts, *Journal of Occupational Medicine*.

Department of Pathology

FRANZ HALBERG served as consultant, National Institutes of Health; and consultant, U.S. Department of Agriculture.

KENNETH A. OSTERBERG received the Lederle Medical Faculty Award; and served as pathology consultant, Willmar State Hospital; and pathology consultant, Hastings State Hospital.

ROBERT L. STROM was named a fellow of the American Society of Clinical Pathologists; and received an Outstanding Medical Writing Award from *Minnesota Medicine*.

LEE W. WATTENBERG served as committee member, Pathology B Study Section, Public Health Service; associate editor, *Cancer Research*, American Association for Cancer Research; vice-president, American Histochemical Society; consultant, North Star Research and Development Institute; and pathology consultant, Anoka State Hospital.

BERTRAM F. WOOLFREY served as consultant, Grant Requests, Atomic Energy Commission.

Department of Pediatrics

JOHN A. ANDERSON served as vice-president, American Board of Pediatrics.

RAY C. ANDERSON served as member, Genetics Committee, State of Minnesota; member, School Heart Committee, Minnesota Heart Association; and committee member, Pediatric Cardiology Section, American Academy of Pediatricians.

CHARLES A. BRANTHAVER served as member, Planning Committee, Governor's Task Force on Mental Retardation; and member, Planning Committee, Governor's Conference on Children and Youth.

ARTHUR R. PAGE received a Career Development Award from the Public Health Service.

RICHARD B. RAILE served as medical director, Hennepin County General Hospital; and received the Excellence in Medical Writing Award from *Minnesota Medicine*.

JOHN W. REYNOLDS received a Career Development Award from the National Institutes of Health.

HOMER D. VENTERS, JR., served as member, Medical Advisory Committee, Ramsey County Chapter, and member, Executive Committee, Minnesota Chapter, National Arthritis and Rheumatism Foundation.

LEWIS W. WANNAMAKER served as committee chairman, American Heart Association; deputy director, Epidemic Board, and member, Streptococcal and Staphylococcal Diseases Committee, U.S. Armed Forces; council member, Society for Pediatrics Research; council member, Central Society for Clinical Research; consultant, Surgeon General, U.S. Army; member, Editorial Board, *Journal of Bacteriology*; member, Allergy and Immunology Study Section, National Institutes of Health and Public Health Service; and consultant, Heart Disease Control Program (Egypt), Public Health Service.

WARREN J. WARWICK served as director, Midwest Cystic Fibrosis Conference, member, Medical Care Committee, and member, Central Program Committee, National Cystic Fibrosis Research Foundation; and member, Editorial Board, *Minnesota Medicine*.

JAMES G. WHITE received the Cochem Award for hematology research.

Department of Pharmacology

EDWARD J. CAFRUNY served as member, Pharmacology and Experimental Therapeutics Study Section, and chairman, Comparative Pharmacology Symposium, National Institutes of Health; and member, Editorial Board, *Journal of Pharmacology*.

NELSON D. GOLDBERG received a fellowship from the Public Health Service.

GILBERT J. MANNERING served as member, Toxicology Study Section, and member, Pharmacology-Toxicology Review Panel, Public Health Service; member, Program Committee, and member, Technical Committee, Society of Toxicology; and member, Ad Hoc Drug Toxicity Committee, Drug Research Board, and member, Applications of Biochemical Studies in Evaluating Drug Toxicity Committee, National Academy of Sciences and National Research Council.

AMEDEO S. MARRAZZI served as council member, and chairman, Annual Meeting, Society of Biological Psychiatry; chairman, Liaison Committee, Learned Society, American College of Neuropsychopharmacology, and Society of Biological Psychiatry; consultant, Minneapolis Veterans Administration Hospital; member, Advisory Board, International Institute for Comprehensive Medicine.

FREDERICK E. SHIDEMAN was named an honorary member of the Korean Medical Association; and served as member, Organization Committee, Second Catecholamine Symposium, Recherche Institute (Milan, Italy); chairman, Advisory Committee, American Cancer Society; chairman, Pharmacology and Experimental Therapeutics Study Section, and member, Pharmacology and Toxicology Training Committee, National Institutes of Health; chairman, Abuse of Depressant and Stimulant Drugs Committee, Food and Drug Administration; and member, Editorial Committee, *Annual Review of Pharmacology*.

AKIRA E. TAKEMORI received an International Travel Award from the National Academy of Sciences.

TRAVIS I. THOMPSON served as chairman, Minnesota Psychology Association; consultant, Drug Abuse Committee, Food and Drug Administration; and reviewer, Biopsychology Grant Applications, National Science Foundation.

Department of Physical Medicine and Rehabilitation

JOHN D. ALLISON served as secretary, Physical Therapy Examination Committee, State of Minnesota; and chief delegate, American Physical Therapy Association.

PETER F. BRIGGS served as consultant, Kenny Rehabilitation Institute; consultant, Youth Conservation Commission, Lino Lakes Diagnostic Center; consultant, Family and Children's Service, and member, Civil Service Selection Board, State of Minnesota; and member, Steering Committee, Youth Development Project, Health and Welfare Council, President's Juvenile Delinquency and Youth Crime Committee.

THEODORE M. COLE served as member, Steering Committee, Heart Disease, Cancer, and Stroke Symposium, Vocational Rehabilitation Administration.

HELEN M. DAHLSTROM served as chairman, Hospitality Committee, and delegate, Conference, American Occupational Therapy Association; and member, Examination Writing Committee, and member, Training Committee, Minnesota Occupational Therapy Association.

MARIAN L. ELIASON served as coordinator, New Developments in Psychiatric Occupational Therapy Conference, Minnesota Occupational Therapy Association.

GLENN GULLICKSON, JR., received the Distinguished Service Key from the American Congress of Physical Medicine and Rehabilitation; and served as general chairman, Examination Committee, Annual Meeting, American Congress of Physical Medicine and Rehabilitation; member, Examination Committee, Minnesota Board of Medical Examiners; examiner, American Board of Physical Medicine and Rehabilitation; consultant, Research Committee, and consultant, Training Committee, National Institute for Neurological Diseases and Blindness; and governor, American Academy of Physical Medicine and Rehabilitation.

FREDERIC J. KOTTKE served as member, State Board of Health; member, Youth Traffic Safety Committee, Governor's Council on Children and Youth; member, Governor's Committee on Highway Safety; member, Medical Advisory Committee, Vocational Rehabilitation Administration; chairman, American Board of Physical Medicine and Rehabilitation; member, Editorial Board, *Archives of Physical Medicine and Rehabilitation*; and delegate, Congress, International Federation of Physical Medicine (Paris, France).

WILLIAM G. KUBICEK served as member, Agricultural Science Advisory Board, and consultant, Agricultural Science and Research, U.S. Department of Agriculture.

MARVIN G. LEPLEY served as chairman, Regional Practice Council, American Occupational Therapy Association; and member, Planning Committee, Occupational Therapy Refresher Course, American Rehabilitation Foundation.

ROMINE E. MATTHEWS served as recorder, Sheltered Workshops Conference, and recorder, Mental Retardation Conference, Minneapolis Society for Crippled Children and Adults; and secretary, Ad Hoc State-wide Branch Establishment Committee, American Personnel and Guidance Association.

MILDRED E. OLSON served as member, Planning Committee, National Careers in Medical Technology Committee.

ROBERT P. PATTERSON served as secretary, Engineering in Medicine and Biology Group, Twin Cities Section, Institute of Electrical and Electronics Engineers.

JAMES F. POHTILLA served as treasurer, member, Executive Committee, and member, Board of Directors, Minnesota Chapter, American Physical Therapy Association.

HELEN V. SKOWLUND served as chairman, Planning Committee, National Institute of Physical Therapy Educators, American Physical Therapy Association and Vocational Rehabilitation Administration.

HENRY C. WESSMAN served as vice-president, Minnesota Chapter, American Physical Therapy Association.

Department of Physiology

MARVIN B. BACANER received a research grant for studies on Bretylium and Bethanidine from the Borroughs-Wellcome Company.

CHARLES EDWARDS received a Grass Foundation Fellowship as visiting professor, Centro de Investigacion del Instituto Politecnico Nacional (Mexico).

EUGENE D. GRIM received the Kappa Delta Award for outstanding research in orthopedic surgery; and served as section editor, *American Journal of Physiology*, section editor, *Journal of Applied Physiology*, and chairman, Gastrointestinal Section, American Physiological Society.

RODNEY B. HARVEY received a study grant from the Public Health Service; and served as member, Board of Directors, Minnesota Academy of Sciences.

JOHN A. JOHNSON served as member, Minnesota Basic Science Examining Board.

NATHAN LIFSON served as editor, *American Journal of Physiology*, American Physiological Society.

CARLO A. TERZUOLO served as organizer and chairman, Receptor Physiology Conference, Neurophysiology Group, American Physiological Society; and section chairman, First Nobel Symposium (Stockholm, Sweden), Nobel Institute of Neurophysiology; and received a Fulbright Award.

MAURICE B. VISSCHER served as third chairman, Scientific Advisory Committee, American Medical Association Educational Research Foundation and Institute for Biomedical Research; member, Scientific Advisory Committee, President's Commission on Heart Disease, Cancer, and Stroke; honorary member, Omicron Kappa Upsilon; president, National Society for Medical Research; and chairman, Physiology Section, National Academy of Sciences; and was named a fellow of the American Academy of Arts and Sciences.

Department of Psychiatry and Neurology

MILTON ALTER served as secretary, Society for Neurological Epidemiology; member, Governor's Task Force on Mental Retardation; chairman, Advances in Epidemiology of Multiple Sclerosis Conference, National Multiple Sclerosis Society and National Institutes of Health.

ABE B. BAKER served as member, Joint Cerebrovascular Disease Committee, and member, Advisory Council, National Institute for Neurological Diseases and Blindness; and chairman, Residency Review Committee, American Medical Association.

GEORGE J. BARRY served as psychiatric consultant, Owatonna Mental Health Center.

JAMES F. BERRY was named a fellow of the American Chemical Society; and served as visiting professor, University of Maryland; visiting scientist, City of Hope Medical Center (Duarte, Calif.); and consultant, Nuclear-Chicago, Inc. (Des Plaines, Ill.).

MICHAEL E. BLAW served as advisor, Physically Handicapped Children Subcommittee, Minnesota Department of Welfare; chairman, Pediatric Neurology Course, and member, Special Courses Committee, American Academy

of Neurology; and member, Handicapped Children Subcommittee, Minnesota Medical Association.

GEORGE C. FLORA served as chairman, Placement Bureau, and member, Executive Committee, American Academy of Neurology.

ROBERT J. GUMNIT served as associate examiner, Clinical Electroencephalographists Qualification Board, and member, Membership and Nominating Committee, American Electroencephalographic Society; vice-president, St. Paul Society of Psychiatry and Neurology; member, Editorial Board, *Electroencephalography and Clinical Neurophysiology*; and chairman, Nominating Committee, Central Electroencephalographic Society.

A. JACK HAFNER served as consultant, National Center for Health Statistics, Department of Health, Education, and Welfare; and field selection officer, Peace Corps (Washington, D.C.).

DONALD W. HASTINGS served as member, Steering Committee, Medical Research and Defense Committee, Department of Defense.

STARKE R. HATHAWAY was awarded the degree Doctor of Humane Letters by Ohio University.

GORDON T. HEISTAD served as member, Behavioral Pharmacology Committee, Psychopharmacology Service Center, member, Clinical Drug Investigating Committee, and member, Board of Directors, Biological Science Training Program, Public Health Service.

REYNOLD A. JENSEN was named a fellow of the American Association for the Advancement of Science; and served as consultant, Child Psychiatry, Lakeland Mental Health Center; member, Children's Advisory Committee, State Department of Public Welfare; member, Board of Directors, and chairman, Health and Welfare Committee, Hennepin County United Fund; member, Board of Directors, River Falls State College Foundation; committee member, American Civil Liberties Union; member, Mental Retardation Planning Council, State of Minnesota; member, Scientific Advisory Board, National Association for Retarded Children; and member, Research Advisory Committee, Minnesota Association for Retarded Children.

WILLIAM W. JEPSON served as member, Health Committee, Community Health and Welfare Council, State of Minnesota; and consultant, Mental Health Centers (Decatur, Ill., Pontiac, Mich., and Twin Falls, Idaho), National Institute of Mental Health.

THOMAS J. KIREKUK served as member, Executive Council, and program chairman, Annual Meeting, Minnesota Psychological Association; member, Statistics Advisory Committee, and member, Guidelines Committee, Minnesota Department of Public Welfare; and member, Medical Audit Committee, and member, Electronic Data Processing Committee, Hennepin County General Hospital.

CARL D. KOUTSKY served as chairman, Medical Policy Advisory Committee, and member, Executive Committee, Mental Health Planning Committee, Minnesota Department of Public Welfare; member, Mental Retardation Facilities Construction Advisory Committee, State of Minnesota; and member, Forensics Committee, Mental Health Planning Council.

JAMES J. LAWTON, JR., served as member, Governor's Advisory Council on Corrections and Probation, and member, Correctional Institutions Committee, State of Minnesota.

JOHN A. LOGOTHETIS served as secretary-treasurer and vice-president, Minnesota Society of Neurological Sciences.

DAVID T. LYKKEN served as research consultant, Veterans Administration Hospital (Fort Snelling); research consultant, Minneapolis Honeywell Company; research consultant, Psychiatric Institute, University of Missouri; and consulting editor, *Journal of Experimental Research in Personality*.

JAMES A. MORIARTY served as neurological consultant, Veterans Administration Hospital; and neurological consultant, Anoka State Hospital.

WENTWORTH QUAST served as regional editor, Clinical Child Psychiatry Section, American Psychiatric Association; consultant, Community Service Project, Public Health Service; consultant, Outpatient Psychiatry Clinic, Veterans Administration Hospital; consultant, Mentally Retarded and Neurologically Handicapped Children Project, Pediatrics Department, St. Paul-Ramsey Hospital; and consultant, St. Paul Association for Retarded Children; and received a research grant from the National Institute of Mental Health.

JOSEPH A. RESCH served as council member, American Academy of Neurology; and president, Minnesota Society of Neurological Sciences.

BURTRUM C. SCHIELE received a Certificate of Appreciation for contributions in psychiatric care from the Veterans Administration; and served as consultant, Clinical Drug Evaluation Committee, Biological and Psychopharmacological Research Branch, National Institute of Mental Health.

WILLIAM SCHOFIELD served as visiting professor, University of Colorado; and member, Medical Policy Advisory Committee, Minnesota Department of Public Welfare.

HILDRED SCHUELL served as member, Professional Services Examining Board, member, Speech Pathology and Audiology Examining Board, and member, Executive Council, American Speech and Hearing Association; and received an award for contributions on aphasia from the Veterans Administration.

WERNER SIMON served as chairman, Teaching Team, Veterans Administration Hospital (Knoxville, Iowa), and member, Executive Committee, Cooperative Studies in Psychiatry (Palo Alto, Calif., and New Orleans, La.), Veterans Administration; visiting professor, Washington University School of Medicine; and president-elect, Minnesota Psychiatric Society, American Psychiatric Association.

JOO H. SUNG served as cochairman, Neuropathology Course, American Academy of Neurology.

KENNETH F. SWALMAN served as coorganizer, National Conference, Phenylketonuria and Allied Metabolic Diseases, U.S. Children's Bureau.

DAVID D. WEBSTER served as examiner, American Board of Neurology; and member, Lobotomy Committee, Minneapolis Veterans Administration Hospital.

DANIEL N. WIENER served as biological research consultant, University of Puerto Rico.

FRANCIS S. WRIGHT was named a fellow of the American Academy of Pediatrics; and served as member, Research Task Force, Minnesota Mental Retardation Planning Council.

School of Public Health

ELEANOR M. ANDERSON served as member, Steering Committee, Interdivisional Council on Psychiatric Nursing; and received a travel fellowship to Costa Rica, Colombia, Chile, and Brazil from the World Health Organization.

GAYLORD W. ANDERSON served as chairman, Environmental Health Task Force, National Community Health Service Commission; and member, Governor's Committee on Air Resources.

JOSEPH T. ANDERSON served as member, Editorial Board, *Biological Abstracts*.

JACOB E. BEARMAN served as member, Board of Directors, Hennepin County Tuberculosis and Health Association; consultant, Ibarada Project (Nigeria), Rockefeller Foundation; and consultant, Public Health Service.

HENRY W. BLACKBURN served as member, Executive Committee, Epidemiology Council, American Heart Association; chairman, Professional Education Committee, Minnesota Heart Association; committee member, Conference

(Venice, Italy), International Society of Cardiology; and consultant (Geneva, Switzerland), World Health Organization.

CLARE L. BLANCHARD served as member, Nursing Education Cost Study Committee, Baccalaureate and Higher Degree Department, National League for Nursing; and consultant, Visual Aids in Public Health Nursing Conference, University of Iowa School of Nursing.

JAMES R. BOEN served as statistical consultant, Minnesota Department of Mental Health; consultant, Analgesic Study (Puerto Rico), Stanford University; and visiting assistant professor, Biometry Department, Yale University.

RICHARD G. BOND served as member, Governing Council, member, Bronfman Award Committee, and member, Communicable Diseases Committee, American Public Health Association; member, Technical Staff, Environmental Health Task Force, National Commission on Community Health; consultant, Surgeon General, U.S. Army; member, Health and Medical Technology Committee, National Safety Council; consultant, Biological Work Group, National Cancer Institute; and consultant, Research Services Division, National Institutes of Health.

ALLYN G. BRIDGE received a travel fellowship to England, the Netherlands, Sweden, and Denmark from the World Health Organization; and served as member, Indian Health Committee, American Academy of Pediatrics; member, Research Task Force, Governor's Mental Retardation Planning Council; member, Executive Committee, and treasurer, Minnesota Public Health Association; member, Program Planning Committee, Annual Meeting, Association of Professors of Maternal and Child Health; member, Program Committee, Association of Deans of Schools of Public Health; and member, Membership Committee, member, Public Medical Care for Children Committee, and vice-chairman, Liaison Committee, Maternal and Child Health Section, American Public Health Association.

BYRON W. BROWN, JR., served as consultant, Minnesota Public Welfare Department; committee consultant, Arteriosclerosis Council, American Heart Association; consultant, Anticoagulant Clinical Trials, and director, Minnesota Biometry Training Grant Committee, National Institutes of Health; consultant, Halothane Study, National Academy of Sciences; chairman, Weather Modification Conference, National Science Foundation; editorial collaborator, *Biometrics*, and representative, American Statistical Association, Biometric Society; and editorial collaborator, *Journal*, member, National Council, and president, Twin Cities Section, American Statistical Association.

NORMAN A. CRAIG served as consultant, Minneapolis Health Department; consultant, St. Paul Health Department; and chairman, International Health Education Committee, Health Education Section, American Public Health Association.

HARRY FOREMAN served as exchange scientist (U.S.S.R.), U.S. Office of International Health.

DELPHIE J. FREDLUND served as member, Steering Committee, chairman, Nursing Education Division, and board member, Minnesota League for Nursing; member, Functions Committee, Minnesota Nurses Association; member, Minnesota School Health Council; member, Nurses Advisory Committee, Planned Parenthood; consultant, Minneapolis Combined Nursing Service; and consultant, Minneapolis Health Department.

VELVL W. GREENE served as coordinator, Short Courses, coordinator, Atmospheric Biology Conference, and coordinator, Spacecraft Sterilization Symposium, National Aeronautics and Space Administration; and member, Microbiological Contamination of Surfaces Committee, American Public Health Association.

RUTH E. GROUT served as member, Steering Committee, National Conference, School Health Education Curriculum Development, American Association of Health, Physical Education, and Recreation; and member, Health Education Advisory Panel, World Health Organization; and received a travel

grant to Kuwait and the United Arab Republic from the World Health Organization.

JAMES A. HAMILTON served as member, National Commission on Community Health Service.

ANCEL KEYS served as chairman, Research Committee, International Society of Cardiology; coordinator, International Cardiovascular Epidemiology Cooperative Program, Public Health Service; and member, Arteriosclerosis Council, member, Criteria and Methods Committee, and member, Pooling Project, American Heart Association; and was decorated with the Order of the Lion by the Government of Finland.

THEODOR J. LITMAN served as regional membership chairman, Medical Care Section, American Public Health Association; and editor, Book Reviews, *Journal of Health and Human Behavior*.

RICHARD B. MCHUGH served as editorial collaborator, *Journal*, American Statistical Association; and consultant, Demographic Factors in Blood Pressure, Public Health Service.

MARIE J. MCINTYRE served as representative, Member Agencies Council, National League for Nursing; and member, Public Health Training Advisory Committee, Public Health Service.

MARION I. MURPHY served as member, Manpower Task Force, National Commission on Community Health Service; consultant, Nursing Experts Committee (Geneva, Switzerland), World Health Organization; and vice-chairman, Steering Committee, National League for Nursing.

THEODORE A. OLSON served as consultant, Research Design, and consultant, Water Quality and Waste Treatment, General Mills Corporation; vice-chairman, Laboratory Section, member, Standard Methods Committee, and member, Evaluation and Standards Committee, American Public Health Association; chairman, Aquatic Biology Program Study Section, National Institutes of Health; chairman, International Pollution and Marine Ecology Conference (Galveston, Tex.), University of Texas, University of Minnesota, and Public Health Service; member, Technical Advisory Committee on Algae and Related Problems, New York Health Department; member, Aquatic Life Advisory Committee, Orsanco-Ohio River Valley Water Sanitation Commission; consultant, Scottish Marine Laboratory (Edinburgh, Scotland); and consultant, Rodent Control Practices Survey (Europe and Asia), World Health Organization.

HAROLD J. PAULUS received a fellowship to Chile, Peru, and Brazil from the Pan-American Health Organization; and served as member, Air Pollution Advisory Committee, Minnesota Health Department; and member, Governor's Committee on Air Resources.

MYRTLE E. RUEGER served as member, Officer Selection Committee, Xi Chapter, Sigma Delta Epsilon.

LEONARD M. SCHUMAN served as chairman, Chronic Disease Conference, National Heart Institute; consultant, Radiological Health, consultant, Communicable Diseases Center, and consultant, Chronic Disease Programs, Public Health Service; member, Accident Prevention Research Study Section, National Institutes of Health; consultant, National Cancer Institute; pediatrics consultant, Hennepin County General Hospital; consultant, Minnesota Health Department; fellow, Epidemiology Council, American Heart Association; and subcommittee chairman, Disease Monographs Committee, member, Governing Council, member, Resolutions Committee, member, Evaluation and Standards Committee, program chairman and vice-chairman, Epidemiology Section, chairman, Program Area Communicable Diseases Committee, and member, Technical Development Board, American Public Health Association.

NORMAN V. STEERE served as alternate representative, Building Exits Code Committee, American Standards Association; member, Education Subcommittee, Safety to Life Committee, National Fire Protection Association;

and member, Planning Committee, National Fire Safety Conference, member, Laboratory Safety Committee, and vice-chairman and chairman, Campus Safety Association.

RUTH E. STIEF served as member, Health Needs of the Aging Committee, Community Health and Welfare Council, Hennepin County; member, Membership Committee, and member, Editorial Committee, *Food and Nutrition*, American Public Health Association; member, Health and Welfare Section, Minnesota Home Economics Association; member, Future Development Committee, American Home Economics Association; member, Constitution Committee, and member, Finance Committee, Minnesota Dietetic Association; vice-president, Executive Committee, Minnesota Public Health Association; member, Nutrition Course Planning Committee, St. Cloud State College; and consultant, Project Head Start, Office of Economic Opportunity.

STEWART C. THOMSON served as member, Osler Award Committee, American Association for History of Medicine.

DONALD VESLEY served as member, Microbiological Contamination of Surfaces Committee, American Public Health Association; member, Infant Formula Committee, American Hospital Association; and member, Hospital Sanitation Committee, National Association of Sanitarians.

VERNON E. WECKWERTH served as member, Governor's Commission on Health; member, Health Careers Council of Minnesota; organizer, Health Occupations Training Committee, Minnesota Hospital Association; and organizer, Supervisory Training Program, Office of Continuing Hospital Education.

Department of Surgery

WILLIAM C. BERNSTEIN served as vice-president, American Proctologic Association.

C. DONALD CREEVY served as president, American Association of Genito-Urinary Surgeons.

LYLE A. FRENCH served as member, Neurological Science Research Training Committee B, Public Health Service; neurosurgery consultant, U.S. Army; visiting professor, University of California at Los Angeles; visiting professor, University of Kentucky; visiting professor, Southwestern University; and visiting professor, Dartmouth College.

HENRY GANS served as consultant, American Medical Association.

THEODORE B. GRACE received an Advanced Clinical Fellowship from the American Cancer Society.

CLAUDE R. HITCHCOCK was named a fellow of the American College of Surgeons.

C. WALTON LILLEHEI received the Susan and Theodore Cummings Award from the American College of Cardiology; the Professorship Medal from the University of Santo Tomas (Manilla, Philippines); and the Minnesota Salesman of the Year Award from the Sales and Marketing Executives of Minneapolis; and served as editorial consultant, *American Journal of Cardiology*; director, Minnesota Heart Association; and president-elect, American College of Cardiology.

A. COLIN MARKLAND received a travel fellowship from the North Central Section, American Urological Association; a film award from the American Medical Association; a research grant from the National Heart Institute; and a research grant from the Neurological and Arthritic Metabolism Institute.

RICHARD L. VARCO served as examiner, American Board of Surgery; member, Study Section A, National Research Council; member, Metabolism in Trauma Committee, U.S. Army; and consultant, Veterans Administration Hospital.

University of Minnesota, Morris*Administration*

RODNEY A. BRIGGS served as chairman, Thief River Falls Junior College Accreditation Team, Institutional Relations Committee; and consultant, Rockefeller Foundation (Africa).

Division of Education

CHARLES R. BRUNING served as group member, National Meeting (Chicago, Ill.), American Association for College Teacher Education, American Educational Research Association, and Association of Student Teachers; and consultant, Youth Advisory Committee, National Luther League.

E. LOUISE CURTIS served as chairman, Student Teaching Committee, Minnesota Association of Supervision and Curriculum Development; member, Visiting Team, National Council for Accreditation of Teachers of Education; chairman, Annual Meeting, Association for Childhood Education International; consultant and evaluator, In-Service Education Projects, U.S. Government; and director, National Defense Education Act Reading Institute, U.S. Office of Education and University of Minnesota.

DEAN E. HINMON served as committee member, Preparation of Teachers of Disadvantaged, Minnesota Department of Education; group chairman, High School-College Transition Conference, Association of Minnesota Colleges; and group chairman, Symposium on Creativity in Student Teaching, Tri-State Association of Student Teachers.

BRUCE D. ROLLOFF served as member, Publicity Committee, Central District, member, Legislative Committee, member, President's Committee, Structure of Women's Section and Guidelines for Interscholastic Athletic Competition Study, and vice-president, Physical Education Division, Minnesota Association for Health, Physical Education, and Recreation; and chairman, Golf Committee, and member, Executive Committee, District Thirteen National Association for Intramural Athletics.

Division of Humanities

LAIRD H. BARBER served as secretary-treasurer, Minnesota Conference, American Association of University Professors.

RAYMOND J. LAMMERS served as member, College Section Planning Committee, Regional Meeting, Minnesota Education Association; representative, Community Theatre Division, and regional editor, *Educational Theatre Journal*, American Educational Theatre Association; session chairman, Workshop, Minnesota Council for Teachers of English; adjudicator, State Play Festival, Minnesota High School League; chairman, Contest Judging Committee, Minnesota Speech Association; and member, Advisory Board, Region Seven, American National Theatre and Academy Association.

FRED W. PETERSON served as visual arts consultant, Southwestern Minnesota Cultural Opportunities Center, U.S. Government.

WILLIAM D. SPRING served as member, Membership and Professional Relations Committee, Minnesota Council for Teachers of English; and consultant, Title I English Project (Glenwood), U.S. Government.

Division of Science and Mathematics

ROBINSON S. ABBOTT served as judge, Regional Science Contests, National Youth Atomic Energy Conference; and representative, State Science Board Hearings.

WESLEY J. BIRGE served as president, and member, Executive Board, University Chapter, American Association of University Professors; program participant, International Neurochemistry Conference (University of Oxford);

and program participant, Eighth International Neurology Congress (Vienna, Austria).

HARRY M. FRIEDMAN served as member, Honors Subcommittee, Interinstitutional Cooperation Committee, National Collegiate Honors Conference.

ELLEN ORDWAY received a grant for study in Costa Rica from the National Science Foundation and the Organization for Tropical Studies.

Division of Social Sciences

CLIFTON W. GRAY served as project director, Undergraduate Scientific Instructional Equipment Program, National Science Foundation.

SUN M. KAHNG received the Economics-in-Action Fellowship from the Case Institute.

ERIC KLINGER received a research grant from the National Science Foundation.

JOOINN LEE received a fellowship from the National Science Foundation.

JAMES W. NOEHL received a fellowship from the Foundation for Economic Education; and served as associate consultant, Insurable Risk Analysis, William Peet Company.

BRUCE A. NORD received a research grant from the Ford Foundation.

WILLIAM O. PETERFI served as member, Executive Committee, Local Chapter, American Association of University Professors.

College of Pharmacy

FRANK E. DIGANGI served as member, Curriculum Committee, and vice-chairman, Teachers of Chemistry Section, American Association of Colleges of Pharmacy; member, Eligibility Committee, Hockey Championship Games, National Collegiate Athletic Association; secretary-treasurer, Minnesota Chapter, Kappa Psi; and member, National Formulary Advisory Panel, American Pharmaceutical Association.

OLE GISVOLD received grants for digitalis research from the National Institutes of Health.

WILLARD J. HADLEY served as first vice-president and president, Minnesota State Pharmaceutical Association.

GEORGE P. HAGER served as member, Board of Regents, Augsburg College; chairman, Advisory Committee, Antiradiation Drug Program, Walter Reed Army Institute of Research; consultant, Chemical Information and Data System, Army Research Office; member, Advisory Board, Chemical Abstracts Service; member, National Advisory Committee, Selection of Physicians, Dentists, and Allied Specialists, Selective Service System; committee chairman, Modern Methods of Handling Chemical Information, National Academy of Sciences and National Research Council; panel member, Handling Toxicological Information, Office of Science and Technology, Executive Office of the President; member, General Research Support Advisory Committee, National Institutes of Health; member, Editorial Advisory Board, *Journal of Pharmaceutical Sciences*, and member, National Formulary Advisory Panel, American Pharmaceutical Association; member, Nomenclature Review Board, U.S. Adopted Names Council; member, Editorial Advisory Board, Institute of Scientific Information; member, Board of Editors, *Journal of Chemical Documentation*, American Chemical Society; member, Pharmacy Advisory Panel, Smith, Kline and French Laboratories; member, Mayor's Narcotics Committee, City of Minneapolis; president, American Association of Colleges of Pharmacy; and vice-president, Academy of Pharmaceutical Sciences.

HERBERT JONAS served as local coordinator, Seventh Annual Meeting, American Society of Pharmacognosy.

HUGH F. KABAT served as chairman, Student Chapters Committee, American Pharmaceutical Association; member, Continuing Education Committee, American Society of Hospital Pharmacists; chairman, Publicity Committee,

member, Drug Handling in Hospitals Committee, and chairman, Professional Section, Minnesota State Pharmaceutical Association; vice-chairman, Hospital Pharmacy Education Joint Committee, American Association of Colleges of Pharmacy and American Society of Hospital Pharmacists; member, Pharmacy Committee, Hennepin County General Hospital; member, Pharmacy Committee, Cambridge State Hospital; and consultant, Minneapolis Veterans Administration Hospital.

PHILIP S. PORTOGHESE served as chairman, Nominations Committee, Academy of Pharmaceutical Sciences; visiting scientist, American Association of Colleges of Pharmacy; and member, Publicity Committee, Medicinal Chemistry Section, American Chemical Society; and received the Pharmacy Faculty Award from Lederle Laboratories.

EDWARD G. RIPPKE served as chairman, Program Committee, member, Nucleus Group, member, Procedural Policy Committee, Basic Pharmaceutics Section, and member, Awards and Prizes Committee, Academy of Pharmaceutical Sciences; and vice-chairman and chairman, Graduate Instruction Section, member, Curriculum Subcommittee, and committee member, Pharmaceutical Science Section, American Association of Colleges of Pharmacy.

LEE C. SCHRAMM received a research award from the Mead Johnson Corporation; and served as member, Publicity Committee, member, Program Committee, and cochairman, Local Committee, American Society of Pharmacognosy; chairman, Pharmacopoeia Revision Committee, and chairman, Research Committee, Minnesota Pharmaceutical Association; and member, Reviewing Panel, Undergraduate Research Grants Agency, National Science Foundation.

TAITO O. SOINE served as member, Awards and Prizes Committee, American Chemical Society; member, Medicinal Chemistry Study Section, Public Health Service and National Institutes of Health; and member, Pharmacopoeia Revision Committee, and chairman, Sections Committee, American Pharmaceutical Association.

LAWRENCE C. WEAVER received the Alumni Distinguished Service Award from Drake University.

WALLACE F. WHITE was named a fellow of the American Association for the Advancement of Science.

Summer Session

JOHN G. GEIER served as executive secretary, Twin City Debate League, Minnesota Colleges Forensic League; coordinator, Teacher Training Program, and communications director, Minnesota Town Meeting Project Title I, U.S. Government; and communications consultant, Heart Exercise Project Experiment, Public Health Service.

Institute of Technology

Administration

PAUL A. CARTWRIGHT served as council member, American Society for Engineering Education; chairman, Southwestern College Curriculum Committee, State College Board; chairman, State Guidance Committee, Engineering Council on Development; and vice-chairman, Minnesota Association of Professional Engineers.

ATHELSTAN SPILHAUS served as member, Oceanography Committee, and chairman, Pollution Committee, National Academy of Sciences and National Research Council; panel member, Development of Motion Pictures, American Meteorological Society; member, Board of Directors, American Association for the Advancement of Science; member, Advisory Board, *Princeton Report*; member, Advisory Board, *World Book Encyclopedia*; member, Advisory Panel, Biological Facilities, National Science Foundation; chairman, American Edi-

torial Board, International Library of Science; chairman, Scientific Advisory Committee, American Newspaper Publishers Association; member, Editorial Advisory Board, *Planetary Physics*; member, Board of Trustees, and member, Scientific Advisory Committee, Woods Hole Oceanographic Institute; member, Board of Trustees, International Oceanography Foundation; member, Board of Trustees, and member, Museum Committee, St. Paul Institute; member, Awards Board, Institute of Aerospace Sciences; member, Advisory Board, Space and Scientific Training; chairman, Aqua Advisory Board, Fish Center, Department of the Interior; member, Board of Trustees, Pacific Science Foundation; member, Board of Directors, North Star Research and Development Institute; member, Board of Trustees, Science Services, Inc.; member, Board of Trustees, American Museum of Electricity; member, Board of Directors, American Museum of Archaeology; member, Board of Directors, Oceanographic Society, Inc.; member, Advisory Board, School of Environmental and Planetary Sciences, University of Miami; member, Editorial Advisory Board, *Planetary and Space Science*; member, Editorial Advisory Board, *Industrial Research*; member, Editorial Advisory Board, *Oceanology*; member, Editorial Board, *Underwater Yearbook*; and member, Advisory Board, Nova University.

FRANK VERBRUGGE served as science and engineering consultant (Chile and Venezuela), Ford Foundation.

Department of Aeronautics and Engineering Mechanics

GORDON S. BEAVERS served as member, Arrangements Committee, Fifth National Congress of Applied Mechanics.

ALLAN A. BLATHERWICK served as chairman, Flexural Testing Committee, and member, Fatigue Committee, American Society for Testing Materials.

BENJAMIN J. LAZAN served as fellow, American Institute of Aeronautics and Astronautics; fellow, Acoustical Society of America; director, Society for Experimental Stress Analysis; chairman, Organization Committee, Twenty-Fifth National Congress, and member, Shock and Vibration Committee, American Society of Mechanical Engineers; and member, Advisory Committee, and chairman, Material Science Division, American Society for Testing Materials.

WILLIAM C. MEECHAM served as member, Program Committee, Fluid Dynamics Division, American Physics Society; session chairman, Thermodynamics and Fluid Mechanics Conference, University of Chicago; member, Editorial Committee, National Congress of Applied Mechanics; and session chairman, Bound Layer Noise Conference, and fellow, Acoustical Society of America.

ROBERT PLUNKETT was named Docteur de l'Université (hon causa) by the University of Nantes (France); and served as vice-chairman and secretary, National Congress of Applied Mechanics; member, Aeronautical Research Organization Advisory Committee, National Academy of Sciences; and secretary, Applied Mechanics Division, American Society of Mechanical Engineers.

EUGENE STOLARIK served as associate fellow, Institute of Aerospace Sciences; member, Education Committee, and member, Board of Directors, Twin Cities Section, American Institute of Aeronautics and Astronautics; and was named a chartered engineer by the Royal Aeronautical Society of Great Britain.

WILLIAM H. WARNER served as member, Arrangements Committee, National Congress of Applied Mechanics.

THEODORE A. WILSON served as member, Planning Committee, National Congress of Applied Mechanics.

School of Architecture

WINSTON A. CLOSE received an honorable mention for Golden Age Homes from the American Institute of Architects.

JOHN S. MYERS served as consultant, State Board of Architectural Examiners.

RALPH E. RAPSON was elected a fellow by the American Institute of Architects.

WALTER K. VIVRETT served as member, Governor's Council on Aging; member, Design Competition Jury, Federal Housing Administration; and member, Inspection Team (University of Colorado), National Architecture Accreditation Board.

GEORGE C. WINTEROWD received a Danforth Foundation Fellowship.

Department of Chemical Engineering

NEAL R. AMUNDSON served as member, Advisory Council, Stanford University College of Engineering; editor, *Chemical Engineering Science*; and editor, *International Physical and Chemical Engineering Series*.

RUTHERFORD ARIS served as member, Chemical Reaction Symposium Committee, American Chemical Society; and was named a fellow of the Institute of Mathematics and Its Applications.

NORMAN H. CEAGLSKE served as program chairman, American Institute of Chemical Engineers; and consultant, Minnesota Mining and Manufacturing Company.

JOHN S. DAHLER served as associate editor, *Physics of Fluids*, American Physical Society; and was named a senior fellow of the National Science Foundation.

ARNOLD G. FREDRICKSON served as program cochairman, National Meeting, American Institute of Chemical Engineers.

HERBERT S. ISBIN served as member, Safety Committee, Northern States Power Company; member, Nuclear Energy Education Committee, Association of Midwest Universities; and member, Reactor Engineering Review Committee, University of Chicago.

ARTHUR MADDEN, JR., served as visiting professor, Massachusetts Institute of Technology; and member, National Program Committee, and chairman, Coalescence Symposium, American Institute of Chemical Engineers.

WILLIAM E. RANZ served as chairman, Technical Program, National Meeting, American Institute of Chemical Engineers; and consultant, Stanford Research Institute.

X. B. REED, JR., received a Hill Family Foundation Fellowship.

L. EDWARD SCRIVEN served as member, National Program Committee, American Institute of Chemical Engineers; and consultant, Mobil Oil Company.

HENRY M. TSUCHIYA served as coordinator, United States-Japanese Seminar, and visiting scientist (Japan), National Science Foundation.

Department of Chemistry

HENRY A. BENT served as member, College Chemistry Advisory Council, and member, Editorial Board, *The Journal of Chemical Education*, American Chemical Society.

RODNEY L. BILTONEN received a fellowship from the National Institutes of Health.

ROBERT C. BRASTED served as member, Examination Committee, American Chemical Society; member, College Chemistry Advisory Council, member, Executive Committee, and member, Policy Committee, National Science Foundation; and visiting professor, Poona University (India).

JOHN D. BRITTON served as chairman, Graduate Level Physical Chemistry Examinations Committee, American Chemical Society.

STANLEY BRUCKENSTEIN served as chairman, Nonaqueous Solvents Symposium, and member, Editorial Board, *Analytical Chemistry*, American Chemical Society; and advisor, Food and Drug Administration.

RAYMOND M. DODSON served as member, Endocrine Study Section, National Institutes of Health.

STUART W. FENTON served as member, Joint Committee, Atomic and Molecular Physical Data; and consultant, American Cyanamid Company.

EDGAR W. GARBISCH, JR., received a research fellowship from the Alfred P. Sloan Foundation.

MAURICE M. KREEVOY served as member, Organizing Committee, Organic Mechanisms Conference.

EDWARD LEETE was named a Guggenheim Fellow.

ROBERT LIVINGSTON served as section chairman, International Congress, Comité Internationale de Photobiologie.

RUFUS W. LUMRY served as visiting professor, University of Rome; and chairman, Hemoglobin Conference (Rome, Italy).

WAYLAND E. NOLAND was named a life member of the Association of Harvard Chemists; and a life member of the New York Academy of Sciences; and served as petroleum technology consultant, Sun Oil Company.

PAUL R. O'CONNOR served as consultant, Education Division (India), Agency for International Development; and consultant, Asia Foundation (Japan).

JOHN OVEREND served as committee member, Gordon Conference.

WILLIAM E. PARHAM received the honorary degree Doctor of Philosophy from Southern Methodist University.

ERNEST B. SANDELL served as member, Nomenclature Committee, Analytical Section, International Union of Pure and Applied Chemistry.

R. STUART TOBIAS served as coordinator, Vibrational Spectroscopy in Inorganic Chemistry Symposium, American Chemical Society; member, Inorganic Nomenclature Subcommittee, National Academy of Sciences and National Research Council; and science consultant (India), Agency for International Development.

JOHN E. WERTZ served as chairman, Magnetic Resonance Committee, Gordon Conference.

Department of Civil Engineering

ALVIN G. ANDERSON received the Stevens Award from the American Society of Civil Engineers.

C. EDWARD BOWERS served as member, Regional Committee, National Transportation Conference, and chairman, Water Resources Committee, Northwest Section, American Society of Civil Engineers; and delegate, University Council on Water Research.

JESSE E. FANT served as instructor, Surveying Training School, Minnesota Highway Department; and chairman, Urban Planning and Development Committee, American Society of Civil Engineers.

JOHN T. HANLEY served as conference consultant, Minnesota Civil Defense Department; and received first prize for Community Center Design from the American Institute of Architects and the Office of Civil Defense.

WALTER K. JOHNSON served as member, Planning Committee, National Transportation Conference, American Society of Chemical Engineers; and re-

ceived the Radebaugh Award from the Central States Water Pollution Control Association.

MILES S. KERSTEN served as member, Local Road Research Board, Minnesota Highway Department; member, Soils, Geology, and Foundations Department, and member, Frost Committee, Highway Research Board; committee member, and presiding officer, National Transportation Conference, American Society of Civil Engineers; and member, Science Fellowships Award Committee, National Academy of Sciences.

JOHN F. RIPKEN served as member, Non-Newtonian Flows Committee, American Society of Civil Engineers; member, Erosion Committee, American Society for Testing Materials; and member, Cavitation Committee, American Society of Mechanical Engineers.

GEORGE SCHROEPFER received the Best Research Paper Award from the Central States Water Pollution Association.

EDWARD SILBERMAN served as treasurer, Fifth National Congress of Applied Mechanics; member, Research Committee, and session chairman, Coastal Engineering Conference, American Society of Civil Engineers; member, Flow Studies Panel, Society of Naval Architects and Marine Engineers; and editor, *Water Resources Newsletter*, Americans Water Resources Association.

EUGENE L. SKOK, JR., served as committee member, Highway Research Board; and member, Paper Solicitation Committee, Association of Asphalt Paving Technologists.

RUSSELL H. SUSAG served as president, Triangle Engineering Fraternity; and member, Refuse Committee, Citizens League.

THEODOR W. THOMAS served as member, Advisory Group, Minnesota Highway Traffic Safety Study.

Department of Electrical Engineering

VERNON D. ALBERTSON served as chairman, Region Four Student Activities Committee, member, Region Four Executive Committee, member, National Student Branch Committee, member, Planning Committee, and session chairman, Minnesota Power System Conference, Institute of Electrical and Electronics Engineers; secretary, University of Minnesota Branch, American Society for Engineering Education; and member, Student Activities Committee, National Electronics Conference.

DONALD E. ANDERSON served as cochairman, Photoelectricity and Secondary Emissions Conference, Institute of Electrical and Electronics Engineers.

FREDRIC N. BAILEY served as member, Proceedings Committee, and proceedings editor, National Electronics Conference.

WILLIAM F. BROWN served as fellow, American Association for the Advancement of Science; fellow, American Physical Society; fellow, New York Academy of Sciences; and senior member, Institute of Electrical and Electronics Engineers.

KEITH S. CHAMPLIN served as member, Editorial Board, *Transmissions on Magnetic Tape Terminal*, Institute of Radio Engineers; and received a research grant from the American Foundation for Scientific Research; and a research grant from the National Science Foundation.

LORNE M. CHANIN served as member, Executive Committee, Gaseous Electronics Conference; and member, Executive Committee, Electronic and Atomic Physics Division, American Physical Society.

ROBERT J. COLLINS served as member and advisor, Special Group on Optical Microwave Amplification by Stimulated Emission of Radiation, and member, Second Class Laser Conference, Department of Defense; member, Program Committee, Physical Quantum Electronics Conference; director, Manned Space Science Study Group, chairman, Advisory Panel, Space Science Center, and

member, Tycho Study Group, National Aeronautics and Space Administration; and member, Materials Advisory Board, National Academy of Sciences.

SUHASH C. DUTTA ROY served as reviewer, Transmission on Circuit Theory, Institute of Electrical and Electronics Engineers.

TRYGVE A. HOLL served as assistant director, Manned Space Science Study Group, and assistant director, Tycho Study Group, National Aeronautics and Space Administration.

JAMES E. HOLTE served as chairman, Minnesota Branch, American Society for Engineering Education; and chairman, Professional Engineers in Education Committee, Minnesota Society of Professional Engineers.

ROBERT F. LAMBERT served as science advisor, Military Noise Control, U.S. Air Force.

SIDNEY C. LARSON served as advisor, Minnesota Society of Professional Engineers.

E. BRUCE LEE served as chairman, Faculty Committee, Guidance and Control Conference, American Institute of Aeronautics and Astronautics.

ROY H. MATTSON served as chairman, Minnesota Section, American Society for Engineering Education.

HENDRIK J. OSKAM served as member, Advisory Panel, Institute for Defense Analysis; and committee chairman, Gaseous Electronics Conference.

CHIAO-YAO SHE received an Initiation Research Grant from the National Science Foundation.

BELLE A. SHENOI served as chairman, Circuit Theory Session, Second Allerton Conference.

KAREL M. VAN VLIET served as section chairman, American Physical Society Conference, National Science Foundation.

FREDERICK M. WALTZ served as member, Proceedings Committee, National Electronics Conference.

Department of Geology and Geophysics

ROBERT C. BRIGHT served as field leader, Rocky Mountain Field Excursion, International Association of Quaternary Geology.

CAMPBELL CRADDOCK served as editorial advisor, *Antarctic Atlas*, American Geographic Society; and delegate, International Geological Congress, International Union of Geological Scientists.

DONALD L. GRAF served as associate editor, *American Mineralogist*, Mineralogical Society of America.

JAMES A. GRANT served as leader, Field Conference, Ontario Department of Mines.

GLENN B. MOREY served as member, Drilling Statistics Committee, American Association of Petroleum Geologists.

V. RAMA MURTHY served as chairman, American Geophysical Union; and received membership in the New York Academy of Sciences.

WILLIAM C. PHINNEY served as secretary-treasurer, Minnesota Academy of Science; vice-chairman, Science Advisory Committee, and coordinator, Evaluation and Training Program, New Earth Science Courses, Minnesota Department of Education; and symposium chairman, Annual Meeting, American Geophysical Union.

GEORGE R. RAPP, JR., served as secretary, North Central Section, Geological Society of America; and member, National Council, National Association of Geology Teachers.

PAUL K. SIMS served as counselor, and member, Program Committee, Society of Economic Geologists.

JOHN E. STONE served as member, Field Trip Planning Committee, International Association of Quaternary Research; and member, Advisory Committee, Inter-Agency Transportation Planning Program.

FREDERICK M. SWAIN served as chairman, Constitution Revision Committee, Paleontology Society; and member, Research Committee, and chairman, Best Paper Award Committee, Society of Ecology, Paleontology, and Mining.

WILLIAM C. WALTON served as editor, *Ground-Water Journal*, and vice-president, National Water Well Association.

HERBERT E. WRIGHT served as member, Advisory Board, Geological Society of America; editor, and chairman, Paleocology Symposium, International Association of Quaternary Geology; member, Editorial Board, Ecological Society of America; member, Editorial Board, *Geografiska Annaler*; participant, Agricultural Origins Conference, Werner-Gren Foundation; chairman, Statistics in Pollen Analysis Symposium, American Association for the Advancement of Science; and chairman, Quaternary Symposium, International Conference on Palynology; and received the honorary degree Doctor of Philosophy from Trinity College (Dublin, Ireland).

TIBOR Z. ZOLTAI served as member, Nominations Committee, American Optallogical Association; chairman, Minnesota Screening Board, American Institute of Professors of Geology; and fellow, and member, Policy Committee, Mineralogical Society of America.

Department of Mathematics

PIOTR BESALA served as vice-president, Polish Mathematics Society.

MASON R. BOUDRYE served as executive secretary, Minnesota Academy of Science; and committee member, American Association for the Advancement of Science.

EDMUND C. BRAY served as president, Minnesota Academy of Science.

ROBERT H. CAMERON served as chairman, Fall and Spring Meetings, Minnesota Section, Mathematical Association of America.

STEVEN A. GAAL served as consultant (India), Agency for International Development.

BJARNI JONSSON served as correspondent, Iceland Academy of Science.

CHARLES S. KAHANE received a fellowship from the Office of Naval Research.

DONALD W. KAHN served as visiting professor, Heidelberg, Germany; and visiting professor, Mexico City, Mexico.

FULTON KOEHLER served as chairman, Mathematical Association of America.

CHARLES A. MCCARTHY served as member, Undergraduate Mathematics Committee, Mathematical Association of America.

WILLARD MILLER, JR., was elected to membership in Sigma Xi.

STEVEN OREY served as editor, Association for Symbolic Logic.

MARIAN B. POUR-EL received a travel grant to Moscow from the National Academy of Sciences.

GERALD R. RISING served as member, Norwalk Historical Sites Committee (Norwalk, Conn.).

H. P. ROSENTHAL received a fellowship from the National Science Foundation.

SEYMOUR SCHUSTER served as committee member, Mathematical Association of America; and editor, Pi Mu Epsilon.

JAMES SERRIN, JR., served as visiting professor, Johns Hopkins University.

ZACHARIAH SUBARSKY served as consultant, Education Policies Committee, National Education Association; editor, *Science Teacher's World*; committee chairman, East African Academy; committee chairman, Future Scientists of America; and fellow, American Association for the Advancement of Science.

CARROLL O. WILDE served as member, Application Selection Committee, Danforth Foundation.

Department of Mechanical Engineering

JOHN E. ANDERSON was named an associate fellow by the American Institute of Aeronautics and Astronautics; and served as discussion moderator, Electricity Group, Institute of Electrical and Electronics Engineers; and research consultant, Minneapolis Honeywell.

PERRY L. BLACKSHEAR, JR., served as board member, Associated Research Councils; and member, Board of Directors, American Institute of Aeronautics and Astronautics.

JOHN N. CLAUSEN served as participant, Summer Institute on Nuclear Defense Design, Department of the Army; and consultant, Private Trade Schools Committee, Minnesota Department of Education.

ERNST R. ECKERT served as chairman, Honorary Editorial Advisory Board, *International Journal of Heat and Mass Transfer*; and received the Western Electric Fund Award for excellence in instruction of engineering students.

EDWARD A. FLETCHER served as member, Papers Committee, International Combustion Symposium, and member, Board of Advisors, Central States Section, Combustion Institute; member, Faculty Conference, National Aeronautic and Space Administration; participant, Second Propulsion Conference, American Institute of Aeronautics and Astronautics; and member, Rocket Propellant Group, Interagency Chemical Conference.

DARRELL A. FROHRIB served as participant, Engineering Design Education Project, Ford Foundation.

RICHARD J. GOLDSTEIN served as member, Fundamental Research Committee, Heat Transfer Division, American Society of Mechanical Engineers.

FULTON HOLTBY served as vice-chairman and chairman, Twin Cities Chapter, American Foundrymen's Association.

WARREN E. IBELE served as member, Planning Committee, Third Thermophysical Propellant Symposium, American Society of Mechanical Engineers; member, Accreditation Team, Engineers Council on Professional Development; and member, Educational Requirements Advisory Board, Secretary of the Navy.

RICHARD C. JORDAN served as council member, Solar Energy Society; vice-president, Technical Board, and president, Working Party on International Education, International Institute of Refrigeration; president, and chairman, Solar Energy Technical Committee, American Society of Heating, Refrigeration, and Air Conditioning Engineers; member, Joint Brazil and American Research and Development Committee, National Science Foundation and National Research Council; chairman, Graduate Studies Division, and member, Lamme Award Committee, American Society of Engineering Education; vice-chairman and chairman, Region Seven Education and Accreditation Committee, Engineers Council on Professional Development; member, International Organizations and Programs Committee, Office of International Relations and National Academy of Sciences; member, Engineers Joint Council; and consultant, Agency for International Development; and received the F. Paul Anderson Medal and the Outstanding Educator Award from the American Society of Heating, Refrigeration, and Air Conditioning Engineers.

WILLIAM A. KLEINHENZ served as member, Executive Committee, American Society of Mechanical Engineers; participant, Engineering Forum, Ford Found-

ation; and administrative advisor, Committee on Programmed Learning Research.

BENJAMIN Y. LIU served as representative, American Power Conference (Illinois Institute of Technology); member, Fenestration Committee, American Society of Heating, Refrigeration, and Air Conditioning Engineers; and participant, Panel Discussion, Air Cleaning Conference, Atomic Energy Commission.

GAYLE W. McELRATH served as vice-president, American Society for Quality Control.

THOMAS E. MURPHY served as member, Executive Board, Society of Automotive Engineers; and received a research contract from the National Aeronautics and Space Administration.

LEWIS G. PALMER served as participant, Design and Drafting Seminar, Carnegie Institute and Agency for International Development; and chairman, Housing Committee, Midwest Conference, American Society for Engineering Education.

EMIL PFENDER served as invited seminar participant, Technical University (Stuttgart, Germany); and member, Space Simulation Committee, American Society for Testing Materials.

CHARLES J. SCOTT received a North Atlantic Treaty Organization Fellowship (University of Naples, Italy) from the National Science Foundation; and a Fulbright Grant from the State Department.

RICHARD D. SPRINGER served as national chairman, Industrial Relations Committee, Engineering Graphics Division, American Society for Engineering Education; participant, Disaster Engineering Conference, and coordinator, Radiation Analysis for Architects and Engineers, Office of Civil Defense.

JAMES L. THRELKELD served as member, Executive Committee, Research and Technology Commission, member, Research Program Orientation Committee, member, Education Committee, member, Psychometrics Committee, and participant, Research Conference, American Society of Heating, Refrigeration, and Air Conditioning Engineers.

KENNETH T. WHITBY served as chairman, Task Group, American Society for Testing Materials; advisor, Narcotics Safety Program, Atomic Energy Commission and Oak Ridge National Laboratories; and member, Research Study Section, Public Health Service.

School of Mineral and Metallurgical Engineering

GUST BITSIANES received the Robert W. Hunt Award from the American Institute of Metallurgical Engineers.

ADRIAN C. DORENFELD served as member, National Panel, American Arbitration Association; representative, Standards Committee, American Institute of Mining, Metallurgical, and Petroleum Engineers, American Society for Testing Materials; and committee chairman, American Institute of Mining, Metallurgical, and Petroleum Engineers.

IWAQ IWASAKI served as member, Research Staff, Mineral Processing Conference, International Mineral and Chemical Corporation; member, Research Staff, Flotation Conference, Bethlehem Steel Company; member, Research Staff, Flotation Symposium, Reserve Mining Company; and member, Basic Science Committee, American Institute of Mining, Metallurgical, and Petroleum Engineers.

JAMES E. LAWVER served as chairman, Automatic Control Committee, chairman, Operating Control Committee, Minnesota Section, and member, Publications Committee, American Institute of Mining, Metallurgical, and Petroleum Engineers.

EUGENE P. PFLEIDER served as director, Society of Mining Engineers, editor, Surface Mining Volume, and chairman, Mineral Industry Educational Award

Committee, American Institute of Mining, Metallurgical, and Petroleum Engineers; and member, Accreditation Committee, Engineers Council for Professional Development.

NORMAN F. SCHULZ served as member, Pyrolysis and Agglomeration Committee, American Institute of Mining, Metallurgical, and Petroleum Engineers.

RICHARD A. SWALIN served as member, Physical Chemistry Solids Committee, chairman, Publications Committee, and chairman, Raymond Award Committee, American Institute of Mining, Metallurgical, and Petroleum Engineers; and member, Transactions Committee, American Society for Metals.

GEORGE F. WEATON served as delegate, Minnesota Section, and junior representative, North Central Region, American Institute of Mining, Metallurgical, and Petroleum Engineers.

DONALD H. YARDLEY served as consultant, Jones and Laughlin Steel Corporation; member, Mineral Economics Committee, and chairman, Student Activities Committee, Minnesota Section, American Institute of Mining, Metallurgical, and Petroleum Engineers; and secretary-treasurer, Minnesota Chapter, American Institute of Professors of Geology.

School of Physics

BENJAMIN F. BAYMAN served as visiting professor, Summer School, Latin American School of Physics (Mexico City); visiting professor, Summer School, Association of Scottish Universities (Edinburgh); and consultant, Brookhaven National Laboratory; and was chosen an Outstanding Young Man of 1965 by the Junior Chamber of Commerce.

MARK BOLSTERLI served as consultant, Los Alamos Scientific Laboratory (New Mexico); and electrodynamics advisor, University of Graz (Austria).

STEPHEN G. GASIOROWICZ served as visiting professor, Institute of Theoretical Physics, University of Aix-Marseille (France).

MORTON HAMERMESH served as member, Board of Trustees, Universities Research Association; and advisory editor, *Soviet Physics*; and was awarded the Townsend Harris Medal by the Alumni Association of the City College of New York.

EDWARD L. HILL served as consultant, Sandia Corporation Research Laboratory.

NORTON M. HINTZ served as consultant, Brookhaven National Laboratory; consultant, Los Alamos Scientific Laboratory; member, Directors Group, Atomic Energy Commission; and member, Summer Nuclear Study Group; and received a Guggenheim Fellowship; and a Fulbright Fellowship.

RUSSELL K. HOBBIE served as member, Panel Discussion, Philosophy of Science Section, Minnesota Academy of Science.

WALTER H. JOHNSON served as visiting scientist, American Institute of Physics; and committee member, Mass Spectroscopy Conference, American Society for Testing Materials.

HOMER T. MANTIS served as assistant committee chairman, American Field Service.

EDWARD P. NEY served as member, Solar Physics Advisory Committee, and member, Inter-Union Solar Terrestrial Physics Commission, National Academy of Sciences; and member, Arecibo Evaluation Panel Committee, U.S. Air Force.

A. O. C. NIER served as vice-president, and member, Board of Directors, Midwest Universities Research Association; member, Masses Commission, International Union of Pure and Applied Physics; member, Board of Directors, North Star Research and Development Institute; member, Space Science Committee, and advisor, Planetary Atmosphere Committee, National Aeronautics and Space Administration; member, Educational Advisory Committee, Argonne National Laboratory; advisor, Visiting Committee, Harvard University; advisor, Meteorite Committee, Arizona State University; member, National

Lecture Committee, Sigma Xi; member, Fellowship Committee, Sloan Foundation; and council member, Association of Midwest Universities.

LEWIS H. NOSANOW received a Guggenheim Fellowship; and served as consultant, University of California at La Jolla; and consultant, Bell Telephone Laboratories (New Jersey).

CARL H. POPPE served as member, Visiting Scientists Program in Physics, American Institute of Physics and American Association of Physics Teachers.

C. J. WADDINGTON served as rapporteur, Cosmic Ray Conference (London, England), International Union of Pure and Applied Physics.

CLIFFORD N. WALL served as associate editor, *American Journal of Physics*.

WILLIAM R. WEBBER served as member, Manned Planetary Mission Study Committee, National Aeronautics and Space Administration.

JAMES H. WERNITZ, JR., served as chairman, Physics Graduate Record Examination Committee, Educational Testing Service; chairman, Elementary Science Committee, American Association of Physics Teachers; member, Advisory Committee, Physical Science for Non-Science Majors Project, Rensselaer Polytechnic Institute; and host, National Invitational Conference, Commission on College Physics.

JOHN H. WILLIAMS served as vice-president and president, American Physical Society.

JOHN R. WINCKLER served as member, Mathematics and Physics Committee, National Science Foundation; member, Editorial Board, *Space Science Reviews*; and commission member, International Scientific Radio Union.

WILLIAM ZIMMERMAN, JR., served as member, Graduate Fellowship Panel, National Science Foundation and National Academy of Sciences; and visiting scientist (Iowa Wesleyan College), American Institute of Physics.

University Press

JOHN ERVIN, JR., served as member, Board of Directors, and chairman, Program Committee, Annual Meeting, Association of American University Presses.

College of Veterinary Medicine

Department of Veterinary Anatomy

ALVIN F. WEBER served as secretary-treasurer, Conference, Veterinary Research Workers in Animal Diseases; and member, International Veterinary Anatomical Nomenclature Committee.

Department of Veterinary Bacteriology and Public Health

KEITH I. LOKEN received the Fulbright Senior Research Fellowship from the Committee on International Exchange of Persons.

WARREN W. MARQUARDT served as discussant, Ornithosis Conference, National Animal Diseases Laboratory; and participant, North Central Poultry Disease Conference.

Department of Veterinary Diagnostic Laboratories

GLEN H. NELSON served as member, Alumni Executive Board, and secretary, State Board of Examiners, Minnesota Veterinary Medical Association.

Department of Veterinary Medicine and Clinics

DONALD W. JOHNSON served as member, Horse Show Committee, American Association of Equine Practitioners; and member, Shipping Fever of Cattle Committee, North Central Regional Livestock Diseases Committee.

VAUGHN L. LARSON served as member, Membership Committee, Minnesota Veterinary Medical Association.

PETER B. LITTLE served as member, Polioencephalomalacia Committee, Minnesota Valley Veterinary Association.

WALTER J. MACKEY served as member, Minnesota Veterinary Examining Board.

GEORGE W. MATHER served as editor, *Animal Hospital*, American Animal Hospital Association.

DALE K. SORENSEN served as member, State Civil Defense Committee, Minnesota Veterinary Medical Association; and evaluator, Veterinary Medical Education (Philippines), Agency for International Development.

Department of Veterinary Pathology and Parasitology

HAROLD J. KURTZ received two fellowships from the Public Health Heart Institute.

TERRANCE P. O'LEARY served as member, Curriculum Evaluation Committee, Iowa State University.

VICTOR PERMAN served as task force member, Bovine Leukemia Working Conference, National Cancer Institute and National Institutes of Health.

JAY H. SAUTTER served as advisor, Veterinary Pathology (Peru), Agency for International Development.

Department of Veterinary Physiology and Pharmacology

CLARENCE M. STOWE served as member, Toxicology Study Section, National Institutes of Health; and special appointee and professor, National University of Colombia (Bogotá), Rockefeller Foundation.

JOHN P. SULLIVAN served as cochairman, Research Section, American Veterinary Medical Association; and director, Physiology Department, Ahmadu Belo University (Nigeria), Agency for International Development.

Department of Veterinary Surgery and Radiology

IRA M. G. GOURLEY served as president, Phi Zeta; and member, General Surgery Committee, American Animal Husbandry Association.

GRISELDA F. HANLON served as member, Public Relations Committee, Minnesota Veterinary Medical Association; and radiology consultant, Vizsla Club of America.

FRANCIS A. SPURRELL served as director, Radiation Biology Summer Institute, National Science Foundation and Atomic Energy Commission.

EDWARD A. USENIK was named an honorary professor of veterinary medicine by the University of San Marcos (Lima, Peru); and served as member, Advisory Council, and revisor, *Animal Care Guide*, National Academy of Sciences.

DIVISIONS OF BUSINESS ADMINISTRATION

CLINTON T. JOHNSON served as assistant secretary-treasurer, Argonne Universities Association; member, Governmental Relations Committee, National Association of College and University Business Officers; and consultant, National Heart Institute.

LAURENCE R. LUNDEN served as president, and member, Board of Directors, Midwestern Universities Research Association; board member, Hennepin County Tuberculosis Association; consultant, Committee on Taxation and Fiscal Reporting to the Federal Government; member, Committee on Institutional Research Policy, American Council on Education; member, Joint Com-

mittee of Business Officers, Association of Land-Grant Colleges and Universities and National Association of State Universities; member, Administrative Committee, Graduate School of Banking, University of Wisconsin; member, Board of Trustees, Farmers & Mechanics Savings Bank (Minneapolis); member, Neurology Program-Project Committee, National Institutes of Health; member, Board of Trustees, Fairview Hospital; member, Board of Directors, Velie-Ryan Corporation; treasurer, Central Lutheran Church; trustee, Luther College (Decorah, Iowa); member, Board of Directors, and member, Executive Committee, North Star Research and Development Institute; director, University of Minnesota Foundation; trustee, Argonne Universities Association; and member, Board of Directors, Variety Club of the Northwest.

R. JOEL TIERNEY served as member, Executive Board, panel member and moderator, Annual Conference, and editor, *The College Counsel*, National Association of College and University Attorneys; and committee member, Minnesota Bar Association.

DIVISIONS OF EDUCATIONAL RELATIONSHIPS AND DEVELOPMENT

Administration

C. LLOYD BJORNLIIE served as administrative assistant, Semi-Annual Conferences, Association of Minnesota Colleges; executive secretary, Junior College and University Transition Conference, and executive secretary, Seven County Area High School Counselors Conference, Institutional Relations Committee, Minnesota Senate; and executive secretary, State Inter-Faculty Conference, Joint University Senate and Minnesota Section, American Association of University Professors.

PAUL H. CASHMAN served as chairman, Governor's Advisory Council on Children and Youth, and member, Governor's Advisory Council on Employment of the Handicapped.

STANLEY J. WENBERG served as member, High School and College Relations Committee, and secretary-treasurer, Association of Minnesota Colleges; member, Public Relations Committee, Upper Midwest Economics Study; chairman, Higher Education Advisory Committee, Midwest Council of State Governments; member, Educational Policies Committee, Minnesota Education Association; member, Citizens Committee for Public Education, State of Minnesota; member, Accrediting Team, North Central Association; member, Federal Legislature Committee, Association of State Universities and Land-Grant Colleges; member, Planning Committee, Study of American States, Duke University; and member, Board of Regents, St. Mary's College.

Office of Admissions and Records

W. DONALD BEATTY served as member, Ford Faculty (Latin America), Ford Foundation.

Department of Alumni Relations

EDWIN L. HAISLET served as panel member, Annual Convention, and chairman, Minnesota Session, Fifth District Meeting, American Alumni Council; and discussion session leader, Big Ten Fund Raisers.

Dean of Students Office

RALPH F. BERTIE served as president, American College Personnel Association; state coordinator, American College Testing Program; member, Tests Committee, Educational Testing Service; and member, Executive Council, American Personnel and Guidance Association.

EMANUEL M. BERGER served as program coordinator and member, Counseling Committee, American College Personnel Association.

JOHN L. COWAN served as technical director, Students and Social Issues Committee, National Association of Student Personnel Administrators; member, Research Awards Committee, American Personnel and Guidance Association; and member, Commission Four on Students, Their Activities and Community, American College Personnel Association.

THEDA HAGENAH served as treasurer, Annual Convention, National Association of Woman Deans and Counselors; and senator, Annual Convention, American College Personnel Association.

MARY L. HAYDEN served as assessment officer, Peace Corps (Marquette University).

VIVIAN H. HEWER served as program coordinator, National Convention, American Personnel and Guidance Association; consultant, Counselor Trainees, and consultant, Counseling Psychology, St. Paul Veterans Administration; associate examiner and consultant, College Accreditation Committee, North Central Association; and member, Professional Affairs Committee, Counseling Psychology Division, American Psychological Association.

ALBERT B. HOOD served as member, Executive Council, and program chairman, American College Personnel Association.

E. GARY JOSELYN served as chairman, Minnesota Membership Committee, Association for Measurement and Evaluation in Guidance; member, Testing Subcommittee, Guidance, Counseling, and Testing Advisory Committee, State of Minnesota; and member, Testing Committee, Minnesota Counselors Association.

DOROTHY R. LOEFFLER served as liaison chairman, National Convention, Research Counseling Division, American Personnel and Guidance Association.

RODNEY G. LOPER served as resource person, College Student Mental Health Workshop (Colorado State College), National Institute of Mental Health.

HAROLD R. MARQUARDT served as vice-chairman and chairman, Commission III, National Convention, American College Personnel Association; and chairman, Housing Research Program, and chairman, American College Personnel Association Recorders, National Convention, American Personnel and Guidance Association.

RICHARD R. MARTIN served as administrative assistant, National Convention, American Speech and Hearing Association.

MABELLE McCULLOUGH served as chairman, Education Committee, Governor's Committee on the Status of Women; chairman, International Committee, and consultant, Off-Campus Housing (Southern Illinois University), Association of College and University Housing Officers; member, Liaison Committee, American Personnel and Guidance Association; and chairman, Information Committee, National Association of Woman Deans and Counselors.

RICHARD P. McDERMOTT served as an associate member, Sigma Xi; chairman, Fall Program Regional Group Workshop, chairman, Executive Council, chairman, Nominations Committee, member, Finance Committee, and member, Program Committee, Minnesota Speech and Hearing Association; consultant, Advisory Committee, Minnesota Easter Seal Society; and member, Advisory Committee, Minnesota Society for Crippled Children and Adults.

JOSEF A. MESTENHAUSER served as chairman, Liaison Committee, and consultant, Institute of International Education, National Association of Foreign Student Advisors.

FORREST G. MOORE served as consultant, Institute of International Education, and section chairman, Conference, National Association of Foreign Student Advisors; section consultant, Conference (Washington, D.C.), Peace Corps; consultant, Fellowship Program Development, Institute of International Education and Agency for International Development; and consultant, Foreign Student Problems Commission, Bureau of Social Science Research.

ALTON L. RAYGOR served as member, Editorial Advisory Board, *Journal of Reading*, and member, Research and Information Retrieval Committee, International Reading Association.

GEORGE B. RISTY served as vice-chairman, Student Financial Aid Committee, and panel chairman, Conference, American College Personnel Association; consultant, College Work-Study Program, U.S. Office of Education; member, School Selection Committee, H. B. Fuller Company; chairman, School Selection Committee, Northern States Power Company; and member, School Selection Committee, Gamble Skogmo, Inc.

RUTH ROBERTS served as director, Language Program, Institute of International Education; recorder, International Visitors Program Committee, and recorder, National Defense Education Act and Higher Education Committee, Convention, American Personnel and Guidance Association; member, Evaluation Committee, English Language Section, chairman, Psycholinguistics Panel, National Convention, and program chairman, English Language Section, Regional Convention, National Association of Foreign Student Advisors; research consultant, Park College; and research consultant, American Field Service.

GERALD M. SEGEL received a fellowship from the American Speech and Hearing Association; and served as assistant program chairman, member, Research in Public Schools Subcommittee, member, Publications Board, and consulting editor, *Journal of Speech and Hearing Disorders*, American Speech and Hearing Association.

MARTIN L. SNOKE served as secretary, High School-College Relations Committee, Association of Minnesota Colleges and Secondary Schools.

MATTHEW STARK served as member, Minnesota Advisory Committee, U.S. Civil Rights Commission.

CLARK D. STARR served as member, Legislative Committee, Minnesota Speech and Hearing Association; chairman, Program Committee, and chairman, Cleft Palate Section, American Speech and Hearing Association; consulting editor, *Journal of Speech and Hearing Disorders*; member, International Congress Committee, American Cleft Palate Association; member, Professional Advisory Committee, Minnesota Society for Crippled Children and Adults; member, Professional Advisory Committee, Minnesota Easter Seal Society; member, Certification Committee, Minnesota Department of Education; consultant, Cleft Palate Program, Services for Crippled Children Division, State of Minnesota; and consultant, Special Education Personnel, Minneapolis Public Schools.

R. EDITH STEDMAN served as chairman, Standards in Higher Education Committee, and member, Liaison Committee, National Foundation Board and International Federation of University Women, American Association of University Women.

EDWARD O. SWANSON served as psychology consultant, American Board of Dermatology; consultant, Men's Dormitory Counselors Association; consultant, Research Committee, and member, Editorial Board, Minnesota Counselors Association; member, Workshop Committee, and member, Board of Trustees, Twin Cities Vocational Guidance Association; and chairman, Evaluation Committee, National Convention, American Personnel and Guidance Association.

DAVID M. WARK served as member, Education Media Council, U.S. Office of Education; member, Board of Directors, North Central Reading Association; and member, Editorial Board, National Society for Programmed Instruction.

DONIVAN J. WATLEY served as program chairman, Research Program, American Personnel and Guidance Association.

DONALD R. ZANDER served as coordinator, National Convention, American Personnel and Guidance Association.

University Health Service

DONALD W. COWAN served as council member, Executive Committee, chairman, Finance Committee, chairman, Standing Committee on Physicians Sal-

aries, and secretary-treasurer, American College Health Association; consultant, Expert Committee on Professional and Technical Education of Medical and Auxiliary Personnel (Geneva, Switzerland), World Health Organization; and member-at-large, Executive Committee, North Central College Health Association.

EDWARD J. DVORAK served as member, Public Health Council, St. Paul United Fund; and editor, *Newsletter*, member, Program Committee, Youth Alcoholism Workshop, member, Research Committee, Health Education Section, member, Evaluation Committee, Health Program Certification, and member, Editorial Committee, *Journal*, American College Health Association.

LYDIA M. HERMANN served as coordinator, Social Work Program, Head-start Project, and resource person, Mental Health in School Children, Minneapolis School System.

PHILLIP D. KERNAN served as president, North Central Section, American College Health Association.

GEORGE S. MICHAELSEN served as consultant, Architectural and Engineering Branch, Hospital and Medical Facilities Division, and consultant, Environmental Services Branch, Research Services Division, National Institutes of Health; consultant, Research Branch, Radiological Health Division, Public Health Service; member, Radiological Safety Advisory Committee, and member, Minnesota Poison Information Center Advisory Committee, Minnesota Board of Health; member, Board of Regents, Augsburg College; governor, Lutheran Institute for Human Ecology (Park Ridge, Ill.); and chairman, Environmental Health and Safety Section, American College Health Association.

GUSTAVE L. SCHEFFLER served as member, Education Committee, American Society of Safety Engineers; and committee chairman, Accident Report Form for College Health Services, American College Health Association; and received the Award of Honor from the National Safety Council.

Department of Intercollegiate Athletics

GLENN F. GOSTICK served as advisor, coordinator, and director, Royal Dutch Baseball Association (The Netherlands).

ROY GRIAK served as president, Minnesota Track Coaches Association; and president, Minnesota Track and Field Federation.

WALLACE T. JOHNSON served as president, and chairman, Wrestling Rules Committee, National Collegiate Athletic Association.

JOHN A. KUNDLA served as coach, U.S. All-Star Basketball Team (Hungary and Finland).

JAMES W. MARSHALL served as trainer, U.S. National Hockey Team (Norway, Finland, and Sweden).

GLEN A. REED served as assistant tourney manager, National Hockey Championships, National Collegiate Athletic Association.

RICHARD W. SIEBERT served as vice-president, and chairman, Professional Baseball Committee, American Association of College Baseball Coaches; and member, Professional Relations Committee, National Collegiate Athletic Association.

LLOYD W. STEIN received the Helms Hall of Fame Award from the National Athletic Trainers Association; and the First Viking Ring Award from Twin Cities Newspaper, Radio, and Television Managers.

University Relations

WILLIAM L. NUNN served as director and trustee, Twin City Area Educational Television Corporation; visiting lecturer, Summer Sessions, Colorado State University; and director, National Committee on Tithing in Investment.

THE WORK OF THE UNIVERSITY

Divisions of Academic Administration

DEPARTMENT OF AEROSPACE STUDIES

JAMES SUTTIE, *Lieutenant Colonel, USAF*

The Air Force ROTC program enrollment since the last biennial report is as follows:

ACADEMIC YEAR	BASIC COURSE		ADVANCED COURSE	
	1st Year	2nd Year	3rd Year	4th Year
1964-65	292	68	45	33
1965-66	175*	49	62	36
Commissioned July 1, 1964—June 30, 1965				26
Commissioned July 1, 1965—June 30, 1966				22

* Candidates. Members of an informal, Air Force oriented group.

The most significant development was the adoption by the University of Minnesota on January 11, 1965, of a two-year Air Force ROTC program to replace the traditional four-year plan. This new program, authorized by the ROTC Vitalization Act of 1964 (P. L. 88-647), makes it possible for a junior, senior, or graduate student to complete his AFROTC commissioning requirements in two years. The University of Minnesota is the largest university to adopt this program and is regarded as a leader in this important change.

Recognitions received included the selection of two Department officers, Captain Donley D. Eyolfson and Captain Dewey E. Johnson, for faculty awards at all-University recognition banquets. The Angel Flight, feminine auxiliary to the Arnold Air Society, was again ranked first in the country in 1966.

Concurrently with the adoption of the new AFROTC program, a major curriculum revision was accomplished. Initial implementation started in September of 1964, and now is fully completed. Major emphasis is placed on development of communication skills and professional attitudes necessary for Air Force officers.

INSTITUTE OF AGRICULTURE

SHERWOOD O. BERG, *Dean*

Agricultural Experiment Station

Activity in the Agricultural Experiment Station of the University of Minnesota has increased during the biennium and is reflected in several ways. With respect to program areas, there has been marked increase in resource development, forest products, and forestry-related research. In addition, there has been improvement in the funding of certain other established areas, such as oat breeding, agricultural engineering, and research effort of the Agricultural Experiment Station at Rosemount.

The quality of project proposals has improved, and the average allocation per project has increased slightly from \$7,730 in 1964-65 to \$9,160 in 1965-66. We are working toward the goal of providing \$20,000 per professional man-year in the social sciences, \$25,000 in the plant sciences, and \$35,000 in the animal sciences. The increase in appropriations from the 1965 Legislature has greatly improved the opportunity of the Agricultural Experiment Station to

expand into new program areas, such as resource development and forest products.

One of the major problems facing the Agricultural Experiment Station is the increasing demand for research in nearly every area of its responsibility. Much of this research involves laboratory investigation, and the cost of equipment necessary to carry out this research increases the amount of funds necessary for each project. In addition, the problem of establishing new positions based on student enrollment, along with the problem of less attention to research program needs, places increasing strain on the operation funds of the Experiment Station. More and more of the funds are necessarily used for professionally trained staff, who must be appointed as research fellows and research associates because requested faculty positions have not been granted.

In addition, there is tremendous need for improved physical facilities, especially for the animal sciences. The Agricultural Experiment Station has been extremely fortunate, in recent requests to the Legislature, in successfully securing appropriations. The major block is using these funds adequately because of delays from the Plant Services Division. For example, 13 items costing under \$100,000 received appropriations from the 1965 Legislature. To date, one project has been sufficiently planned so that it could be bid upon, a road has been partially completed, one laboratory has been completed, and a sewer system has been installed. These amount to four of the thirteen projects, leaving nine to be done. This places a great hardship on the research worker and jeopardizes our good relations with the Legislature. The animal facilities available at the Branch Experiment Stations at Rosemount and St. Paul are too inadequate and outdated to carry on modern research programs.

Agribusiness is a rapidly growing industry, with expectations of a 25 percent income increase in Minnesota by 1975. If this growth is to occur, we must be assured adequate resources—funds, staff, and buildings—to provide the needed research information to the consuming public.

New staff and program development has taken place in the area of resource development by the addition of a project leader, Dr. Raymond Vlasin. Also, the Agricultural Extension Service has added new staff who are qualified to do research in the area of resource and community development. Sufficient funds were provided for new products research in forestry to secure the services of two professional staff-graduate students, and necessary equipment and supplies. In the Department of Agricultural Engineering, funds have been made available to hire technicians who make it possible for the professional staff to devote more attention to developing research ideas and methodology. The technicians assist in carrying out these programs.

The development of the Food Science and Industries Department will greatly enhance the activity in the important area of food processing. Minnesota is one of the leading states in the production of sweet corn and canning peas, as well as many other vegetable crops and meat and dairy products.

The establishment of the Department of Animal Sciences will tend to coordinate more fully the research activities into functional areas of nutrition, physiology, breeding and genetics, and management. The combined efforts of the present research staff, with appropriate additions over a period of time, will make it possible for the University to better serve the \$1.2 billion livestock industry of this state.

Continuing progress is being made in strengthening and coordinating the research activities of the Branch Experiment Stations. Over the past two years, most of the professional staff at the Stations have been given joint appointments in St. Paul Campus departments. This increases the affiliation and relationship between the professional worker at a Branch Station and the St. Paul Campus department.

Following are a series of accomplishments from selected research areas:

Improvement of field crop and horticultural plants is a continuing responsibility of the Agricultural Experiment Station. A new hard red spring wheat variety, *Chris*, was released in 1965. *Chris* combines good yield, test weight, and quality with resistance to the prevalent races of stem and leaf rust. In addition, it has averaged two-to-three bushels more per acre than other recommended varieties. *Chris* is not only adaptable in Minnesota, but

also in North and South Dakota and in other hard red spring wheat growing areas.

Seven new hybrid corn lines were named and released for commercial production and were found to be ten to fifteen percent superior in yield and agronomic traits to existing varieties. Field evaluations for western corn root worm resistance demonstrate a wide range of tolerance and recovery, but no complete resistance. It will be necessary to carry out intensive selection and breeding to develop practical varietal tolerance to this serious insect pest. Seed stocks of three corn dwarf mosaic-resistant lines were developed in the corn project and have been widely distributed to public and private breeders. This will assure fewer problems from this new disease complex.

It has been established that the resistance to seed coat mottling in soybeans is controlled by a single gene with partial to complete dominance. In some specialized markets, seed coat mottling has become an important grading factor resulting in discounts to growers in certain areas. Most important as a scientific discovery is the knowledge that resistance to seed coat mottling is simply inherited, knowledge which can be useful to breeders wishing to incorporate mottling resistance into new varieties or backcross resistance into existing varieties.

Barley is an important crop in the upper midwest, and one of its serious problems is lodging. Short straw selections about six inches shorter than the conventional varieties have been developed. These selections are superior to other varieties tested in the region and should provide the base for overcoming this perennial lodging problem. F-1 hybrids of barley and conventional varieties have been compared in yield and quality tests. The best hybrids yield approximately 20 percent more than the best conventional varieties. Malting quality in the F-1 hybrids tends to be nearly the same as that of present varieties, with none of the hybrids being better than the conventional varieties.

Research dealing with our environment becomes increasingly important. The studies on physiologic processes, using strontium accumulation as one of the indicators, are very important in the determination of element accumulation by plants. Lead accumulation on forages consumed by animals has resulted in death. Foliage contamination with lead near a battery smelter south of the Twin Cities has been held responsible for a number of animal deaths. Lead-containing automobile exhaust from major highways has also been suspect. Soils near both of these sources show contamination with lead and the possibility of absorption of toxic levels of lead by forage plants from such contamination. Minnesota research finds that bromegrass absorbs significant quantities of lead from highly contaminated soils, but the degree of the absorption is not sufficient to cause concentration toxic to animals consuming the forage. Bromegrass is one of the important forage species in Minnesota.

In an attempt to lower the cost of producing lambs, three main research areas have been considered: (1) increasing pasture carrying capacity, (2) reducing labor costs, and (3) providing the necessary nutrients from sources that are less costly than those conventionally used.

A method of management of grazing sheep, developed at Minnesota, which permits nonlactating ewes to graze for about 50% of the time, with periods of confinement (shade, water, and minerals provided) as long as 2½ days, has literally doubled the carrying capacity of oats-rape pasture and increased the carrying capacity of sudan pasture by about 60%. This practice results in greater weight loss by ewes on pasture but has not adversely affected subsequent production of lamb and wool. While this system appears to have considerable promise for those interested in intensive sheep production, the practice has not been accepted by sheep producers, very likely because of lack of information.

There is increased interest in utilization research which will benefit the milk industry as well as the consumer. To this end, milk containing different genetically controlled variants of the milk proteins has been under extensive study. Such variants are varieties of protein that originate by mutation and that differ in composition or properties. The ability to produce a certain kind is inherited by the cow. For many years it has been known that milk from individual cows differs markedly in its susceptibility to heat coagulation.

This involves coagulation of the principle group of proteins—caseins. Casein is important in the processing of evaporated milk. With the discovery of genetically controlled variants in casein, it was logical to determine if they differ in heat coagulability. Large differences have been found in stability, but these do not seem to be correlated with the type of casein present. These studies will continue because of their importance to the milk industry in the state.

The biochemistry of cereal grain germination is receiving considerable attention in relation to the consumption of materials such as malted barley and wheat by human beings and animals. The nature of wheat constituents as well as those of other cereals, and the changes they undergo during storage and processing, are being investigated. An improved method for lipid analysis has been developed and has promise of importance in studying development of rancidity in foodstuffs. Rancidity in cereal products has always been of concern, and to date three enzymes have been identified and isolated for further study. This could well result in approved means of food stabilization.

It has become very apparent that reproductive performance is related to nutritional factors which are apparently absent in late-cut hay. What these factors are has not yet been determined, but a large proportion of the animals on the late-cut hay have shown no reproductive activity and have ceased milking after four months of lactation. Cooperative work between reproduction physiologists and veterinarians is attempting to determine the cause of these reproductive malfunctions.

Recent outbreaks of staphylococcus food poisoning attributed to dry milk and cheese have been of great concern to the dairy industry. At the time of the outbreaks little was known about the extent of growth of the organism during manufacture of dry milk and cheese, and the conditions that influence growth as well as destruction. Research results make it possible to suggest adjustments in plant operation practices that will prevent development of critical populations in milk prior to drying and in cheese, thus eliminating the hazard of enterotoxin in these products. Equipment manufacturers have been alerted to critical considerations in the subpasteurization of milk for cheese manufacture. The dry milk and cheese industry has been made aware of the staphylococcus food poisoning hazard, the condition that leads to the trouble, and the problem spots in manufacturing.

A new method of measuring eggshell strength was developed which takes into account the amount of elasticity that an eggshell produces. This added criterion should be beneficial in evaluating and approving eggshell strength and related conditions. The loss of income due to egg breakage in Minnesota alone amounts to two and a half million dollars annually. Through more precise measurements of factors contributing to eggshell strength, such as elasticity, a portion of this loss can be prevented.

Another important industry in Minnesota is forestry and forest products. Studies are being conducted at the School of Forestry on how readily water drains from wood-pulp mats or pads and how the inner content of water affects the drainage rate permeability. This research has practical application since certain water permeability tests are used in the paper industry to predict the paper-making quality of wood fibers. The results of the tests are dependent upon an accurate measurement of the true drainage rate. The usefulness of the results is questionable if the drainage rate is affected by the presence of minute air bubbles.

Twenty-five years of observation on jack pine plantings of seed collected from throughout the natural range of the species, from Newfoundland to Alaska, from Hudson Bay to south of Chicago, show a definite superiority of seed sources in the northern lake states. Seed sources somewhat south of the point of planting appear superior to those north of the point of planting. Length of day appears to be an important consideration in determining rate of growth of all seed sources. Seeds with northern sources at the Cloquet Forest Research Center and other northern Minnesota test planting locations have very poor growth.

Research dealing with the problems of meat production from dairy animals has been in progress at the Southern Experiment Station since 1962. This project is oriented toward determining the concentrate to roughage ratio that

will result in the most efficient and economical rate of gain by Holstein steers. A large number of dairy cattle are surplus, and thus this project has important economic implications.

Soil and crop management systems research at Morris indicates that soybeans, corn, and alfalfa can be grown continuously with very few problems. Six-year averages show a 7.1 bushels per acre increase for soybeans grown under the higher management level of narrow rows and fertilization. Continuous corn grown under the higher level of management in narrow rows averages 10.3 bushels higher in yield than that corn grown in 40-inch rows with moderate levels of fertilization. The soybean yields have been quite consistently advantageous on the higher management level, whereas corn grown under the best management system showed increases in yield which were significant in only three out of the six years. Yield advantages in these years ranged from nine bushels per acre up to 32 bushels per acre. The greatest difference occurred in 1965, when there was considerable response to higher rates of fertilizer in many corn fields.

Continuous alfalfa has yielded as well where 45 pounds of phosphate was applied each year as where 90 pounds of phosphate was applied. No particular differences have been observed as far as longevity of the stand was concerned. The yields of crops grown in the rotation in some instances have been higher than those grown under the continuous culture; however, the reasons for the advantage have not always been clearly defined. It is questionable that this difference is due to a crop rotation system.

Agricultural Extension Service

The Agricultural Extension Service makes educational resources of the University and the U.S. Department of Agriculture available to all the people of Minnesota in a variety of educational programs through a network of over 225 extension agents in 90 county offices. They are supported by 24 members of a supervisory staff and 69 specialists, many of whom also hold appointments in the several academic departments of the Institute, a policy initiated this biennium.

A changing Minnesota, and requests from a varying clientele, challenge the Extension Service to provide a flexible program. Activities and accomplishments are reported in the annual project summaries filed with the Federal Extension Service. Excerpts from the 1965 federal reports reflect the programming of this biennium.

Agricultural Production, Management, and Natural Resource Use Project—The educational program in this project has assisted agricultural producers and related businesses to produce high-quality, low-cost food and fiber through the improvement of knowledge and skills in management, application of technology, and use and development of resources. Clientele served include full-time commercial farmers, low-income farmers, beginning farm families, part-time farmers, agribusiness organizations, and agricultural leaders. Emphasis in 1965 was placed upon developing area-wide, in-depth schools; reviewing, planning, and scheduling; and redirecting efforts to reach industry and leadership groups serving agriculture.

More than 120 intensified educational efforts were planned and conducted in Minnesota, in addition to other ongoing educational and informational programs. Thirteen area meetings of retail dealers of seeds, fertilizer, and pesticides reached over 1,000 persons with the latest information on residues, pesticide safety, and related topics. The 13 Crops and Soils Workshops attracted 780 persons and provided basic information about soil formation and classification, soil testing and fertilizer recommendations, and plant growth and development. The 13 dairy seminars, which enrolled 692 persons for a four- or five-session series, covered such basic topics as nutrition, genetics, udder physiology, and dairy enterprise economics, as well as breeding, feeding, and management problems. Other courses were conducted in poultry and livestock management, maple syrup production, and farm and home development. A marked increase in county requests for such in-depth educational efforts reflects the strong support for continued extension of this work and

the need for multicounty arrangements to insure effective use of a limited staff.

Dairying is an important industry in Minnesota, with 22 percent of the agricultural income coming from dairy products. The Dairy Herd Improvement Association program is an important extension project in which the state and county Extension Service, the USDA, the DHIA Board of Directors, and dairy farmers cooperate in two broad phases. Information on feed intake and milk production is gathered, recorded, computerized, and analyzed as part of phase one. The educational phase uses this data and other information to assist DHIA members and all other dairymen in the management of the dairy enterprise.

By December 31, 1965, almost 185,000 dairy cows from over 6,000 herds were enrolled in the program, representing about 15 percent of the total in the state. The average cow enrolled in the DHIA program produced 11,817 pounds of milk, compared to the average of all dairy cows in Minnesota in 1964 of 8,670 pounds. This indicates the value of the computer record-keeping, the dairy cattle breeding program, the seminars and training conferences, and the many other educational activities in this program. Much staff effort was devoted to the 68 dairy, swine, and beef enterprise schools and tours which reached over 3,500 persons, and to the more than 450 demonstrations attended by close to 2,500 people.

Special services designed primarily to meet information requests from metropolitan residents include the Plant Disease Clinic, which in its 10th season handled over 3,000 cases; the Insect and Damage Identification and Control program, which received over 8,000 phone calls, 1,600 letters, and 900 office calls; and the Garden Information unit, which received almost 7,000 phone calls, 428 office calls, and over 5,500 letters.

Community and Public Affairs Project—This project has helped people to increase their awareness and understanding of trends, community problems, and public issues confronting the community, state, and nation and to develop the human, institutional, and natural resources of the community. Educational programs centered on community resource development, outdoor recreation, public affairs, rural civil defense and natural disaster, rural church liaison education, and Extension sociology.

Community resource development activities included two leadership development meetings, involving over 150 community leaders, and assistance in preparing Overall Social and Economic Development Plans in several counties. By the end of 1965, 26 counties had OSEDP's, and 17 counties had completed comprehensive plans.

Todd County was one of three counties in the United States participating in a Concerted Services Project. Extension service provided organizational and educational leadership through informational meetings with the Todd County Resource Development Committee and Community Action Council, participation in farmer-general courses in six vocational agriculture departments in public schools, analysis of specialty crop potential in the county, an expanded DHIA program, and development of plans for an irrigation demonstration project in cooperation with the Staples Vocational School and the Experiment Station in the Institute of Agriculture. Employment was found for 33 persons in the county, and 117 other persons were referred for work. Other human resources received attention in various programs developed for specific audiences.

The outdoor recreation activity included Resort Management Institutes which reached over 4,000 businesses. The *Minnesota Tourist Travel Notes* were prepared and distributed to over 5,000 operators. Assistance was provided to several resort associations and to individual operators.

Understanding of the economic and social changes now occurring in Minnesota was facilitated through the three Leadership Seminars in Public Affairs entitled "The American Economy in Transition," which reached community leaders in five day-long seminars. Two series of 11 day-long programs held at different locations throughout the state covered education and public finance in the Town and Country Public Affairs Conferences for women.

The rural civil defense and natural disaster education efforts included displays, demonstrations, volunteer leader training, and a livestock farmer educational program. A family and farm defense handbook was prepared and distributed. When more than half of Minnesota counties were involved in the worst floods this state has ever experienced, and when devastating tornadoes were encountered, Extension's information resources were extensively utilized.

Rural sociology's educational efforts provided five Town and Country Institute programs designed to provide clergy and laity with understanding of socio-economic facts and trends.

Marketing and Utilizing of Agricultural and Forest Products Project—This project has developed educational programs in areas of market structure, technical efficiency, management, general economic literacy, grades and standards, market regulations, consumption trends, and other agricultural economics-related activities mainly for (1) persons and/or firms involved with the assembling, blending, transporting, processing, financing, insuring, and merchandising of farm products; (2) suppliers of farm inputs and services; and (3) consumers.

Typical of the activity in this project was the continued study of the market structure of the Red River Valley potato industry. To meet changing processing and transportation techniques, 24 cooperative dairy organizations located in seven areas of the state received educational assistance with various phases of consolidation and merger activities. A series of 12 one-day district grain marketing schools emphasized to some 750 managers the growing importance of grain merchandising in view of reduced stocks of grain. A total of 49 livestock outlook meetings, attended by 3,350 people, were held to discuss the supply and demand relationship in the livestock industry.

Consumer Protection Forums were held at seven locations, with approximately 550 in attendance. The extent and limitations of protective and informative services provided by government-, business-, and consumer-sponsored agencies and organizations were discussed. Three Consumer Clinics for over 200 consumers attempted to increase understanding of various aspects of selling.

Home Economics Project—Home economics programs were conducted in all counties of Minnesota by 82 home economists for over 44,000 homemakers in organized groups. Home economics leadership was provided for almost 30,000 youths in 4-H Club homemaking projects. Over 43,000 contacts were made with adults and youths in the family living program.

Among the objectives set for the project were: to help women develop skills in performing homemaking tasks, to help them assess changing roles of family members in terms of the family life cycle, and to assist them in the review of their roles in the community.

The specific activities varied significantly from county to county in 1965. In the general area of clothing, for example, 29 counties conducted sessions on clothing construction, 23 stressed selection, 13 dealt with care, 7 taught knitting, 6 discussed grooming, and 4 concentrated on creative stitching.

The area of foods and nutrition was studied with emphasis on diets, family food supply, and the social and cultural aspects of food. Other general areas included home management, which explored important phases of financial management, such as credit and plans for retirement; home furnishings, which involved almost 13,000 women in a variety of topics; and home improvement. The family life emphasis was upon parent education through a series of classes for parents of young children.

Special attempts were made during this biennium to work with low-income families. Several projects were reported, including two clothing sessions for youth in a St. Paul public housing project, a session with mothers receiving aid for dependent children on buying children's clothing, and cooperation with several agencies assisting low-income families.

A host of special clientele included women patients preparing for discharge from mental hospitals, senior citizens wanting information about food and nutrition, factory workers learning through noon-hour talks, and physi-

cally limited homemakers attempting to maintain leadership of their homes.

The home economics answering service received over 6,000 calls, about half of which concerned questions about food.

4-H and Other Youth Project—The 4-H and Other Youth Project activities have enabled young people to gain experience in the processes of problem-solving and to develop personal skills through participation in organized youth activities. This project expanded club membership in 1965 and made significant attempts to reach additional youth through work in the urban areas, through work with youth of the middle-income families of the metropolitan areas, and through an expanded program for older youth.

A total of 55,000 youths enrolled in 4-H activity. Over 13,000 volunteer adult leaders assisted in the activity as organization and project coordinators. Training sessions included an agent training conference, district 4-H council seminars, basic 4-H leader training meetings, and 4-H project training and multiple county project training sessions.

A pilot project in a low-rent housing complex and conferences with leaders of settlement and neighborhood programs point to expanded efforts to reach the urban youth. The young adult citizens program for persons aged 17-27 was implemented in 18 counties. A three-day state YAC conference demonstrated the vitality of this group.

Information and Educational Aids Project—The preparation and distribution of information is a major responsibility of the Agricultural Extension Service. Several media were utilized. Over a million copies of formal bulletins, folders, pamphlets, periodicals, and special reports were distributed. Editorial services were provided, with 671 publishing jobs and forms totaling over 3,500,000 copies. Also, over 1,100 separate news stories and features for radio, newspapers, and magazines were prepared by the project personnel. County extension agents estimated release of 21,315 items to newspapers and magazines during 1965. Radio programming increased 10 percent during the same year, with 1,400 different programs for 19,800 station broadcasts. When supplemented by 14,052 agent radio broadcasts, the total represented an average of 50 hours per week from the University's Institute of Agriculture. State Agriculture Extension personnel arranged or participated in 245 television programs, which were presented a total of 500 times. The addition of county agent programming provided a total of nearly 1,000 television programs produced by Extension and other Institute units.

To make their teaching efforts more effective, Extension staff utilized services and aids provided by the project. Over 6,000 shipments of motion pictures, slide sets, flannelgraphs, and other visual material were made for use by agricultural educators. A large number of visuals were prepared for use by staff.

College of Agriculture, Forestry, and Home Economics

The years 1964-66 have brought a new awareness of change that will take place on the St. Paul Campus. The development of the College of Biological Sciences, the preparation for movement of certain programs and class offerings to the campus, the plans being made for rapid transit of students between areas of the Twin Cities units, the increased use of closed-circuit television, and other events—all point to the changing scene and things to come as the University looks forward to an annual enrollment of as many as ten to twelve thousand students on the St. Paul Campus during the next decade.

Enrollment in the College of Agriculture, Forestry, and Home Economics has continued to grow, with significant increases in all three areas, especially in 1965. In fall 1964, Agriculture increased by 4.6 percent, Forestry by 9 percent, and Home Economics by 2 percent. Even greater gains were experienced in fall 1965, when Agriculture registered 1,083 students, Forestry 379 students, and Home Economics 784, or 17, 10, and 15 percent increases in the respective areas.

The influence of revised admission standards in 1963 (from 25th to 40th percentile high school rank) has been reflected in a better quality student

in the classroom. In 1962, the mean high school rank percentile for entering freshmen was 65 for Agriculture, 62 for Forestry, and 73 for Home Economics, whereas in 1965 the mean high school rank percentile had risen to 72, 67, and 76 for the respective units. Although it is difficult to assess the effect that the admission standards revision has had on attrition, it is felt that part of the increased retention now experienced in the College is a direct result of the admission standards revision.

Effective fall 1966, students in all curricula except Related Art in Home Economics will be requested to have the equivalent of three units of mathematics, including one unit of higher algebra and one unit of plane geometry. This change was made in order to encourage adequate preparation for course work essential to the student's program in the College.

Several significant changes in curriculum and course offerings have been approved by the faculty. In the revised Forest Resource Development curriculum, a student may select a major in one of six fields: multiple use, timber production, watershed management, forest recreation, forest wildlife, and wood products utilization. This innovation, in addition to curricula in Forest Products Engineering, Forest Products Merchandising, and Forest Science, makes for rather comprehensive offerings in the various Forestry areas.

The School of Home Economics has made a major reduction in the "core" requirements common to all students in order to give the student somewhat greater freedom to pursue areas of special interest and to permit strengthening of the basic science and general education aspects of the programs.

In the fall of 1966, students entering in Agriculture may elect one of four new curricula in addition to already available programs in Landscape Design, Fisheries and Wildlife, and the Technical Certificate program in Agriculture. The new programs are entitled Agricultural Science and Industries, Agricultural Business Administration, Physical and Biological Sciences in Agriculture, and Food Science and Industries (to be offered by the newly established Department of Food Science and Industries). A fifth program in Resource Development is in the discussion stage. All programs include a 90-credit lower division, and, with the exception of Agricultural Business Administration, feature major options and areas of emphasis at the upper division level. It is felt that the changes will lend increased "viability" to the programs as well as provide new challenges to students in Agriculture.

A stimulating series of seminars dealing with the improvement of classroom instruction has been initiated by the Subcommittee on Instruction of the College Curriculum Committee. The seminars have been well attended and well received by the faculty.

Placement of our graduating seniors continues to receive emphasis. Demand for our graduates has increased to the point that each senior student, especially in Agriculture, may have a choice of three to four or more job opportunities. During the academic year 1965-66, the Placement Office maintained correspondence with some 400 firms and agencies and arranged on-campus placement interviews with over 100 firms or agencies. Nearly 1,100 interviews were scheduled for students and alumni. Not only are the range and volume of contacts increasing, but, equally important, the quality of positions available to students of the College constantly improves.

In the fall of 1966, the new University of Minnesota Technical Institute at Crookston opens its doors. Programs to be offered are coeducational and include curricula in agriculture and business, with supporting general education courses. Admission requirements include successful completion of high school or its equivalent and acceptance by the Admissions Committee. All prospective students are expected to take the ACT test. The Technical Institute will be a significant addition to the educational programs available through the University of Minnesota. As the programs in the Technical Institute develop, there will be an orderly phasing out of the Northwest School of Agriculture on the Crookston Campus. The Area Vocational School sponsored by School District 318 (Grand Rapids) is in operation, and plans are being made to move the Itasca State Junior College to the Experiment Station Campus. In addition, the completion of the new 100-student dormitory addition at the Southern School of Agriculture has made it possible to increase enrollment on that campus.

Office of International Agricultural Programs

As a result of a study by a faculty committee, the Office of International Agricultural Programs was established in 1964 to give the Institute of Agriculture a new "fourth dimension" along with its traditional programs of instruction, research, and extension. A director was appointed and a St. Paul Campus Committee on International Programs was established, with faculty representation from the Institute of Agriculture and the College of Veterinary Medicine.

The new Office is intended to strengthen on-campus programs and to provide direction for overseas projects in agriculture and related fields. A primary goal is to broaden the base of undergraduate instruction in agriculture to put greater emphasis upon world food problems. A perspective of agriculture as a world industry, and familiarity with the technical problems of food marketing and food production and marketing in other regions, are essential in training professional agricultural workers today. An enrichment program of undergraduate studies has been developed, including a set of special senior seminars on international topics. Similarly, the strengthening of graduate programs and the development of some new ones are important in relation to the growing world food crisis. The Institute of Agriculture and the Center for Public Administration have begun a program of training at the Master's level to prepare agriculturists to serve as executives and administrators in underdeveloped countries. The program is designed to meet the needs of both foreign and United States citizens. A few departments have begun to add new courses to increase the world perspective of agriculture for both undergraduate and graduate students.

The first Minnesota Winter Seminar on World Food Problems was held in 1966. With financial assistance provided by the Ford Foundation through the University's Office of International Programs, four eminent speakers appeared on the St. Paul Campus. Each of them led a technical seminar in his field for the faculty of a campus department and later delivered a lecture to an audience of University faculty members and agricultural leaders of the Twin Cities community. The papers presented at these lectures are being published. The attendance at the four lectures was about 1,000 persons. The speakers for the 1966 Winter Seminar Series included Edwin J. Wellhausen, Associate Director of Agriculture Sciences of the Rockefeller Foundation Office in Mexico; William J. Darby, Director of the Division of Nutrition at Vanderbilt University School of Medicine; Martin M. Kaplan, Chief of Veterinary Public Health of the World Health Organization, Geneva, Switzerland; and Nathan M. Koffsky, Director of Agricultural Economics in the Office of the U.S. Secretary of Agriculture.

The principal overseas activity of the Office is a Ford Foundation-supported project in Chile. The objective of the work is to assist the government of Chile to expand the national food production primarily by accelerating the flow of technical knowledge from experiment stations to farmers. A team of Minnesota professors and extension specialists is developing a Chilean staff of specialists and is working with it on programs of demonstration, communication, and training. The Institute of Agriculture will also provide short-term consultants to assist the College of Education with its project of agricultural teacher training in Brazil, and a contract is now being negotiated with AID for a research program in Tunisia.

A principal need for the strengthening of the international dimensions of the programs in the Institute of Agriculture is the addition of staff positions in key departments so that additional specialized courses may be offered to round out the education of undergraduates and to increase the specialized knowledge of graduate students. Our students are going out into a world where many of the critical problems relate to the food supply of people in the underdeveloped regions and to food products which move in international trade. An adequate education for a professional person in an agricultural field today must include attention to international as well as domestic aspects of agriculture. The curricula and the faculty need to have a new international dimension.

Department of Agricultural Short Courses

During the past year, the Department of Agricultural Short Courses offered 108 short courses, with a total attendance of 23,333. Forty-seven short courses, with an attendance of 13,653, were presented on the University's Twin Cities Campus; 43 short courses, with an attendance of 8,431, were held at the University's branch experiment stations; and the other 18, with an attendance of 1,249, were held at other locations throughout the state.

The Department also planned and administered a wide variety of educational programs for 316 students and visitors from 44 foreign countries, planned and conducted 281 educational tours for 11,782 persons, and served as a conference-coordinating center for the St. Paul Campus. The branch experiment stations hosted a total of 10,000 visiting persons and provided facilities and services for 208 continuing education activities involving 23,485 persons during the year.

Special Conferences and Symposia Planned and Presented During 1965-66—

The most significant special conferences and programs presented by the Department of Agricultural Short Courses during the last year of the biennium were the Upper Midwest Conference on Agricultural Export Trade; the Upper Midwest Conference on Industrial-Commercial Exports; and a Graduate-Professional Improvement Program, encompassing more than 35 academic courses at all levels, offered at selected locations throughout the state.

The objectives of these conferences were as follows: the Upper Midwest Conference on Agricultural Export Trade was held to encourage and assist the Upper Midwest area to expand its growth and development through new and larger foreign markets for its products; the Upper Midwest Conference on Industrial-Commercial Exports met to provide an opportunity for exporters in the Upper Midwest area to study new export financing, marketing, and shipping techniques designed to increase their sales to foreign markets; and the Graduate-Professional Improvement Program was instituted to provide professional persons in Minnesota with opportunities to continue and extend their education so as to better cope with the complex challenges of a rapidly changing world. This is a continuing program which presents a core of offerings (graduate, undergraduate, and professional improvement) around which professional workers and agencies can build a professional improvement program to meet their specific needs.

School of Forestry

All of the School of Forestry's programs—undergraduate teaching, graduate education, research, and extension—have in the past biennium shown greatly increased emphasis on the management and development of forest lands for all of their recognized products: timber, water, recreation, wildlife, and aesthetic values.

Undergraduate enrollment has grown an average of 10 percent per year, to a total of 379 students in 1965-66, and parallels the overall University increase during the last biennium. The addition of six options in the undergraduate Forest Development curriculum—multiple use, watershed management, recreation, timber production, wildlife, and wood products—reflects the broadened training provided for management and development of the total resources on more than one third of the total land area of Minnesota and the United States.

Graduate enrollment increased 15 percent per year during the last biennium and reached a total of 66 in 1965-66. The breadth of our graduate program has increased as we have added to the staff specialists in such areas as recreation, forest hydrology, economics, and physiology. All of the 18 areas of concentration recognized in Forestry are represented, but there are especially large groups of graduate students in forest economics, forest ecology, forest recreation, and forest products.

The development of added federal research funds under the McIntire-Stennis Cooperative Forestry Research program, and the new Agricultural Experiment Station funds, have enabled us to initiate new research in the

areas of forest ecology of recreation areas, new forest products, forest hydrology, forest economics, natural reproduction of red pine, and forest-wild-life relationships.

Completion of the second phase of the Forest Products Building, of a research greenhouse, and of the remodeling of Green Hall have greatly improved our teaching and research facilities on the St. Paul Campus. With the hoped-for addition of the third phase of the Forest Products Building on the St. Paul Campus and the several building items proposed for the Cloquet Forest Research Center in the 10-year building program, the School's facilities will be adequate to meet the foreseeable needs for some time.

The increases in undergraduate and graduate enrollment, the greatly expanded research program, and the changes in emphasis from primarily timber production to multiple-use forestry have placed heavy burdens on the existing staff, which has not grown proportionately. Even with an increase of three new staff positions between 1965 and 1967, there is need for a total of 14 new academic staff members. The past and anticipated undergraduate and graduate enrollment increases, research fund increases, and broadened nature of the School's program will demand such staff expansion together with major overall salary increases and internal adjustments if we are to remain competitive and meet our responsibilities to students and the state. The loss of the School's Assistant Director, Dr. D. P. Duncan, and of Assistant Professor David Thorud in the past year to other forestry schools, at greatly increased salaries and with the promise of reduced work loads and responsibilities, emphasizes the critical state of our staff situation.

School of Home Economics

Handling an expanded enrollment, implementing major curriculum changes, strengthening professional programs, and conducting intensive study of organizational structure have been primary concerns of the School of Home Economics in 1964-66.

The curriculum revision resulted in a reduction in core requirements in Home Economics from approximately 47-49 credits to 9 credits. The core was changed from the beginning course in the several Home Economics subject areas to a specially designed three-course sequence. The beginning core course has been taught, but the introduction of the other two courses has been delayed due to inability to find appropriate faculty. It is expected that the second core course will be taught Winter or Spring Quarter 1967, and it is hoped that the full core program will be effective by fall of 1967. Following the core revision, curricula in all divisions were reviewed and changes made in terms of current professional developments. Increasingly, our undergraduate professional programs require field experience and greater professional depth in course requirements. More electives are possible because of core reduction.

Offerings in the General Extension Division have been expanded both locally and out-state, and more regular courses have been given in the evening, thus making more extensive use of physical facilities.

Four faculty members of the nutrition division have become part of the newly organized Graduate Faculty in Nutrition. Graduate students in Home Economics now have the alternative of a degree in Home Economics with Nutrition specialization or in Nutrition per se. There has been more interdisciplinary staff activity.

The research program has been greatly expanded. Among recent grants obtained are one from the Sears Roebuck Foundation for a Study on Employment Opportunities for the Mature Home Economist, a nutrition training grant from the United States Public Health Service, and an NDEA Title IV fellowship for 1966-67. A major project on a Study of Food Consumption of Individuals Related to Economic and Social Factors was carried on under administrative arrangements between the Agricultural Research Service of the United States Department of Agriculture and the Minnesota Agricultural Experiment Station, with a Home Economics staff member project leader and another Home Economics faculty person serving as research fellows.

The graduate students have had a very active organization and have sponsored a series of seminars which brought eminent speakers from various disciplines. There has been more involvement of students in community activities related to professional interests.

Greatly increased enrollment and the expansion of professional programs have resulted in a critical space problem emphasizing the serious need for construction of the additional wing scheduled in the University building plans for 1969. The proposed Environmental Research Laboratory, in the University building plan for 1965, would provide a much-needed facility for interdisciplinary research in various aspects of housing.

Acceleration of both undergraduate and graduate enrollment and predictions for continued increases above the University average necessitate additional faculty positions. The shortage of well-qualified personnel, especially at the Ph.D. level, is critical, and competition is keen. It is felt that college status would put us in a more favorable position to attract well-qualified faculty in a highly competitive market. Salaries will have to be improved and more released time must be granted for research. The latter is particularly urgent so that more faculty will be able to qualify for full membership in the Graduate School.

COLLEGE OF BIOLOGICAL SCIENCES

RICHARD S. CALDECOTT, *Dean*

During the last decade, it became apparent that knowledge of the structure and functioning of biological systems was increasing at such a rapid rate that extensive revisions were needed in both the undergraduate and graduate bioscience curricula. In the course of discussions as to how these revisions could be effected, an all-University committee, with the counsel of an expert panel from other universities, concluded that a College of Biological Sciences should be established which would serve as a focal point for instruction and research in biology. Following the approval of the University Senate, the proposal to establish a new college was submitted to and approved by the Board of Regents. Thus, the first such college in the nation was established on September 1, 1965.

Upon establishment of the College, the Botany and Zoology Departments from the College of Liberal Arts and the Biochemistry Department from the Institute of Agriculture were placed under the administration and budget of CBS. In addition, a new Genetics Department was created by the voluntary transfer of certain professors from the Institute of Agriculture and the Zoology Department.

The College has three primary commitments in helping the University maintain excellence in scholarship in the broadest possible spectrum of the student body: first, to provide bioscience courses for other collegiate units, both for the purpose of general education and to assist in the development of majors in fields which are based on a thorough grounding in bioscience; second, to provide a substantial curriculum in biological science that leads to the granting of the bachelor of science degree; and finally, to provide opportunities for research and teaching at the graduate level that will assure high standards and the maintenance of an excellent faculty.

Since the College was instituted, the undergraduate courses offered in biology have been reviewed and a core curriculum has been established that is basic to the bachelor of science degree offered by the College. The undergraduate majors include Biochemistry, Biology, Botany, and Microbiology. The Ph.D. majors with which the College faculty is primarily involved are Biochemistry, Botany, Zoology, Genetics, and Biology. The Ph.D. in Biology was recently instituted by the Graduate School in recognition of the fact that programs in biology are not static and that flexibility must be provided to assure that the student can obtain the most up-to-date training possible.

Undergraduate students will enter the CBS at the upper division level after having had their initial training in some other collegiate unit or institution, usually the College of Liberal Arts or a state or junior college. To apply for admission, the student must have completed at least 75-90

credits, including 30 credits in the physical, mathematical, and biological sciences, with an overall grade point average of 2 (C) and at least a 2.5 in the biology courses he has taken.

It is expected that the undergraduate enrollment will increase rapidly from an anticipated 75 in the first year to about 500 within five years. During the same period the number of graduate students being advised by CBS professors is expected to increase from about 130 to 400.

In the academic year 1966-67, the College faculty will be teaching undergraduate biology courses to an estimated 4,000 students. Within five years the number will at least double and may triple.

Departmental Developments and Needs—The graduate program leading to the Ph.D. in Biochemistry was initiated during the year 1965-66. The graduate degrees previously granted in physiological chemistry and agricultural biochemistry are now being awarded in "Biochemistry." A graduate committee for biochemistry has operated as a subcommittee of the Graduate Group Committees in Agriculture and Medical Sciences. The committee, chaired by Dr. Stuart Fenton of the Department of Chemistry, has adopted admission and degree requirements and has established an interdepartmental admissions committee which has functioned effectively for two years. Joint beginning graduate courses in Bioc. 141 and 142 and Md. Bc. 141 and 142 have been taught twice in Minneapolis.

Major physical plant changes have been made in Biochemistry. Snyder Hall has undergone extensive modification and modernization after being used for forty years without change. Five thousand square feet of little-used space was converted to modern research laboratories and offices which now house the research programs of four members of the staff. The Snyder Hall (Gortner Laboratory of Biochemistry) addition now nearing completion will house the major part of the biochemistry research as well as the cell biology and some of the molecular and developmental biology programs. This building will provide 43,000 square feet of assignable space at a time when it is urgently needed to permit the growth of enrollment on the St. Paul Campus and the development of the College of Biological Sciences. Six thousand square feet of chemistry teaching laboratories and a similar area for biochemistry and cell biology teaching will be modernized in Snyder Hall. The Genetics Department will be housed in space in Snyder Hall vacated by the Biochemistry Department.

The faculty of this Department numbered eight staff members for approximately twenty years during a period of very rapid growth of biochemistry. It has been expanded to eleven since 1964, but more personnel are needed to teach and do research in certain areas. These areas include molecular biology, comparative biochemistry, immunochemistry, lipids and lipoproteins, and nucleic acids and nucleoproteins. Scientists in these areas are of vital concern to the graduate programs of numerous other departments dealing with biological problems throughout the University and with the continued effectiveness of the departmental program of teaching and research.

The Genetics Department was itself initiated in the second half of 1965. It was charged with the teaching of courses in basic genetics for the entire University. It was also charged with developing a productive research program in basic genetics and with graduate training in genetics. It should be noted, however, that it is not charged with doing all of the University's research in basic genetics.

For the next biennium, the Department has asked for two positions in the population genetics area. When new space makes it possible, further staff additions will be desirable. Specifically, these would include a modern cytogeneticist, a biochemical geneticist for the human genetics program, and a person qualified for work in statistical areas. Beyond the boundaries of the Genetics Department, the College will need to assay its requirements in biomath and make provisions for them.

In Zoology, staff growth has not kept up with increasing enrollment. All of the estimates suggest that staff should be nearly doubled in the next four years. At the present time, all courses, including the first course of general biology, continue to fill up quickly at each registration period. Large numbers of students are thus prevented from taking courses required by their special

curriculum. The answer to this problem lies in the establishment of added sections. Added sections require additional staff. The staff requires office and research space. At present such space is not available. The addition of the planned front of the Zoology Building and extensive internal renovation, including the construction of a roof house, would alleviate the space problem. Assignment of temporary space for general biology in the chemistry annex, followed by the eventual construction of a general biology laboratory building on the east bridgehead, would further relieve the situation. Finally, occupancy of the Botany Building following the move of the Botany Department to the St. Paul Campus would represent a more or less final solution to the space needs of the Department.

SCHOOL OF BUSINESS ADMINISTRATION

PAUL V. GRAMBSCH, *Dean*

School of Business Administration Enrollment Figures (Fall Term)					
	1962	1963	1964	1965	1966
Undergraduate					
Day	568	567	649	744	828
Evening ^a	110	204	253	265	301
Graduate					
Master's Day	91	58 ^b	66	111	140
Master's Evening	90	173	182	193	220
Ph.D. ^c	11	31	28	34	40

^a Figures are actually higher than indicated. Many students pursue degree programs but do not formally apply for admission until close to graduation.

^b Drop caused by sharp tightening of admission requirements.

^c Includes only those in residence.

Enrollment—The increased enrollment at both undergraduate and graduate levels marks the programs of the School of Business Administration as among the fastest growing of the University. Between 1962 and 1966, enrollments in the several degree programs increased by the following percentages: Undergraduate day—46%; Undergraduate evening—174%; Master's day—54%; Master's evening—145%; and Doctoral—263%. These increases have occurred during a period when admission standards have been tightened and the pace of the curriculum quickened. While the increases in numbers are gratifying to the faculty and administration of the School, coping with the increases places great demands upon a faculty already overburdened.

Looking toward the future, it appears that we can expect some leveling off in the rate of increase in the undergraduate programs but very likely an increase in the rate of expansion of the graduate programs both at the Master's and at the Ph.D. level. The growing interest of business, industry, and government in the Master's degree programs in business indicates a large student demand in the years to come. The military services, and, more recently, other branches of government, have established plans for "sabbatical" leaves for personnel to attend graduate school while remaining on full pay. Industry is now starting to adopt this practice as well.

During the past year (1965-66), efforts have been made to cope with the expanding enrollment by using large lecture sections for most junior-level courses. This has enabled us to effect substantial savings in faculty. Whether this practice will have desirable or undesirable results educationally remains to be seen.

Curriculum Changes—During the biennium, changes were made in both the undergraduate and the Master's curriculum. At the undergraduate level, (a) a required course in management was voted, and (b) the addition of a required course in calculus plus mandatory work in psychology and sociology were included in the admission requirements. (The SBA does not admit students

until the junior year.) Also, certain minor changes were made to conform to the all-University liberal education requirements.

Possibly the most significant undergraduate development is the adoption of a plan of course sequence. In future years students will follow a given pattern through the required "core" courses. This is in line with course provisions of most professional schools and is considered to be a sound educational step. In this time of rising enrollment and severe faculty shortages, the sequencing offers greater possibilities in handling the load.

No curriculum changes as such have been undertaken with respect to the graduate programs. During the past year, however, the faculty considered and finally adopted a plan whereby the evening MBA program will have the semblance of a structured program rather than a series of disconnected courses. Under the new plan, students will enter the advanced work (36 credit hours) only in September and will follow a pattern of courses designed to complement one another. The mechanics of this arrangement are now being worked out by the Associate Dean for Administration.

Student Body Activities—The highlight of the school year is the annual "B-Week" activities. The noon luncheon-convocation at which approximately 60 business firms are hosts to the student body is especially significant. The convocation speaker in the spring of 1965 was Robert C. Liebenow, President of the Chicago Board of Trade. In the spring of 1966, the speaker was former Governor Elmer L. Andersen. Approximately 500 students took part in the week's activities.

Placement Office—An integral part of the program of the School is placement. During the school year 1964-65, there were a total of 3,866 interviews conducted by 204 firms. During 1965-66, the number of interviews decreased to 3,451, while the number of firms jumped to 225. Unfortunately, the number of students available went down because of demands of military service. As a consequence of the military, the Placement Office is making every effort to strengthen its alumni service with the full recognition that when a graduate leaves the military service increasing demands will be made upon the placement service.

During the year 1964-65, the Placement Office started a systematic survey of alumni. The initial classes surveyed were those of 1954 and 1959. The following years the classes of 1955 and 1960 were studied. It is intended that two classes a year will be surveyed thus adding to our stock of data about alumni and their job experiences. Eventually the data from the alumni will be incorporated, using the new computerized record system, in the master file on each student.

Alumni—The School's relationship with its alumni is formally expressed through the annual alumni institute held in the fall and a faculty-alumni roundtable and dinner held in the spring. At recent institutes the faculty of the School has been brought into a more active role. Afternoon panel sessions have been organized and staffed in part with regular faculty members. In coming years it is hoped that more might be done to work with alumni on a "continuing education" basis.

Research—Research, the extension of knowledge, is an integral responsibility of a professional school that strives for excellence in its teaching and service programs.

The involvement of the School of Business Administration faculty in research ranges from the development of theoretical knowledge to the analysis of conditions and applications directly related to the Minnesota economy. Among specific projects which received direct School of Business Administration support, in whole or in part, are: potential manufacturing opportunities in Minnesota (Nelson/Rudelius); retail/wholesale trade and service trends and patterns in Minnesota (Holloway/Alexis); effect of recent changes in transportation rates and technology on interregional trade and regional economic development with special reference to agriculture and agribusiness (Nightingale); the processing of employee grievances in Minnesota (Smythe); inventory simulation models (Hoffman); labor organizations and

U.S. wage inflation (Zaidi); dividend policy, dilution, and required rate of growth (Wipperfurth); growth stocks and financial policy (Wipperfurth); franchising (Lewis); management theory and decision-making (Glaskowsky); joint decision-making under uncertainty (Williams/Neter); factors affecting performance on the uniform CPA examination (Davis); life insurance product innovations (Wood); implicit criteria applied by managers to evaluate the effectiveness of subordinate organizations (Mahoney); top-level organizational structures and managerial control systems in transnational business corporations (Mauriel); and the meaning of "psychological pricing" and the "learning" value of consumer projects (Holloway).

This research, to realize its full potential, requires ready distribution of its findings to other scholars and practitioners. Accordingly, the School of Business Administration maintains an active publications program. To augment its effectiveness, two new series were inaugurated during the past year: (1) *Minnesota Business Profiles*, designed to report trends and prospects of the state's business climate and development; and (2) *Sources on Business Topics*, prepared to make available to the business community annotated bibliographies on key topics. While the research program of the School of Business Administration is recording noticeable progress, its range and scope are restricted by the limited financial support available. Therefore, the School of Business Administration has proposed in its current legislative proposals to the central administration: (1) that the Center for Experimental Studies in Business, a faculty complex with significant implications for application of the behavioral sciences and experimental methods for business decision-making, receive direct financial support; and (2) that the resources of the Legislative Special Committee for Business and Economics Research be devoted exclusively to a Bureau of Business Research which has as its focus analysis of the Minnesota economy and service to the business community. In addition, the School of Business Administration will enlarge its activities to obtain research support from business organizations, foundations, and other governmental sources.

Center for Experimental Studies in Business—Over twenty faculty members have actively participated in CESB. Participation has consisted of (1) attending the weekly discussion sessions, (2) engaging in research, (3) advising research activities, and (4) working with graduate students on experimental research projects. It is noteworthy that a voluntary group of faculty members has supported this research-oriented endeavor continuously since the fall of 1962.

The Center has encouraged interdisciplinary discussions. Faculty members from Sociology have frequently attended. Discussions were also led by members of the School of Business Administration staff. On occasion, a number of graduate students reported on their research projects.

Industrial Relations Center—The Industrial Relations Center program during the past two years carried on the research, service, and teaching functions established with the founding of the Center in 1945.

Research activities included studies of worker motivation, management organization, collective bargaining, labor mobility, personal values and behavior in employment, manpower forecasting, wage and price relationships, and labor market of youth. These studies were financed by various governmental agencies, corporate and union contributions, and University resources. Studies of labor mobility and labor market behavior of youth were supported by the U.S. Department of Labor, studies of management organization were supported by corporate grants, and studies of worker motivation continue to be supported by the Vocational Rehabilitation Administration. Professor Zaidi's studies of wage-price-employment relationships in the Canadian economy were supported by the Economic Council of Canada. Proposals for future research activities are being considered by the Ford Foundation and the U.S. Department of Labor.

In addition to the substantive results of the research program of the Center, the research activities have provided valuable education and training for about fifty graduate student research assistants during the past two years.

This education and training is an important adjunct to the graduate education provided by the Department.

Service activities of the Center include sponsoring seminars and conferences, reference services, and the Labor Education program of the University. A conference for top-level administrators of state Bureaus of Employment Security was offered in 1966. The Labor Education program conducted a special training program for VISTA during 1966. Professor Mahoney conducted management development seminars for businessmen in South Africa and Mexico. Professor Seltzer advised various foreign governments and international councils regarding the education and development of manpower. Professor Flagler visited Israel to study curricula in labor studies as a guest of the American Histadrut Cultural Exchange Institute. In addition, various members of the staff participated in numerous professional conferences and related activities at other universities. A series of research seminars to facilitate the dissemination of Center research results is being planned for the coming year.

Recognition of the Center program and staff members was received in the form of a Research Award from the American Rehabilitation Counseling Association of the American Personnel and Guidance Association, a grant from the Twin Cities Personnel Association, and a Ford Foundation Faculty Research Award to Professor England.

The School of Business Administration Computer Center—The Computer Center occupies a key role in the School. Three hundred students per year take the basic computer course (QA 61). In addition, all students of the School, graduate and undergraduate, participate in management simulations in which the computer is involved. These are part of regular teaching activities. In addition, the computer aids and assists in research projects. During the biennium the Computer Center averaged over 60 hours per week of running time, except for the summer periods.

During the year 1965-66, the School of Business Administration Computer Center was asked to assume management of the Social Science Research Facilities Center. Physically the equipment of the SSRFC was moved into the SBA Center space. The entire operation is under the jurisdiction of Professor Gordon Davis, who is the Director of the SBA Computer Center. Among important plans for the future is the development of a University management laboratory and a major management information systems research effort. Much of the success of these projects depends upon additional equipment, including a useable access to the new computer being installed in the Numerical Analysis Center.

Continuing Business Education—During the biennium, the School made its first formal start in nondegree continuing education in business. The School is already heavily involved in degree work both at the Master's and Bachelor's level through the General Extension Division. (Examination of course credits in General Extension for the year 1964-65 indicate that 16 percent of the total were in Business Administration.) During the year 1964-65, the position of Director of Continuing Education in Business was established and Dr. Peter Rosko was named to the post.

DEPARTMENT OF CONCERTS AND LECTURES

JAMES S. LOMBARD, *Director*

During the past two years, the Department of Concerts and Lectures has succeeded in adapting its services to the constantly changing University community. The role of the Department has obviously become more diverse as the several departments and colleges of the University have relied on the Department for services and advice and actual presentation of programs. The increasing campus community and the increasing disparity of interests has made it necessary to expand the number and types of presentations of music and lectures. The role of the Department in creating new concepts of presentation and in aiding other units of the campuses of the University has placed

an ever-increasing demand for efficiency and effectiveness on the Department and its staff. To date, the Department has endeavored to meet these demands while continuing to maintain the status of self-support which has been an important part of the concept of the Department since its inception in 1944.

Well over two million people annually see and hear or participate in the presentations by the several divisions of the Department, helping the area to maintain the position of cultural center of the Upper Midwest. More and more additional services and consultations are requested of the Department from throughout the state and the area. The very increase in the volume of these services attests to the value of them.

Maximizing the value of the University Artists Course to the University of Minnesota and the state, while attempting to maximize the income from paid events to support the Department and its many extra services, has become increasingly difficult with the heightened competition for attention and time of audiences. The same has remained true throughout the period of all of the services of the Department. The outline of results below will show, however, that averages of attendance for all phases indicate success (through 1965-66) in reaching a solution.

University Artists Course—The 46th and 47th seasons of the University Artists Course brought an average of more than 4,000 people to Northrop Auditorium (capacity 4,826) for each year. This average included the Masterpiece Series, the Celebrity Series, and the Special Concerts presented throughout the year. The attached schedule at the end of this section will show just what the total presentations were and the attendance for each presentation.

The number and kinds of concerts and presentations were increased each of the two years. In 1944, when the Artists Course records were made permanent and meaningful, seven concerts were presented during the year. In 1964-65, 22 paid events were offered, and in 1965-66, 25 concerts and ballets were scheduled. (These are the paid concerts for the year. The figures do not include the number of free and cooperative concerts which the Department presents or assists.)

The increasing number of concerts presented throughout Minnesota made it possible for the University Artists Course to turn to new ideas and to offer new works and new concepts, as well as to maintain the high level of recitals that are expected of a University. The University Artists Course continues to offer the greatest number of solo artists in the finest setting of any major series of its kind in the country. It also continues to attract an astonishing audience of nearly 4,000 people to these recitals, certainly some kind of record in a period when most audiences are turning to spectacle, and most series, university or private, are turning to groups and spectacles to answer that demand. Musicians still consider the recital the distillation of musical excellence, and the Artists Course continues to attempt to meet that consideration.

The schedule of concerts that is attached shows the wide variety of offerings for the Department. Some of the highlights were the presentation of Marian Anderson for one of the concerts on her farewell tour to an audience of 4,175. The evening included proclamations of respect from the cities of Minneapolis and St. Paul, the University of Minnesota, and the State of Minnesota; and a reception in the State Capitol Building where the governor was principal host, together with Laura Jane Mussen.

In 1965, the Helsinki University Chorus appeared in Northrop Auditorium and offered the community the North American premiere of *Rubiayat* by Erik Bergman, with a local orchestra under conductor Jussi Jalas, who was flown here especially for the performance. On that occasion, the Director of the Department was awarded the Sibelius Medal of the Government of Finland for his contribution to music and the exchange of American and Scandinavian culture. Nicolai Petrov, second-place winner in the first Van Cliburn competition, made his North American debut in Northrop Auditorium, as did the Norwegian Festival Orchestra from Bergen.

Some idea of the success of Department efforts in the Artists Course can be drawn from the averages of attendance over the years. In the most recent season, the Masterpiece Series attracted an audience average for its concerts

of 4,314 people, the Celebrity Series—4,502, and the Special Concerts—4,239. The average for the year was 4,319, or 107,967 people for 25 concerts. In 1964, the total season was 22 concerts with 91,759 people, or an average of 4,171. In the preceding biennium, the presentations totaled only 16 each year and attracted averages of 4,357 in 1963-64, and 3,826 in 1962-63. A total of 1,400,932 people have paid admissions to concerts in the period from 1944 to 1966 or an average of 4,284 per concert. These figures reflect the added number of concerts offered to meet the wider demands of the audiences and the increasing attendance, which is partly reflected in the increased population.

The special services of the Department staff continued to increase. During the 1965-66 season the Department accepted the responsibility of publicity for Music Department concerts and aided in increasing attendance for many of them. In cooperation with the Music Department and the Union Board of Governors, *Carmina Burana* was presented with the University Orchestra, Chorus, and Glee Club, plus soloists and an outside ballet company. The concert attracted a near-capacity audience for its one performance, was a critical success for the music, and left a substantial reserve of funds for future joint presentations already being planned.

During the biennium, new areas of cooperation with the Minneapolis Symphony resulted in several joint presentations. The most notable was a highly successful *Nutcracker* presented with the Contemporary Dancers just before Christmas, 1965. It is planned as an annual event.

Services to student organizations increased in joint presentations for Greek Week, for the dormitory groups, and for the religious organizations on campus. Also, the Heart Hospital has received a total contribution of \$82,302.94 from the proceeds of the Annual Parade of Barbershop Quartets. Funds are given without reservation by the Barbershoppers Society and the Department to the Variety Club Heart Hospital for experimental equipment.

A constant increase in fees charged by "name" artists and increasing costs of operation within Northrop Auditorium have made it difficult to keep

1964-65		1965-66	
University Artists Course Presentations		University Artists Course Presentations	
Masterpiece Series	Attendance	Masterpiece Series	Attendance
Roberta Peters	3,505	Shirley Verrett	3,742
Warsaw Philharmonic	3,822	Nicolai Petrov	4,016
Leonard Pennario	3,549	Yehudi Menuhin	4,086
Norman Luboff Choir	4,837	Royal Danish Ballet	4,802
Alexander Brailowsky	3,571	Helsinki Chorus	4,173
Ballet Folklorico (Feb. 2)	4,687	Andres Segovia	4,924
Robert Merrill	3,598	Arthur Rubinstein	4,924
National Ballet of Canada	4,822	Norwegian Festival Orchestra	4,223
		Jan Peerce	3,938
Total	32,391	Total	38,828
1964-65		1965-66	
University Artists Course Presentations		University Artists Course Presentations	
Celebrity Series		Celebrity Series	
Royal Irish Brigade	6,233	Mantovani	4,924
H. M. S. Pinafore	4,822	Marcel Marceau	4,924
New Christy Minstrels	4,922	Kingston Trio	4,924
Peter Nero (Sub. for Mantovani)	4,885	Rumanian Folk Ballet	4,399
Roger Williams	4,894	De Cormier Folk Singers	3,341
Total	25,756	Total	22,512
Special Concerts		Special Concerts	
Sweet Adelines	2,856	Royal Ballet	9,648
Harry Belafonte	4,922	Maurice Chevalier	3,989
Marian Anderson	4,175	Robert Goulet	3,916
Jerome Hines	2,722	Nutcracker	4,874
Mitchell Trio (Greek Week)	4,869	Greek Week	4,868
Ballet Folklorico (Feb. 3)	4,481	Parade of Quartets	4,358
Parade of Quartets	4,636	Carmina Burana	4,770
B'nai B'rith Special	1,911	Ferrante and Teicher	3,509
Brothers Four	3,040	Cleveland Symphony	2,583
		Royal Danish Ballet	4,112
Total	33,612	Total	46,627
Grand Total	91,759	Grand Total	107,967

tickets within reasonable price ranges. The same problem faces universities throughout the country. In general, season and single prices charged by the UAC have remained at the 1960 level, or have been budgeted at near break-even levels whenever fees were higher than could be realized in sales for some attractions.

Metropolitan Opera Company—The 21st and 22nd continuous seasons of Metropolitan Opera in the Upper Midwest were successfully concluded in the biennium just passed. The annual appearance of the Company has become one of the two or three most significant and successful musical events in the area each year and is an established tradition for which audiences plan each year. In the 1965 season of opera, five of the six operas were sold out in the mail order campaign long before the season was to begin. The sixth opera, a new work, *The Last Savage* by Gian-Carlo Menotti, did not sell out completely, but less than 100 tickets remained at curtain time, partly through the generosity of Mrs. Joseph Ramsay, III, who supplied 1,198 tickets to students and nurses throughout the city. In 1965, all six operas were sold out in the first two weeks of the sale.

Prices for the seasons remained nearly the same, except for a one dollar increase to \$13.00 for the top price. The \$4.00 price at the lower end of the scale was maintained for students.

Clamor for tickets reached a higher pitch than ever before in the two seasons. After the 1965 season, several changes in the requirements for guarantors included an assessment of \$25 per family and of \$50 per business. Guarantors were limited to 6 tickets per opera on the priority order system allowed them in reward for their guarantee of the season. The net result was an investment account of \$16,075 for future reserve in presenting new works, for any loss which might occur, and also as a protection against constantly increasing fees of the Metropolitan Opera Company. No appreciable defection of guarantors was noted, and most applauded the new regulations.

For the coming season, seven operas are planned to meet the growing demand for tickets which the local season has been unable to meet. This will increase the season to six days and place it between Monday night and Saturday evening, with the traditional Sunday matinee eliminated by the new contract with the Metropolitan Opera Orchestra members who will no longer play on Sundays.

The increase in fees and the increase in costs of local operation on-stage during the seasons of opera is threatening the future of the current operation. It is expected the guarantors' assessment and the lengthened season may meet this threat for a time. Unless stage improvements are made, however, no economies will be possible to remedy the size of the bill for stage hands during the season.

The Upper Midwest season of opera is still the only one on a university campus and the only one where the original season manager remains in charge. In the 1966 season, the management structure was changed after 21 years, and James S. Lombard was made General Manager in place of the previous comanager plan.

The audience for the Minnesota season is made up of 41% from outside the metropolitan Twin Cities area and 59% within the metropolitan area. Groups of students from high schools and colleges throughout the area continue to make up a large segment of the audience. And the committee of management is made up of members from seven states and three provinces of Canada, thus bringing the service of the University of Minnesota, the Minnesota Orchestral Association, and the guarantors to the wide area of the Upper Midwest. The income after expenses is divided among the Minnesota Orchestral Association, the University of Minnesota, and the operating reserve. At the University, the fund thus established is called (as of July 1, 1966) the University of Minnesota Cultural Projects Fund. It is administered by a special committee, and its work is outlined below.

Special Cultural Projects Fund—The Special Cultural Projects Fund (beginning July 1, 1966, it is officially the University of Minnesota Cultural Projects Fund) is supported by contributions from any net income from the annual Metropolitan Opera season. The 1964 opera season did have a

profit, and the Special Cultural Projects Fund was able to operate once again.

Among the most significant projects supported by this fund was the continuing support for a book by Quaintance Eaton written to help opera groups begin and continue production in their own home towns. The fund was also available to underwrite the cost of the "Introduction to the Lively Arts," which is a program designed to introduce beginning freshmen at the University to the arts and whet their interest for attending cultural offerings.

The Kaffee Konzerts program, a project in cooperation with the Coffman Union Board of Governors and Local 73 of the American Federation of Musicians, was supported by this fund. The object is to introduce students and staff to chamber music and give them some beginning guidelines for listening to concert music. It has been highly successful since its inception in 1961. The fund also supported Music Hours for the Music Department and paid the expense of the concert by the Twin City Youth Orchestra.

In 1965, a work, *The Lord is Lord*, was presented as a highlight of the Brotherhood of Faiths Choral Concert during Religious Emphasis Week. It was commissioned from Paul Fetler of the University Music Department and paid for from this fund, as was the performance cost for the entire concert, which included choirs from all of the major faiths in the Twin Cities. And a premiere of the film *Finnegan's Wake* was underwritten from this fund in cooperation with other University departments.

During the new year a concert at Coffman Union, in cooperation with the State Department, was supported from the fund, and several Music Hours and three public performances by the Music Department were also supported.

A work by Minnesota composer and University graduate, Gene Gutche, was commissioned by the fund. Its world premiere took place in July of 1966. Furthermore, during each of the two years of the biennium, the deficit incurred in the presentation of the Bach Festival was paid out of this fund.

It should be noted that, although in all of these projects the actual costs are supported by the fund, many hours of effort and years of accumulated experience by the Director and staff members of the Department are contributed without being charged against the fund. This work is done with great joy and great pride but represents time and work which is charged to other income sections of the Department.

Summer Session Entertainment—The role of the Department of Concerts and Lectures in directing its portion of the Summer Session recreation program changed during the biennium. In previous years, support for a series of concerts and lectures each Tuesday and Thursday for both summer terms was supplied from the recreation fee charged to students. The Department provided organization, presentation, and promotion for these free events throughout the summer and was reimbursed in part for the time spent in doing so. In 1965, two admission concerts, the Royal Ballet from London and the Maurice Chevalier concert, were presented by the Department as Artists Course events on a Special Concert basis while the regular series of free concerts and lectures was maintained and the reimbursement of the Department for its services continued.

During the final month of the biennium, the new and long-awaited project which employed the Minneapolis Symphony members as teaching members of the Summer Session, as well as a performing orchestra, began with a four-week schedule. The program overlapped the biennial period, but the changes which affect the Department were apparent during the first two weeks of the project.

A great effort on the part of the Artists Course staff, from selection of programs for admission concerts to help support the project, through presentation and administration of the project and the concerts, and including primary publicity responsibility for the project, was supplied from the Department, without the previous reimbursement. The ticket office became responsible for the business management of the Summer Session concerts and the sale of tickets for two concerts a week. The total program is still being evaluated, but the effort and contribution of the Department was a major one.

Convocations—The biennium just ended was the conclusion of a long tradition of presentation of convocations to the University on each Thursday

during the regular academic year. The objectives of the series were to present significant speakers and film and arts performances covering a spectrum as broad as the interests of a great university. The increased fees charged by speakers and film producers have severely hampered the operation of the advisory committee of students and faculty in selection of these presentations.

Audiences continued to vary from 200 to an overflow crowd as convocations varied from astronaut Donald Slayton to Ambassadors Harman and Engen to Carl Rowan and Max Freedman in 1964-65; and from Max Shulman and C. Northcote Parkinson to William Arrowsmith and Winston S. Churchill, Jr., and from Alistair Cooke and John Scott to David S. Blanchard and Douglas Campbell in 1965-66.

The competition for time among the student body, and the competition for funds brought about a change in projection for the coming convocation year. The committee decided to limit convocations to 3 per academic quarter, plus traditional convocations that might be held in auditoriums other than Northrop Memorial Auditorium. The plan was approved by the Senate Committee and is to be instituted in 1966-67. The objectives remain the same, but the use of funds and the abandonment of the same IVth hour time period and the traditional Thursday will hopefully bring greater availability to a larger segment of the student and faculty bodies on the campus.

Special Lectures and Conferences—The funds for Special Lectures and Scientific Conferences are designed within the Department of Concerts and Lectures to aid other departments of the University to supplement their programs with outside speakers of unusual merit and with exceptional contributions to make to the academic life. It is not expected that large audiences will be attracted but that the special interests of the departments can be met in this way. The increasing number of these requests is evidence that the program is a valuable one.

This Department makes its contribution in presentation, organization, publicity, and general service to the departments making requests for financial and service assistance. The details of securing, accounting, and presenting the speakers are handled in this Department. The speakers are selected by the interested departments. The general public is regularly informed and invited to attend these events.

Funds are provided from this Department's budget and by the participating departments. The number of requests has been so high that, in general, a maximum participation by this Department has been established and every service possible is supplied. Honorariums for these speakers are generally so small they barely cover the actual costs of most speakers, although many are subsidized by foundations or special funds.

The impact of these lectures is considered highly significant. It is very desirable that the project continue and expand. To do so, however, will require additional funds or funding of the budget from some other source or sources. Over 75 such lectures are presented in cooperation with this Department each year. More would be offered, but funds are exhausted long before all requests are met.

Special Lecture Series—The Department continues to cooperate with interested community organizations and businesses in bringing special lectures and lecture series to the campus for students and general public alike.

The Honeywell Engineers Lecture Series, in cooperation with the Institute of Technology, was presented each of the two years. WCCO Radio and Television underwrote the costs of the Minnesota Symposium with the Minnesota Student Association in 1965, and the Minnesota Student Association presented a speaker in 1966 under the same title. KSTP Radio and Television brought the NBC foreign correspondents to the campus in January 1966, in cooperation with this Department and before a capacity audience.

The Church of Christ, Scientist, churches of the area cooperated with the Department in bringing Edwin Canham, editor of the *Christian Science Monitor*, to Northrop Auditorium in May 1966.

Generally these programs are presented at no cost to the University, except for the labor and time of the Department members in their regular organization duties. The contribution is judged on its significance before

presentation is agreed upon, and the worthiness to the University has been high in this group of presentations.

University of Minnesota Program Service—The University of Minnesota Program Service continues to operate as a cooperative venture with the high schools of the area. It is designed to bring the best possible assembly programs to high school students at the lowest possible price to the school districts. The operational objective is to secure lecturers, lecture demonstrations, musicians, and entertainers on weekly contracts, and offer them to the schools on a single performance basis. In order to achieve the greatest possible economy, the longest possible tours must be organized and sold to the schools.

The present biennium was the first in which the Service was administered completely within the Department of Concerts and Lectures. Previously the Service had been a part of the Extension Division, with operation administration with this Department. That structure was ended at the end of the preceding biennium when the Drama Advisory Service was moved into the Extension Division completely.

Financially, the Program Service has been facing the same problems of a changing educational scene that all parts of the Department have faced. School consolidations have reduced the number of audiences while increasing the size of the audiences. Crowded class schedules in some schools have eliminated the hours for these valuable adjuncts to classroom teaching, and thus the volume of program deliveries has been reduced. This would normally have served to automatically raise prices, but the school districts cannot absorb higher prices. Therefore, the service has continued to practice difficult economies and at the same time to expand the geographical area which it serves. The delivery area included northern Iowa, eastern South Dakota, and southern Manitoba as well as the entire state of Minnesota.

A brief summary of total operations is as follows:

	1964-65	1965-66
Number of Programs presented:	2,794	2,786
Estimated Attendance:	1,500,000	1,500,000
Total Receipts:	\$146,672.57	\$150,132.69

It should be noted that during March 1965, the severe blizzards caused a high number of cancellations.

This summary shows a continued downward trend, however slight, from previous years' billing of programs, with good management practices maintaining an increasing gross dollar income. A concomitant problem for the Service has been the increase of fees by available touring attractions. Naturally their costs must rise, but as they do, they increase the difficulty of maintaining the price level. Some of the touring attractions appear 13 or even 14 times each week and this has helped some. Some schools are now requiring more than one appearance by each program to accommodate all their students, and this has helped keep per performance costs down.

The Service also aids the University by serving as the office to arrange for tours and off-campus appearances by University Music Department groups. In 1965-66, thirty-five of these programs were arranged, a new high. Plans for the coming year indicate that arrangement of these programs will increase, as will the number of lectures by faculty members throughout the state.

The Service has, for 21 years, supplied exceptional programs for Summer Sessions to colleges in the six-state area. The good management now in effect has improved the financial position as well as the service to the Summer Sessions to the point that it is self-sufficient and helps to underwrite the high school program by absorbing some of the costs of the division in this Department.

Special Needs

Facilities in Northrop Auditorium—The use of Northrop Auditorium has continued to increase until it has placed a severe strain on the stage crew, the

facilities, and those who use the stage. Attempts to carefully schedule the stage have provided only minimal relief. It is increasingly obvious that an additional, smaller public auditorium will become more essential. Meanwhile, some changes on the stage will help in serving the University, the Minneapolis Symphony, and the public somewhat better.

At the same time it has become imperative that certain changes in the stage facility should be made in order to accommodate the traveling and local presentations that must be offered to the audience of this University if it is to remain consistent with its aims. Such changes are as follows:

1. Elevators to the dressing rooms and galleries on either side of the stage are necessary to make it possible to bring supplies and exhibits to the University Gallery and to transport equipment for stage presentation.
2. The stage rigging on the gridiron must be raised 15 feet to accommodate stage scenery and lights that are hung there, since they must be taken down and rehung for University productions each time the steel shell is put in position now.
3. An adequate music library for the Symphony Orchestra must be found. Members are currently working under the most difficult circumstances.
4. Storage room for stage equipment must be supplied. At present, many valuable pieces must be stored outdoors under plastic when the stage is in full use. The lack of storage space limits the uses of the stage by slowing the stage crew.
5. If a lift in the center of the stage could be installed to lower props to the basement level where they could be readied, stage preparation time could be cut and the building used more efficiently.
6. To properly light University productions and traveling shows, a permanent rail for lights at the front of the balcony is essential. More lights in the proscenium arch, and more adequate ventilation of existing lights is essential. We also need more lights that are regularly the property of the University in order to more effectively use the control board installed during the preceding biennium.
7. The seating in Northrop Auditorium is becoming badly worn with its constant use as a classroom as well as an auditorium. The balcony seats are in a particularly tawdry condition.
8. With the installation of the new Grand Draw and the gold second curtain in May 1966, the situation there is much relieved. If a black backdrop and 10 sets of black legs were added to the supply it would be possible to do a better job of presentation for University and traveling shows.
9. Showers for the dressing rooms are very important and are 37 years overdue. Plans have been approved, but the money has not been forthcoming as promised.
10. An additional part-time stage manager is needed to assist the present manager, who, while he is especially effective, must work far too many nights for his health and welfare.

Funds for Operation of Convocations, Special Lectures, and Scientific Conferences—The fees and presentation costs for lectures and other kinds of presentations continue to increase. Funds available for this service to the University have remained nearly constant for twenty years. The demands of a changing University and increasing interest in the excellence of education make it essential that additional money be made available for these programs, not only to expand them, but to maintain the present level. The present allotment is almost ludicrously small.

SCHOOL OF DENTISTRY

ERWIN M. SCHAFFER, *Dean*

Traditionally, dental education at the University of Minnesota has emphasized the technical aspects of dentistry. Although for several decades our graduates have been skillful technicians and able practitioners, they were not biologically oriented as well as they might have been. This deficiency is not unique to our School of Dentistry but prevails in virtually all dental schools.

In order for dentistry to assume its proper role as a health science, the teaching and practice must be based on the biology of the stomatognathic system. The dentist must be a physician of the oral cavity.

Our graduates should be prepared to serve the community professionally and to participate in the social evolution which is occurring in this country. The students should have formal courses in the sociological and psychological aspects of disease and preparation for their total roles as health professionals in their communities. The faculty must serve as examples to motivate our students to be leaders in their communities, molding opinion and improving the cultural, economic, and social aspects of group living.

As a health profession, dentistry must have as its major goals the prevention, reduction, and elimination of oral diseases. These objectives must be sought through research, community programs, public education, and aggressive clinical practice. It is the obligation of dental education to provide the leadership in the pursuit of these goals.

This evolution, or revolution, in dental education and, eventually, in dental practice, must be accomplished through research, changes in teaching methodology, and curricular revisions, innovations, and experimentation. With an increase in clinical and basic research, we will improve our instruction and add to the pool of biologic knowledge. Our faculty can be purer academicians and make greater contributions to the scholarly pursuits of this University.

To attain the goals defined above, many changes have been made in our various programs during the 1964-66 biennium, and progressive plans have been formulated for future improvements. The goals are to provide our students with programs of greater depth, variety, and biologic orientation and to expand our graduate and research endeavors. We will make a major effort in research but will not lose sight of our primary mission to train dentists to serve the people of our state.

Curriculum Developments—The curriculum committee was reactivated Fall Quarter 1964, and at the beginning of Fall Quarter 1965 these changes were made in the undergraduate D.D.S. program:

Freshman Year:

1. Lowered the credit hours in dental anatomy (tooth morphology) from 190 to 80 to reduce technical training in this subject and free time for biologic courses. Next year this course will include not only instruction in tooth morphology but also in the relationship of the teeth to contiguous soft and hard tissues with consideration of gross and microscopic features.
2. Decreased the credit hours in full denture prosthesis and moved the course out of the freshman year to free time for courses in preventive dentistry. Our new concept is to inculcate early the philosophy and urgency of preserving the dental organ in a state of health rather than replacing lost dentition.
3. Replaced a less applicable course in metallurgy with a new course in biomaterials. All materials used in the treatment of oral diseases and malfunctions are presented. Most importantly, we are teaching the student how these materials affect and are affected by the oral environ-

ment. As far as is known, this concept is different from that of all other schools, i.e., it involves biomaterials and not just dental materials.

4. Instituted orientation lectures and clinics so our freshmen will fully appreciate the meaning of a biologically oriented health practice in dentistry. The course stresses the importance of the basic sciences, their relation to clinical practice, and the interrelation among the specialties of dentistry.
5. Not of least importance, added a lecture, laboratory, and clinical course in preventive dentistry with emphasis on many oral diseases including cancer, caries, and periodontal disease. The latter two are the most common diseases of man except for the common cold. The course includes the preventive aspects of all phases of dentistry. Related topics included are biostatistics, interpretation of health science literature, community dentistry, communication, and a subject not new to our curriculum, public health dentistry. To instill in the minds of our freshman students the importance of preserving the dentition and supporting structures, they will be rendering preventive dentistry care such as dental prophylaxes and topical fluoride applications.
6. Initiated a new course in occlusion (gnathology), which is the study of jaw motion and tooth contacts.

Senior Year:

1. Introduced a new treatment-planning clinic in which the student takes the patient's history, performs the workup, makes the diagnosis, and presents to the patient a total treatment plan. In the past, the faculty has made most of the diagnoses and planned most of the treatment. Now, in this clinic, these are the students' responsibilities in consultation with the faculty.
2. Began an experiment in comprehensive oral health care. For decades, the students were assigned a patient to render a specific service, such as restoring decayed teeth, rather than treating all oral maladies for the patient. The patient was then reassigned to another student for prophylaxis and periodontics, to another for prosthodontic care, and so on.

We selected eight students to test the concept of comprehensive care in which the student is assigned a patient and renders all oral health services from diagnosis and preventive care through complete therapy, just as should be done in general practice.

This is not an easy program to develop. However, after working out the details and eliminating the defects, we intend that all seniors will be in the comprehensive care clinic next year. It is hoped that in the fall of 1967 we can assign families to each student, who will be responsible for all their oral health, education, and clinical needs.

The curriculum committee continued its effective work in 1965-66 and made many recommendations for revisions in the D.D.S., dental hygiene, and dental assisting programs and in the pre-dental liberal arts requirements. The dental assisting program will increase from nine to twelve months and double or triple its enrollment next year. Dental hygiene will increase its enrollment. Some new courses to be added to the D.D.S. program in 1966-67 are: (1) Neuroanatomy; (2) Combined oral gross and microscopic anatomy; (3) Extension of preventive dentistry program through all four years, including clinical experience for the students in teaching hospitals; and (4) Oral biology course to provide seniors with an integrated course in the basic and clinical sciences which would present current concepts on a topic basis with different specialists leading seminar discussions.

New Programs

1. *Cleft Palate-Maxillofacial Clinic*

The School of Dentistry has provided the space, supplies, and staff for the new Cleft Palate-Maxillofacial Clinic for teaching, research, and service. This clinic brings together specialists in dentistry, medicine, and allied fields to give consultative services to patients with congenital defects such as oral cleft deformities, acquired defects like neuromuscular disorders from paralysis, and esthetic and functional problems following trauma from accidents and surgery for oral cancer. The School is gratified that it can sponsor this program and has obtained the services of Dr. Ralph B. Kersten to direct the clinic. This clinic provides consultations for these unfortunate patients and will permit including the clinical studies in our research and teaching endeavors.

2. *Preventive Dentistry Laboratory*

This laboratory was created for research in preventive dentistry and to conduct certain laboratory analyses for our school and private practitioners. The analyses include tests for predicting caries susceptibility, bacterial culturing for clinical diagnosis and treatment, and microbial sensitivity to antibiotics as an aid in the selection of drugs for effective therapy of acute infections. Two research investigators associated with this new laboratory received a grant from the Minnesota Dental Research Foundation this past academic year to conduct studies on caries indexes.

3. *Hospital Dentistry*

This program, now in its planning stage, will be one of our most exciting and progressive endeavors. A new chief was appointed this past year. A new intern program has been developed, and the residency program has been expanded. Plans have been created to provide more diversified oral health services in the University Hospitals and associated teaching hospitals to increase educational experiences for undergraduate and graduate students.

Physical Plant Additions—In January 1965, the second phase of our fifth-floor remodeling program was completed, providing 3,037 additional net square feet of modern laboratories for research and research training. The first phase, a microbiology laboratory of 1,000 net square feet was finished during the 1962-64 biennium. These facilities are well equipped with a variety of scientific apparatus, including two electron microscopes obtained this past biennium under federal grants.

The laboratories permit research and research training in a number of disciplines such as microbiology, radioautography, anatomy, physiology, and electron microscopy. These research facilities provide space for our successful postdoctoral and predoctoral research training programs which are generously supported by federal grants.

The construction and equipment cost for the above remodeling was over \$300,000, most of the funds coming from our budget. The major equipment was purchased under research and research training grants.

In October 1965, we submitted a grant request to the National Institutes of Health for matching funds to extend the fourth floor of Owre Hall, providing 6,000 net square feet of research space. The research and research training activities to be housed in this area include (1) human oral genetics; (2) oral physiology, employing electronic studies; (3) periodontology, with histochemical and enzyme laboratories; and (4) speech therapy.

The construction costs will be approximately \$532,000. A federal grant of \$190,000 has been awarded. To meet our obligations for the balance, the School of Dentistry has contributed from its income \$50,000 for the fiscal year 1964-65 and \$50,000 for 1965-66. Vice-President Lunden has recommended, and you have approved, an allotment of \$44,000. A loan of \$198,000 will be

paid off in annual installments from our clinic income. The anticipated completion date is February 1967. We are pleased that this project is underway since the facility will provide an academic environment for scholarly endeavors, aid in recruiting new faculty, help sustain our graduate programs, and increase our research capacity.

Research Activities—Our research capacity and productivity have expanded considerably the past two years. We have acquired remodeled research laboratories, recruited competent investigators, and experienced a surge of research activity by the faculty, graduate students, and undergraduate students. Numerous basic and clinical research projects have been inaugurated or completed during this time. Two projects, started in the last biennium and still in progress, are reported here:

Etiology and Treatment of Periodontal Disease—Periodontal disease, one of the commonest diseases of man, is responsible for the loss of 40-50% of all human teeth by causing degeneration of the tissues supporting the teeth. Dr. Richard E. Stallard and his co-workers are investigating several aspects of this disease. One phase of the project is a study of the role of diabetes in periodontal disease since it has been observed clinically that there appears to be a higher prevalence of advanced periodontal disease in diabetics.

A histologic investigation of the periodontium and contiguous tissue of diabetic animals is being conducted to determine a possible deleterious effect of diabetes on collagen, one of the principal basic tissues in the supporting structures of the teeth. The investigation consists of three parts:

- a. A histomorphochemical evaluation of the diabetic periodontium.
- b. A radioautographic study of the cellular activity and collagen turnover in the diabetic periodontium.
- c. A study applying the above techniques to the pathogenesis of periodontal breakdown in the diabetic.

Circulation Studies in Teeth and Supporting Structures—The viability of any organ or tissue is dependent on its blood supply. It is, therefore, necessary to understand the changes which can occur and the mechanisms which regulate blood flow in the pulps of teeth and their supporting structures. Information is needed to understand normal flow in these structures and flow conditions during inflammatory processes involving bone and pulpal tissues, bone healing, and decalcification. Additional information on the effects that certain agents have upon these circulatory beds is essential from both a basic and clinical viewpoint.

In this animal experiment being conducted by Dr. Maurice Meyer, circulation in teeth and supporting structure is being examined by tracer techniques employing radioactive elements. Experimental conditions include the use of local anesthetics, vasoactive drugs, cortisone preparations, and agents such as silicate liquid (used in dental filling material) which induce intravascular thrombosis (clot) when applied topically to the circulation.

The confidence granting agencies have in our research capacity is evidenced by the numerous research and research training grants we have received, being one of the leading dental schools in the country in this respect. Only one other school, for example, has N.I.H. support for the combined D.D.S.-Ph.D. program.

While we intend to expand markedly these programs in the future, the productivity of our present research activities is exemplified by the fact that 19 research papers were presented by our faculty and graduate students at the 1966 meeting of the International Association for Dental Research. This representation ranked third for all dental schools and research centers presenting papers at this meeting.

Dr. Arthur R. Johnson, one of our graduate students who recently completed his work for a Ph.D. in biochemistry and a minor in pedodontics, was the recipient at this meeting of an Edward H. Hatton Award, second prize, graduate category. These awards are made to young dental scientists judged to be best in presenting meritorious papers on original research.

In 1965, we awarded 16 undergraduate Student Research Fellowships. They are instrumental in motivating students to take graduate training to prepare for careers in dental education and research. Many of the investigations undertaken through these fellowships have been written up in scientific journals. Robert Dolven, a senior student last year who received fellowships in 1963, 1964, and 1965, won the Hatton Award of \$1,250 for research work by an undergraduate student from the International Association for Dental Research at its meeting in Toronto, July 1965.

Graduate Training—Since May 1957, we have had a postdoctoral Ph.D. training program grant in which the D.D.S. majors in a basic science and minors in a clinical specialty of dentistry. We currently have six trainees. In addition, we have a combined D.D.S.-Ph.D. training program grant, which was first funded in 1964. Our students enter the program at the end of the sophomore year and some six years later will earn both degrees. We have eight students enrolled.

On December 9, 1965, we had a project site visit for a predoctoral and postdoctoral training program grant in "Human Oral and Dental Genetics." The amount of the request is \$585,445, and there will be stipends for eight trainees who will work for Ph.D. degrees. In addition to graduate training which will lead to a Ph.D., we have offered the M.S.D. degree for many years and have 26 students registered.

Admissions—During the past several years, there has been a sharp increase in the number of applications for admission to undergraduate and graduate programs. Generally, the quality of the applicants has increased commensurately. In the four-year D.D.S. program, for example, the number of applications has increased from 308 in 1964 to 397 in 1966. The 1966 entering freshman class has been selected with the highest scholastic records of any class in recent years.

As projected in the report by the Dental Subcommittee in the Learn Study, we are considering a number of changes in admission requirements. One concerns the possible increase to three years of pre dental liberal arts study. Over the past few years we have been accepting a larger number of students for the D.D.S. program with three or more years of liberal arts study. Over 60% of the students in the 1966 entering class are in this category while the national average is over 85%.

Miscellaneous—Faculty members of our school, in cooperation with other consultants in the state and practicing dentists and physicians in the respective local areas, conducted oral cancer detection clinics in Moorhead, Grand Rapids, Fairmont, and St. Paul during the past biennium. A total of 6,800 persons were examined at these clinics; 8 oral cancers and 901 oral abnormalities were discovered.

In 1965, we received our first Junior Dental Scientist Award for research by a senior high school student. This program in 13 dental schools is conducted by the American Dental Association to interest talented high school students in careers in dental research and is supported by the Dental Health Section of the General Electric Company. Neil Gilbert, the son of a dentist and an outstanding student at St. Louis Park High School, was selected. Neil did research work during the summer of 1965 on dental materials using radioactive elements. A second award was made this year to Mark Owens of Excelsior, Minnesota, who has been studying in our microbiology research laboratory since June 13, 1966.

Minnesota was one of nine dental schools selected this year to participate in a special educational consultant program sponsored by a grant from the American Fund for Dental Education. Mr. James Kenney, a Ph.D. student in educational psychology at the University of Minnesota, was chosen to serve an internship at our school this summer as an educational consultant. He began his eight-week internship June 20. Mr. Kenney has made an excellent contribution by assisting our faculty in a number of projects on educational methods, testing and measurement, admissions, and a special study on mentally retarded children at the Cambridge State Hospital.

Future Needs and Plans—From the preceding, one can understand the cast of dental education which we have begun to mold at Minnesota. While we are proud of the progress made during the past two years, we recognize the exciting opportunities for growth and improvement. The administration and faculty look forward eagerly to the challenge of the future.

As alluded to above and stated in the report of the Dental Subcommittee in the Learn Study, we intend to strive toward these goals:

1. Continue to strengthen our preventive dentistry program, thus emphasizing prevention more than treatment.
2. Promote better integration of teaching and research programs with the College of Medical Sciences and the University.
3. Expand greatly our research and research training activities, directing our efforts to determining the causes of periodontal diseases, dental caries, and other oral diseases.
4. Increase markedly our hospital dentistry program by expanded educational opportunities for undergraduate students, graduate students, interns, and residents in the University Hospitals, associated teaching hospitals, and community hospitals.
5. Expand considerably our graduate education programs to train an increased number of persons for academic dentistry, research, and specialty practice.
6. Strive toward greater utilization of auxiliary personnel and expansion of the duties of dental auxiliaries through experimental programs so that more and better dental services can be offered to the public.
7. Provide our students with an education based more on biologic principles and scientific knowledge.
8. Expand our continuation study program by offering more diversified courses and using an increased number of visiting faculty.
9. Educate sufficient numbers of dentists and associated dental health professionals to meet the needs of the state and to recognize some regional needs.

In order to accomplish these goals, which we recognize as our obligations to society, an increase in faculty is obviously needed. We are grateful for the gains we have made the past two years, but serious shortages still exist.

Our principal needs for additional faculty are to permit the expansion of our preventive dentistry, hospital dentistry, and research programs. These persons need to be highly qualified, possessing the leadership and ability to assure success of these programs. The salary scales must be the maximum possible for us to be competitive in the recruitment of these people. Indeed our entire salary scale should be raised to place us in a more favorable position to attract and retain competent faculty. Further needs for faculty exist in our clinical and preclinical fields where student-teacher ratios are inordinately high, making effective and efficient teaching extremely difficult.

We have a critical shortage of secretarial help, a frustrating situation to the faculty. This must be corrected. Also, we do not have nearly enough auxiliary help in our clinics. Tasks which could be done well by these people are either carried out by faculty or simply not done, resulting in gross inadequacies and inefficiency in the operation.

Certainly one of our major goals is a new dental building for education, research, and service. Our present building is inefficiently arranged and not adequate to meet the needs of increased enrollment and the initiation and enlargement of many of the new and advanced programs we have described. It is our intention to work vigorously to obtain new facilities to permit us to do an ever-improving and expanding job. We are extremely pleased with the progress of the Learn Study and corollary studies and plans and earnestly hope and trust they come to fruition.

The extent of oral health problems throughout the world demands that more ambitious research programs be launched to determine the causes and means of prevention of these diseases and conditions. It is the ambition of this School of Dentistry to make significant contributions to these goals. The faculty earnestly desires to emphasize the prevention of oral diseases as its major objective in the future. This goal will be realized by stressing preventive dental care in the undergraduate program and developing graduate and research programs to determine methods of reducing and preventing oral diseases.

UNIVERSITY OF MINNESOTA, DULUTH

RAYMOND W. DARLAND, *Provost*

The 1964 Fall Quarter undergraduate enrollment reached an all-time high of 3,725, a 17 percent increase over the 1963 Fall Quarter. Registration for the 1964 Summer Session had also reached a new high, with 2,343 students for the two 5-week terms, and marked the appearance of the first wave of World War II war babies on campus.

At the August Commencement, 112 bachelor's degrees and 15 Master of Arts degrees were awarded. Dr. Karl A. Olsson, President of North Park College and Theological Seminary in Chicago, addressed the graduates.

Faculty research activities financed by outside funds increased substantially during the academic year with grants in support of investigations such as the Electrophoresis of Compounds, Limnological Studies of Lake Superior, Electronic Energy Calculations, Infrared Radiation Studies, Atmospheric Electricity, Economic Study of the Proposed Voyageurs National Park, and other projects. The new IBM 1620 Computer rapidly became an important tool in research activities and provided valuable experience for students majoring in mathematics and the sciences.

Formal opening of the new UMD Campus Club, a major addition to Kirby Student Center, took place October 20, 1964, with former Regent Richard L. Griggs cutting the ribbon. At Homecoming on October 24, 1964, the UMD Alumni Association recognized Roy H. Teppen of Duluth with a Distinguished Service Award.

November 1964 saw the passage of the Taconite Amendment and will always be remembered in Duluth and on the Iron Range as a turning point in the economic development of the area.

A twelve-member team of distinguished educators, representing the National Council for the Accreditation of Teacher Education, visited the campus February 1-3, 1965.

Speakers who appeared on campus during the year included John Howard Griffin, Reg Manning, Dan Devine, J. Edwin Orr, Dean W. Coston, Max Freedman, Myron Lieberman, Brigadier General Edward B. Giller, Congressman John A. Blatnik, and Congressman Donald Fraser.

Dr. A. June Bricker, Executive Secretary of the American Home Economics Association, remarked on February 25, 1965, at the dedication of the new \$896,000 Home Economics Building with its two large general purpose lecture halls, that the combined facilities are among the most impressive she has seen anywhere in the nation.

Commencement speaker, June 10, 1965, was Dr. John T. McNaughton, Assistant Secretary of Defense for International Affairs. A total of 525 degrees were awarded.

Summer Session 1965 set a new record with 2,453 students registered. Henry C. Pearson, New York, was appointed visiting artist for the summer.

The new 202-bed residence hall was dedicated August 20, 1965, and named Griggs Hall in honor of former Regent Richard L. Griggs.

Building committees were appointed to prepare preliminary plans for projects approved by the 1965 legislature. These included a \$1,280,000 Life Science Building, a \$910,000 residence hall addition to Griggs Hall, the third phase of the UMD Library financed by a \$466,000 federal grant from the Higher Education Facilities Fund, a \$160,000 addition to Kirby Student Center for lunch and study space, and an \$80,000 two-level concourse and utilities

tunnel connecting the Humanities Building with the Physical Education Building. Closed-circuit television equipment costing \$20,000 was placed on order.

August 1965 Commencement speaker was Dean Willard L. Thompson.

On October 5, 1965, the Educational Research and Development Council of Northeast Minnesota was formed with 50 school districts participating.

Ground was broken on October 12, 1965, for the \$194,000 Marshall W. Alworth Planetarium.

The UMD Alumni Association presented its 1965 Distinguished Service Award to Emmett Davidson.

Undergraduate enrollment for Fall Quarter 1965 reached 4,405, an 18 percent increase over 1964.

November 5, 1965, marked the culmination of two significant projects financed by private funds—the unveiling of the bronze statue of Daniel Greysolon, Sieur du Luth, by Jacques Lipchitz, and the dedication of the Alice Tweed Tuohy Room, a major addition to Tweed Gallery. Funds for the statue and site, designated as Ordean Court, were provided through the will of the late Albert L. Ordean with the First American National Bank of Duluth as trustee. Mrs. Alice Tweed Tuohy of Santa Barbara, California, financed the addition to the Gallery. Participating in ceremonies of the day were Jacques Lipchitz, Mrs. Alice Tweed Tuohy, President O. Meredith Wilson, Emmons Collins, Dr. John Walker, and Provost Raymond W. Darland. The Regents and many distinguished guests attended the combined events.

Dr. Robert L. Heller received the Neil Miner Award for outstanding contributions on the national level to geological education.

Controversy developed on and off campus during November 1965 when the UMD Student Association invited and sponsored the appearance of George Lincoln Rockwell. Gus Hall was also invited by the Student Association but he sent a substitute.

Senator Everett M. Dirksen delivered the 4th Dalton Le Masurier Memorial Lecture on April 17, 1966, to over 4,000 assembled in the Physical Education Building. Others appearing on campus during the year included Vance Packard, J. Allen Hynek, J. Gaither Pratt, Eric Hawkins, John Paul Gries, the Slovenian Octet, George Z. F. Bereday, Michael Cope, and Lt. General Lewis B. Hershey in a special Telelecture.

The Regents held their regular April meeting in Duluth on April 15, 1966, with Regent William K. Montague and Provost Raymond W. Darland as hosts.

Provost Darland announced on April 19, 1966, that the UMD Laboratory School would close in June 1967. The hope was expressed that the Duluth Board of Education would go ahead with plans for a 12-room addition to Chester Park School.

Major grants were made by the National Science Foundation for scientific equipment and support for the computer center. The U.S. Office of Education allocated \$130,000 for an Experienced Teacher Fellowship Program in Science and Mathematics for 20 teachers who will spend the coming year on campus. Additional funds to purchase equipment for CCTV were also approved.

Cap and Gown Day speaker on May 25, 1966, was Dr. William A. Rosenthal, professor and head of English.

Dr. Wesley T. Shepard succeeded Dr. Dean A. Crawford as Executive Secretary of the Educational Research and Development Council of Northeast Minnesota.

Provost Darland and Business Manager Robert W. Bridges, at a meeting in the UMD Campus Club on June 3, 1966, presented the 1967-69 Building Program for the Duluth Campus to the Legislative Building Commission. The six-item request, including land, called for an appropriation of \$6,654,000 for the biennium.

The Class of 1966 had the distinction of having Vice-President Hubert H. Humphrey address them at Commencement, Friday evening, June 10, 1966. A total of 544 degrees were granted.

During the biennium additional emphasis was placed on bringing the general education requirements into line with all-University liberal education policies. The Master of Arts degree programs in chemistry, history, and English were strengthened, and graduate courses were added in several other fields as qualified staff became available.

Admission standards did not change except that students with a college aptitude rating of less than 40 were directed to apply to a junior college, a state college, or a University of Minnesota campus if they were living within commuting distance of such a campus. In spite of this policy, which was a basis for rejecting many applicants, the increased number of students still represented an overload on the faculty.

Predicted enrollment for 1970 is 7,000 undergraduates. If the needs of these young people are to be met, the building program will have to be accelerated, many more new positions established, and salary levels increased to meet growing competition for qualified staff.

COLLEGE OF EDUCATION

ROBERT J. KELLER, *Dean*

The College of Education has been subject to several pressures for change during the 1964-66 biennium. Demands for teachers and other certificated school personnel and expanded opportunities for outside support have had to be balanced by limitations in space and facilities, the University's policy of controlled growth, and internal adjustments of faculty. These pressures have led to considerable self-study of the College, its programs of study, its faculty needs, its mission within the land-grant university, and its internal structure for stimulating and adjusting to change. The role of the faculty in policy development and planning has been given special attention during this period.

Pressures for expansion of enrollment have come from rising demands for teachers and other educational specialists at elementary, secondary, and higher education levels. The need for teachers, counselors, administrators, and other specialized school and college personnel has been increasing rapidly during the period both because of mounting enrollments and the need for new programs. The renewed and expanded interest of the federal government and its allocation of substantial funds to education have generally placed heavier responsibilities upon schools or colleges of education within large, multipurpose institutions. This has certainly been true of the several pieces of recent federal legislation dealing with the elementary and secondary schools, higher education, vocational and technical education, and the various amendments to previous legislation relating to national defense, educational research and dissemination, and aids to students.

New opportunities for cooperation with state and federal agencies, as well as the availability of outside funding, have meant that decisions have had to be made and priorities set in light of existing or available faculty, resources, space, and facilities. Limitations in space and facilities within the College itself, for example, have only reflected shortages in kind within the University as a whole, especially on the Minneapolis Campus. As a result, this College has sought to balance demands for more and different kinds of professionally prepared educators in the context of the University's need to control growth. Within this framework the activities of the College have followed the traditional patterns which have developed over the years, but also during the 1964-66 biennium have been focused on how best to utilize existing resources and potentially available outside resources for their improvement. Faculty members and administrators have been involved in assessing implications of new developments for modification of College policies; their mission within the land-grant, state University of Minnesota; and programs and course work, internal College organization and structure, staffing, plant utilization, space needs, and plans for future development.

Policy and Planning—Most active during the 1964-66 biennium have been the members of the standing faculty Committee on Policy and Planning which had just been elected and organized during Spring Quarter 1964. This committee was able to build upon the reports and recommendations of its predecessor, the Committee on Structure and Function, which had completed its work in December 1963. Both the number and size of existing College com-

mittees were reduced, and efforts were made to equalize committee assignments. The establishment of the Policy and Planning Committee helped to provide a vehicle through which the faculty could become officially involved in immediate and long-range planning and policy formulation for the College. This committee itself assumed responsibility for drafting and recommending three policy statements which were subsequently adopted by the faculty as follows: "Constitution and By-Laws of the College of Education" (adopted February 5, 1965), "The Mission of the College of Education" (adopted May 14, 1965), and "A Report on College Organization" (adopted December 14, 1965). This committee also played a major role in reviewing reports and recommendations of other committees or departments which had implications for policy, several of which are mentioned below or in subsequent sections of this report.

Two additional policy statements were developed by other standing committees of the College faculty. The first of these, which originated with the Research Committee, was adopted by the faculty on December 14, 1965. Entitled "Policies for Research in the College of Education," this statement sought to clarify faculty responsibility for research, to preserve free inquiry, and to promote effective use of College resources for research. The second such statement, adopted on June 7, 1966, was proposed by the Faculty Personnel Committee. Entitled "The Policy for Faculty Recruitment," this statement sought to highlight the importance of attracting quality professorial staff to the College faculty and established some procedures which should be helpful in recruitment of new faculty.

Admissions Requirements—Following approximately a year's study and evaluation of admission policy for the College of Education, the standing faculty Committee on Student Personnel made several recommendations for changes which would become effective Fall Quarter 1966. These recommendations, which were approved by the faculty on June 9, 1965, moved the point of admission to the junior year for almost nine-tenths of the students pursuing undergraduate teacher education curricula, thus making the College of Education almost entirely an upper division, advanced professional, and graduate level unit. The college aptitude rating (CAR) for students entering as freshmen (limited to physical education and recreation programs) was raised from 40 to 50, and the need for further clearance on factors relevant to success in the College and as a teacher was clearly recognized both for admission and transfer with advanced standing. Completion of a prerequisite program of at least one academic year prior to admission was specified for certain special fields, namely art education, business education, distributive education, industrial education, and music education. All other programs will henceforth require two years of collegiate level work in a prerequisite program with achievement at an average grade of C or greater in all previous college work. This policy was formulated and publicized more than a year in advance of its application to provide maximum advance information to students planning to complete a teacher education program.

For both years of the biennium, admission to the College of Education was approved for applicants seeking to transfer from within the University or other schools outside the University in approximately a two-to-one ratio. This is demonstrated by the fact that 778 of the 1,145 applicants for transfer (68 percent) were approved for Fall Quarter 1964; the comparable number for fall 1965 was 756 of 1,153 applicants (66 percent), the ratios being fairly comparable both for colleges within the University and outside schools (70 and 65 percent, respectively, for fall 1964; 68 and 62 percent, respectively, for fall 1965). These admissions of transfer students, plus those admitted as new freshmen (219 and 252 for fall 1964 and 1965, respectively) and as adult specials (149 and 173, respectively, for each of the same years), maintained enrollments within the College of Education at a fairly stable but growing level. Enrollments for Fall Quarter grew from 2,652 in 1963 to 2,753 for 1964 to 2,824 in 1965. To these enrollments must be added a growing number of graduate students who represent approximately one-fourth of the overall student body for which the College of Education carries major responsibility.

Programmatic Changes—With other undergraduate colleges in the University, the College of Education was forced to reexamine all of its teacher education programs in light of the University-wide requirements for liberal education. This examination was seldom restricted to this element alone, but included requirements for majors and minors and for professional course requirements as well. The long-held view of the College that prospective teachers should have a broad general education in addition to their background in specific major or minor fields and professional course work meant that most programs easily met floor requirements. Some changes were made, however, so that the College more than fulfills all liberal education floor requirements in each of its programs. Some departments went considerably farther than this and strengthened all aspects of the program as one means of interpreting controlled growth as well as enhancing the quality and nature of work required.

One program was abandoned during the biennium. Based upon a careful evaluation of the three College laboratory schools (University Nursery School, University Elementary School, and University High School) by the Program Development Committee on University Laboratory Schools, the recommendation was made and subsequently adopted that University Elementary School be discontinued at the close of 1964-65. An exception was made for students in grades five and six; these grades were to be phased out over the subsequent two years as students completed the sixth grade. This action was taken on the basis of this unit's inability to fulfill the major functions which the College felt should be associated with an effective laboratory school which contributes directly to the teacher education programs. These functions were better represented by the laboratory nursery school and the high school, but were considered quite inadequate for University Elementary School due largely to factors beyond its control, namely limitations in space and facilities and lack of ability to expand enrollments and supporting resources to two and three times their present size. Special concern was expressed on functional limitations in ability to provide a setting for observation, demonstration, research, experimentation, and student teaching.

The Minnesota Center for Curriculum Studies, an all-University unit responsible to the Dean of the College of Education, was established by the Board of Regents in July 1965 to become operational the second year of the past biennium. The major function of the Center is to coordinate existing curriculum development projects such as Project English, Project Social Studies, and those being developed through the Minnesota School Mathematics Center, without regard to their present college affiliations. The Center is expected to promote interdisciplinary research in curriculum, curricular organization and development, and evaluation and evaluative procedures, together with basic research on human learning. An important and related function is the opportunity and facilities provided for bringing together scholars from many disciplines to work on problems of teaching and learning, with special attention to the curriculum. This unit is supervised by an administrative committee composed of the Deans of the College of Biological Sciences, the College of Education, the College of Liberal Arts, the Graduate School, the Institute of Technology, and the Office of the Vice-President for Academic Administration, with the Dean of Education serving as chairman.

A variety of projects has been undertaken by the Center during its first year of operation, the most notable of which is the leadership provided by its Acting Director, Professor Stanley B. Kegler, in the planning, the securing of funds from the U.S. Office of Education, and the establishing of the Upper Midwest Regional Educational Laboratory. This agency, which was just becoming operational during the closing months of the biennium, serves the five-state region of Iowa, Minnesota, North Dakota, South Dakota, and Wisconsin, with special emphasis on curriculum development, research dissemination, and teacher education for elementary and secondary schools in these states.

The College of Education has also been examining its role in preparing teachers and other professional personnel for schools in educationally disadvantaged communities. An ad hoc committee to deal with this matter was appointed in 1965-66 to coordinate on-going projects and activities in this field

and to review or initiate proposals for new involvements with the many developments which stem largely from federal interest in this field. The committee has thus far prepared a summary of present commitments within the College and is proceeding to examine possible next steps which should be taken by the College independently or in cooperation with public school systems in the area.

The Doctor of Philosophy degree (Ph.D.) programs in educational specialties and the possible need for a professionally oriented Doctor of Education degree (Ed.D.) were two graduate programs under careful review by the College during the latter months of the biennium. A Program Development Committee on Doctoral Programs in Education, which was appointed for this purpose, has been conducting hearings and studying practices here and in other universities, and hopes to make recommendations to the faculty in early fall 1966. The fifth-year program for teachers has been less active during the biennium due largely to the rejection of the "four-plus-one" proposals by the State Board of Education. Within the College, however, a subcommittee of the standing Curriculum Committee has been actively examining this topic and expects to make recommendations during the next biennium.

Organization and Administration—A major appointment within the Office of the Dean has been that of Professor Stanley B. Kegler as Associate Dean for the College of Education. Dr. Kegler joined Professor Marcia Edwards in the associate dean capacity during the second year of the biennium. In this capacity he has provided major leadership for research and development projects, especially those which involve federal relationships. He has also served as Acting Director for the Curriculum Study Center, Director for Project English, and Acting Director for the Upper Midwest Regional Educational Laboratory, carrying with Assistant Academic Vice-President Donald Smith the University's involvement in developing and managing this agency during its first months of operation.

As a result of official visitation by an accrediting team from the National Council for the Accreditation of Teacher Education during early 1964, that Council took action at its annual meeting to continue the membership and accredited status of the College of Education early in the present biennium. The College is thus recognized as fully accredited for all programs offered at the baccalaureate, master's, specialist, and doctor's degree levels.

The College of Education also continued to devote attention to its own internal organization. The adoption of the Constitution and By-Laws for the College helped to provide a framework within which changes could be made in a systematic manner. Membership on the College faculty was defined, as were the powers which were vested in the College, the faculty, and the Dean. The department was specified as the basic organizational unit of the College and the procedure was outlined for changes in organization. The role and functions of faculty committees were also stated both in the Constitution and in the By-Laws.

One direct outcome of this action has been the definition of what constitutes the faculty. Although the College has long held that faculty members from other colleges within the University hold membership on the College of Education faculty, this procedure and appointment was regularized. One representative of a professorial rank from each department or unit offering preparation in a teaching field has now been named as a full and participating member of the College of Education with all privileges pertaining thereto, including the right to vote on matters of policy.

The previous policy of the College to work toward more complete departmentalization was continued during this biennium. The Department of Secondary Education was formally established for 1965-66 to include audio-visual education, business education, and distributive education, as well as those fields in secondary teacher education programs which have academic majors or minors. The tie between secondary education and University High School was maintained by the appointment of Professor Gerald Firth as Chairman for the Department of Secondary Education and as Director of University High School.

Following establishment of the Office for International Programs early in the biennium, Professor Gordon Swanson was appointed Coordinator of International Programs for the College of Education. This has been followed by more active involvement of individuals and departments of the College in international education.

Staffing—Despite the fact that the College of Education has lost relatively few of its faculty members to other institutions or agencies, the normal turnover of faculty during the past biennium has been sufficient to require that much attention be given to the recruitment and retention of staff. The task has been a difficult one since persons who hold the competencies required for positions in the College have been in seriously short supply and competition for such persons has been very great. The needs of the College for additional faculty have been well recognized by Central Administration. This recognition is based both upon a backlog of understaffing which has gradually accumulated over recent years and the growing needs associated with enrollment and programmatic developments.

The 1964-66 biennium has witnessed considerable strengthening of faculty by assignment of new positions in departments which were newly established in the previous biennium, namely the Elementary Education, Educational Psychology, and Educational Administration Departments. In Elementary Education, the undergraduate program load has been especially heavy, with serious problems in the advising of students and the handling of classes. Additional faculty members were appointed in elementary mathematics education, social studies education, reading, and science education. Because the Department of Educational Psychology services graduate programs throughout the College and some departments outside the College, the chief additions here were made to the central core faculty in learning, measurement, statistics, and social psychology rather than to the applied fields. In the Department of Educational Administration major additions have come both to the core faculty and to special fields such as the administration of elementary, secondary, and higher education. New faculty members have been attracted from all sections of the country and from many different universities whose graduate schools have attained high reputations.

The increasing emphasis upon vocational and technical education at state and national levels has given impetus to greater demand for undergraduate and graduate teacher education programs. At least one additional position was established during the biennium in each of the major program areas: agricultural education, business education, distributive education, home economics education, and industrial education. Shortages of qualified manpower have prevented the filling of all these positions which were established by cooperation with the State Board of Education and were partially reimbursed from vocational education funds.

One other change in pattern of staffing should be mentioned, the effort to establish joint appointments with departments in behavioral science fields. New positions have been created during the biennium with two departments of the College of Liberal Arts. The Department of Sociology has joined in the appointment of an educational sociologist who will carry rank in both Colleges and offer undergraduate and graduate courses acceptable to both units. A similar position in the economics of education is being established with funds from the Office of International Programs beginning fall 1966, and an active search for a candidate is currently under way. The College of Education has also been able to provide regular support for the Director of the Center for Economic Education, which is largely supported by the Minnesota Council for Economic Education.

Additions have also been made to other departments of the College, particularly those which are enrollment related, such as the Student Personnel Office, the Office of Student Teaching, and the Bureau of Recommendations. The number of counselor interviews, for example, in the Student Personnel Office increased from 7,697 at the beginning of the biennium to 9,606 at the close of the biennium, an overall increase of 25 percent during a period in which the number of students within the College increased by 6 percent. In similar fashion, the Student Teaching Department maintained placements

in 313 different public elementary and secondary schools and 11 agencies and hospitals, and official contracts with 123 school districts outside the metropolitan area. With growth in enrollment, increasing proportions of students must do their student teaching in off-campus locations, the University laboratory schools being far too overloaded to carry this additional burden. The Bureau of Recommendations continues to serve a growing number of alumni as well as current graduates. In its most recent report approximately one-third of the persons utilizing Bureau services are current seniors, two-fifths are undergraduate alumni, and the balance are chiefly current graduate students or alumni who have interest in college or university appointments. The majority of the new graduates of the College (over 80 percent of them) continue to accept teaching or other professional positions in Minnesota although the most recent single year's placements were made in 46 different states and 10 foreign countries.

Research Activities—A complete listing of research activities of the College of Education would be more extensive than could easily be summarized in a report such as this. As a result, only a few hopefully illustrative examples have been cited.

The School of Physical Education was able to establish a Research Laboratory as one such significant development. Under the direction of Dr. John Alexander, this laboratory is equipped to conduct a variety of studies involving tests of strength, psychomotor response, anthropometric measurements, respiratory functions, and cardiovascular changes during and following prescribed exercise. Some of its projects have been conducted cooperatively with the Laboratory of Physiological Hygiene.

A similarly new agency was established to stimulate research activity in Minnesota dealing with occupational education. The Coordination Unit for Research in Occupational Education was initially established in June 1965 in cooperation with the State Department of Education, the State College Board, and the State Junior College Board. Leadership has been furnished by Professors Howard F. Nelson and Jerome Moss of the Department of Industrial Education.

The Institute of Child Development, which celebrated its 40th Anniversary in March 1965, in conjunction with the biennial meeting of the Society for Research in Child Development, continued to gain recognition as a major center for research and graduate training in child psychology. A major training grant of \$470,157 was awarded to the Institute by the National Institute of Child Health and Human Development to train graduate students in the study of the behavior and development of preschool children. The Institute's emphasis upon research can also be demonstrated by citing publication records. During 1964-65, this research resulted in publication of 41 reports and delivery of 31 papers at professional meetings, colloquia, and seminars outside the University. In 1965-66, there were 19 reports published, 22 in press, 7 submitted for publication, and 27 in preparation; 16 papers were also delivered before professional groups. Fifteen research grants for 1965-66 totaled \$199,555; 14 such grants totaling \$169,364 were awarded in 1964-65 for research to staff members of the Institute.

Special research fellowship programs with support from the U.S. Office of Education have been continued in educational psychology and established in vocational education and in educational administration. Graduate fellowships for teachers and specialists have also been established with funding chiefly from federal sources in such fields as counselor education, special education, school psychology, English-language arts education, home economics education, elementary education, and social studies education. Summer institutes have been conducted with outside funding in several of these same fields and in audio-visual education, modern foreign language education, economic education, consumer education, higher education, and teacher education.

The Educational Research and Development Council and the Bureau of Field Studies and Surveys have continued to make studies which contribute directly to the needs of the public schools. During the past biennium, for example, the latter bureau conducted 33 separate projects in 31 different school systems, 28 of the projects in Minnesota, two in North Dakota, and

one each in Missouri, South Dakota, and Wisconsin. This bureau has just recently signed a \$114,000 contract with the State Department of Education to conduct a comprehensive survey of public elementary and secondary education.

Other departments of the College are similarly engaged in research activity. Elementary Education has been serving as coordinating and synthesizing agency for 27 different studies on the teaching of first grade reading, located in all sections of the country. Research in agricultural education has included studies on the effects of investment in education on agriculture, educational restrictions to agricultural success and the relationship of education to income among farmers, and development of an instructional guide for adult education in farm management and business analysis. University High School has been engaged in a project under a grant from the General Electric Foundation to investigate the use of the computer as an instrument for instruction in high school mathematics. The Kettering Foundation has also provided support to enable this laboratory school to video-tape selected high school classes to demonstrate different teaching techniques. The Institute of Child Development and the Department of Educational Psychology have both been directly involved in several projects within the newly established Center for Research in Human Learning. The latter department has more than a dozen of its faculty engaged in different projects with support from the Graduate School, International Programs, and a variety of outside sources. The Student Personnel Office, as usual, has continued its studies on selection and retention of students, enrollment, admission, and probation of students, normative studies, and off-campus transfers.

College Services—Relationships with other educational organizations and agencies, particularly those within the State of Minnesota, continued to have an important place in activities of the College of Education during the 1964-66 biennium. The following examples are illustrative of this service relationship. A leave of absence was granted during Fall Quarter 1965 to enable Dr. Clifford P. Hooker, Chairman of the Department of Educational Administration, to serve as Acting Assistant Superintendent for Secondary Education in the Minneapolis Public Schools. The State Department of Education has been aided under a similar leave of absence arrangement by the services of Dr. William E. Gardner during 1965-66 as Acting Director for the Minnesota National Laboratory, and of Dr. Donald E. Davis, Associate Professor of Educational Administration, as Director of a new statistical analysis and evaluation unit being established with federal funds. Many other faculty members have assisted in state department activities by participation in advisory committees as members or chairmen or through work on separate projects.

Individual faculty members or groups of faculty have assisted schools, school systems, colleges, and universities with services in a consultative capacity or in direct participation on individual projects. In the area of education for educationally handicapped children and youth, for example, the ad hoc committee surveying the involvement of college faculty in this area identified 46 separate projects. This involvement ranged from supervision of student teachers in schools serving disadvantaged children to federal, state, or regional consultantship service for Project Head Start, Job Corps Centers, Project Motivation, and Upward Bound. The College has actively participated with the Minneapolis Youth Development Council, Youth Training Incorporated, and a variety of other organizations outside the University, and has cooperated with many units within the University in service activities to educationally handicapped children and youth.

Similar services have been rendered to the U.S. Office of Education, UNESCO, the College Entrance Examination Board, the National Council for the Accreditation of Teacher Education, the Ford Foundation, many departments of the National Education Association, and the Agency for International Development. Individual faculty members appear on professional education programs all over the country and participate in meetings in many different capacities.

In-service education activities are carried on in a variety of ways by practically all departments of the College. Courses in professional education are offered to teachers and other professional workers through the Extension

Division using direct teaching, correspondence study, and instruction by closed-circuit television to classes in Rochester, Minnesota. Late afternoon and Saturday classes continue to be scheduled primarily for in-service education of teachers. Numerous conferences, workshops, institutes, and meetings are conducted both on campus and in various parts of the state. The college carries a heavy load of off-campus instruction for teachers in area vocational-technical schools who come into teaching directly from positions in business and industry and without professional preparation for teaching.

Special Problems and Needs—The major problem of the College continues to be the lack of adequate space and facilities. The University is continuing to seek building funds to ease this situation by construction of a \$5.5 million education laboratory and office building which will chiefly provide offices, laboratory classrooms, demonstration facilities, and research space for the Department of Educational Psychology and the Department of Elementary Education. Included in this request are classroom and laboratory facilities for demonstration teaching and research on special education for children with physical, social, emotional, and educational handicaps. Present teacher education programs in these and other fields are themselves seriously handicapped by inadequate space and facilities.

Two other departments also have serious needs for physical plant and facilities. The Department of Industrial Education has limited and inadequate space in a temporary building which is little more than a hazard to health and safety. A new industrial education building has been listed among the Ten-Year Building Program needs of the University for the 1969 session of the Minnesota Legislature. Also listed for consideration by the 1969 session is a physical education building for the West Bank Campus which hopefully will be followed by physical education buildings both on the East Bank and St. Paul Campuses before the close of the ten-year program. Agricultural education is also poorly housed on the St. Paul Campus, and all departments of the College on the Minneapolis Campus are so crowded that desirable projects and programs must be postponed or not even considered because they cannot be housed.

Outside of space and facilities, the College continues to carry excessively heavy loads of undergraduate and graduate teaching and advising. Major steps have been taken to augment faculties and to supply needed assistance, but with the current shortages in qualified candidates, persons with appropriate preparation and experience are not always available. Temporary appointments are made, but these faculty members are not able to carry full responsibilities, especially for graduate advising, teaching, and research. As a result, many of the permanent members of the faculty are seriously overloaded; time which should be available for research and scholarly activities is too frequently mortgaged by other responsibilities. The new positions which have been established will help to ameliorate this situation, but additional positions will have to be created if only to keep pace with increases in enrollment, the changing nature of that enrollment, and the need for research and service.

Much progress has been made in the past biennium within the College of Education. The steps that have been taken, the plans made for future development, the high quality of new appointees to the faculty, the close ties which have been established with the public and private schools, with higher educational institutions of the state, and with regional and national organizations and agencies dealing with professional education—all these argue strongly for the continued development and improvement of teaching, research, and service in this College of Education. The support which has been received from the University, the state, and the federal government adds further evidence to a sense of optimism about the forthcoming biennium and the years ahead.

GENERAL COLLEGE

A. L. VAUGHAN, *Acting Dean*

With institutions, as with people, some years seem to be pivotal years, years when experience assimilated from earlier phases of development is

catalyzed in response to inner needs or external circumstances, new patterns begin to emerge, and new tasks are set. It is safe to say the years 1964-66 have been pivotal for the General College. In no other single period of its existence has so much of its past been brought to fruition and so many of the tasks for its future been initiated.

These were the years when the College reached its greatest size as far as enrollment is concerned. Physical growth can be a source of power, but uncontrolled growth can become—as in cancer—fatal. With institutions, as with people, there are times when growth must stop to permit development.

The opportunity of controlling growth and permitting development was given to the General College in the fall of 1964. To control growth, the decision was made to reduce enrollments gradually to a student population of not more than three thousand. To permit development, it was agreed that faculty resources would be maintained at the 1964-65 level. To insure relevance of new developments to the central mission of the College, it was planned that a policy of regulated admissions would provide a student body representing in a stratified sample the huge segment of Minnesota youth for whom our programs have been designed. With relief from an over-burdened service load in sight, the faculty and administration turned to new tasks and began to examine old assumptions in the light of changing conditions.

The General College was launched as an experimenting unit seeking new curriculum patterns and better methods of instruction for freshmen and sophomores. Obviously, knowledge of the student is a fundamental prerequisite to accomplishing this purpose. One of the tasks we have set for ourselves, therefore, is to extend and up-date the pioneering studies of our student population which did so much to make the General College famous when it was young. Our present *Five-Ten Year Follow-Up Study of General College Students* began in 1958 and is still in progress. Over eighty percent of the initial sampling continues to participate in each successive phase of the investigation. This study is an example of the kind of research we regard as vital to our mission. We must know whom we are teaching and what happens to them when they leave us.

Experimentation with new courses and novel teaching methods has been continuous in spite of enrollment pressures. In the last biennium, for example, a sequence of science-in-context courses was developed (weather and climate, ecology, and conservation), as well as courses in the concepts of pure mathematics, creative problem-solving, comparative religions, and introduction to business. Existing courses have been evaluated and revised. Administrative reorganization to foster more viable curriculum development has resulted in establishment of two new divisions. We have adapted to, and in some cases pioneered, the use of new instructional media and techniques. Programmed learning, use of television, team teaching, nondirective teaching, situational testing, and nonverbal techniques—all are becoming part of our standard operating procedure.

A responsibility we have long recognized is that of reporting what we are doing. We are attempting to meet this responsibility by resuming publication of the *General Education Sounding Board*, which we distribute nationally. In addition, we have set ourselves the task of increasing our services to non-baccalaureate programs and to the emerging junior colleges.

Our basic reading skills course is a case in point. This course, employing closed-circuit television, programmed learning, and a new junior college reading test developed by a member of our faculty, has been made available to the local metropolitan junior colleges. Through a grant from the Minnesota State Legislature, and under the auspices of a state committee conducting a Feasibility Study of Inter-Campus Television, this joint venture, to our knowledge, is the first of its kind in the state.

In addition, members of our faculty participated in the organization and implementation of the Junior College Articulation Conference sponsored by the University in the Fall Quarter of 1965. Numerous formal and informal conversations have been held among members of our administration and faculty and their counterparts in the new state junior college system.

The occupational-vocational component of lower division general education has been of increasing concern to us. In the past, we have experimented with and developed occupational sequences in retailing, dental assisting, and practical nursing (the two latter in cooperation with other units of the University). During the past two years we undertook to explore this whole area in depth. We have discussed with faculty of other University units the need for possible sequences in the "para-professional" fields. We have communicated with the United States Office of Education and the State Department of Education for the purpose of seeking out means for supporting new programs.

It is an axiom in the General College that the primary justification for the existence of an institution enrolling undergraduates is the opportunity for the scholar-teacher and student to confront each other. Teaching not based upon sound scholarship is superficial. Scholarship ineffectively communicated is sterile. And both scholarship and teaching must be relevant to life; the test of knowledge is in its practical application. The consequence of this view is that the focus of study and research in the College has been upon the classroom and the counseling office. Identifying and nurturing effective college teachers has long been one of our concerns. We are now in the process of developing our internship program for prospective college instructors, and the Fall Quarter of 1966 should see the beginning of a formal and systematic laboratory as well as seminar training for future professors.

The resources of the General College have been used by the Office of Economic Opportunity in the University's Project Upward Bound. Sixty-six poor high school students from 13 counties in Minnesota have been brought to the campus of the University. These are students who would normally not expect, nor be expected, to go on to college. The program is designed to provide the kind of exposure to culture and higher education for these young people that might motivate them to continue their education. Of deep significance to the state, the project has already brought new ideas and insights concerning ways in which the College itself might more adequately relate to secondary school programs and students.

Thus the General College has been since its inception an embodiment of the pragmatic tradition in American education, indeed in American culture itself. In the tradition of the land-grant universities, the institutions of higher learning are an instrument for enhancing social welfare. And the welfare of the whole is secured by insuring the development of the individual. Within the framework of public education the ideal has been to deny no one the chance to reach the limits of his capacity.

The General College has been described as an educational pilot plan, and the term is well chosen. It has taken on with renewed emphasis the function of seeking more adequate ways and means for serving the increasing numbers of young people who take as a fact their right to education beyond secondary school. The faculty and administration of the General College have never been burdened with the baggage of tradition for its own sake. Its own tradition has been, rather, to question tradition, to discover in experience that which is of worth, to reject or modify that which is irrelevant, and to remain open to that which is new.

GENERAL EXTENSION DIVISION

WILLARD L. THOMPSON, *Dean*

If, as Margaret Mead has suggested, by the time an educated man is half way through his productive life, half of what he needs to know will not have been discovered when he was in college, then the General Extension Division, charged with responsibility for continuing education, faces an enormous challenge. Some measure of this challenge can be seen in the number of persons served by the Division during the past biennium. In classes or courses (most of which, but not all, carry credit), including those offered through evening and off-campus classes, television college, lecture series, women's programs, and correspondence study, there were 68,444 students during the biennium. This figure represents an increase of 26% over the 54,716 students in

similar courses during the 1962-64 biennium. Conferences, institutes, and workshops of a professional or technical nature, including all of the courses given at the Nolte Center, and the legal, business, and civil defense courses, drew 29,605 students, an increase of 45% over the 20,486 served in 1962-64. The combined total of adults attending classes and conferences was 98,049 persons. These figures do not include the people reached by the Division through its educational service departments—Radio and Television, Drama Advisory, Counseling, Audio-Visual, State Organization Service, World Affairs Center, and Municipal Reference Bureau.

A more meaningful measure, however, is to be found in the extensive change and growth that have taken place within the Division as it shapes itself to the new challenge. Departments have been strengthened, new programs undertaken, and new units formed, all in an effort to meet the needs of a swiftly changing society.

In part these changes are a consequence of a new awareness in Congress and on the part of the President of the role of the university in meeting the needs of society. In part, too, they have resulted from the demands of industry and the professions, faced with swiftly changing technologies and enormous increases in the kinds and amounts of knowledge necessary for effective performance. And, in part, they reflect a new and vital understanding among men and women in all walks of life that education does not cease with the granting of a degree. It is a life-long matter.

Federal Legislation—For more than 20 years there has been sustained effort on the part of deans and directors of extension, nationally, to persuade Congress to provide federal support for general extension programs, similar to that provided to the agricultural community. During the last session of Congress, these efforts bore fruit with the passage of Title I of the Higher Education Act and the State Technical Services Act.

While not restricted to general extension programs, these and other bits of federal legislation will provide new strength for programs which historically have been largely self-supporting. In its efforts to make wise use of these new resources, the Division has undertaken careful study of existing programs, while at the same time seeking to identify additional areas in which the resources of the University might most effectively be used.

Two projects proposed by the Division have been approved for funding under Title I of the Higher Education Act in first-round allocations. One, a program of Governmental Employee In-Service Training, will be administered by the Municipal Reference Bureau. The second, a Certificate Course in Assessment and Appraisal, will be administered by the Department of Conferences and Institutes.

Despite this welcome assistance from federal sources, the Division will continue to be largely self-supporting. In 1964-65, it generated through income 83.7 percent of the funds necessary to its support. In 1965-66, this increased to 86 percent.

Developments—No area within the Division has experienced greater growth during the past biennium than that of continuing professional education, which is a principal function of the Department of Conferences and Institutes (formerly the Center for Continuation Study).

For years the Department has been served by a Director of Continuation Medical Education who has held a joint appointment in the College of Medical Sciences and the General Extension Division. During the past biennium, three additional such appointments were made as the Division responded to demands for other professional areas. In September 1964, Dr. James Holte was named Director of Continuing Education in Engineering and Science, with a joint appointment in Electrical Engineering. In December 1964, Mr. Austin Anderson was appointed Director of Continuing Legal Education. In September 1965, Dr. Peter Rosko was named Director of Continuing Business Education, with a joint appointment in the School of Business Administration.

The program in Continuing Legal Education was made possible through the Minnesota State Bar Association, which has provided financial assistance in initial stages and serves the program in an advisory capacity. The Director of the program works closely with an advisory committee from the Bar As-

sociation in identifying areas in which programs might most effectively serve continuing education needs in law and in planning programs to meet those needs.

A somewhat different approach to continuing professional education in agriculture and related fields was undertaken during the biennium. In cooperation with the Institute of Agriculture, the Department of Off-Campus Classes initiated an experimental program of graduate-level courses, both credit and noncredit, throughout the state, in an effort to determine ways in which persons might best be provided with opportunities for continued study. A careful evaluation of this program is in progress.

A fortuitous side-effect of increased activity in professional continuing education areas has been that the Graduate School and the General Extension Division are working toward a joint registration procedure whereby a qualified student may complete as much of a master's degree through Extension courses as a given graduate faculty is willing to arrange in an organized Extension program. The faculty of the Division feels strongly that, as the demand for qualified persons in industry and education gets further and further ahead of supply, it must be made possible for competent students to obtain as much formal education as they are capable of handling. A joint registration procedure, which will ensure that graduate courses offered through Extension will contain properly equipped students, will be a long step in that direction.

In response to widespread requests for assistance in the arts, Miss Huldah Curl was named Director of Continuing Education in Art in July 1964. Holding a joint appointment in the General Extension Division and the Agricultural Extension Service, Miss Curl has had outstanding success in developing a growing program of courses throughout the state. Among the most successful of her efforts is the Crafts Exhibit which is presently circulating in the state.

A major service to P.T.A. and other school groups throughout the state has been provided through the programs in Parent and Family Life Education. In July 1965, Mrs. Elizabeth Peterson, who since 1961 had served as part-time Director of Parent and Family Life Education, accepted a full-time appointment to this position.

From the time of its beginning, the Division has offered classes and special courses throughout the state. With the start of the past biennium, a new Department of Off-Campus Classes was created to join in one unit a burgeoning collection of divergent off-campus activities. Mr. Harold Alford was named Director. Its special assignment is to provide flexible and creative administrative support to the development of a broad, state-wide curriculum of credit and noncredit courses.

Two new Extension certificates were added during the biennium, bringing the total to 21. At the request and with the assistance of appropriate academic departments and community groups, a Police Administrative Certificate and an Assessment and Appraisal Administration Certificate were introduced. Both consist largely of credit courses which can be taken in day or evening classes or by correspondence, or transferred from other institutions. But each has a unique requirement: the police program includes four required three-credit courses available only through the Correspondence Study Department; the assessment program includes 15 required credits which can be earned only in attendance at two two-week residential sessions at the Nolte Center for Continuing Education. Each is the first certificate program so arranged.

The Organized Extension Program in Social Work was begun in September 1964. Offered through the Department of Evening Classes, it is aimed at persons employed in social work positions without the professional degree. The Program carries credit but does not lead to a degree.

Although evening students have long been able to complete the Bachelor of Arts and the Bachelor of Science in Business without attending day classes, Arts College majors have been available only in economics, history, and political science, and in the interdepartmental major. In the second year of the biennium, sufficient courses were added to art history, English, and humanities to offer those fields as majors. Child psychology, French, psychology, and sociology majors may also be nearly completed or petitioned for completion through evening classes.

Program advising for Extension students has been made available in limited measure since the Division began. In the last several years, thousands of students have been provided with advisors for planning academic programs but have been referred to the Student Counseling Bureau for counseling. As the burden on the Bureau grew heavier, and as adult students found it difficult to keep daytime appointments, a Director of Counseling was named. Dr. Vera Schletzer holds a joint appointment in the Student Counseling Bureau and the General Extension Division, with offices in the Division.

Research activities of the Division received new emphasis with a formalizing of Division-wide research in one office. The intent was in no sense to limit research projects to that office, but simply to provide a facility assigned to seek information about continuing education needs of Minnesotans and the characteristics of adults being served by the Division, and to put that information in such form as to be useful to the Division and to the University. A series of research reports to the faculty has been initiated, three such reports appearing in the second half of the biennium. In addition, many other studies, surveys, and statistical analyses are beginning to reveal information long wanted but never before systematically gathered.

The University Television College, launched in the fall of 1964, was directed at persons of college age who were not in attendance in conventional classes. The carefully drawn research studies of those who registered, done by the University's Bureau of Institutional Research, described the student body in detail, demonstrating that it consisted largely of students older than the average undergraduate and atypical in other ways as well. Hence, the pattern of courses and methods of offering them will be altered for the coming biennium.

As for closed-circuit instruction, the arrangement with Rochester, begun in the previous biennium, proved so promising that in September 1965 the Mechanical Engineering Department of the Institute of Technology started a graduate degree program via closed-circuit television for Rochester through the Division's Departments of Off-Campus Classes and Continuing Education in Engineering and Science.

In the winter of 1966, two courses were beamed via closed-circuit to the metropolitan area junior colleges as an experiment in the use of interinstitutional television.

The development of useful continuing education programs with excellent faculties has always been the Division's purpose. In January 1965, a Department of Divisional Relations was created to inform Minnesotans that their University was being extended to them in many ways and that the Division was a major point of contact between them and the University. Miss Beverly Sinniger was named Director. The tone of Divisional publications and promotion is being raised and unified through the work of the new Department. In addition to informing the community, the Division is also finding its programs are becoming much better known within the University, the result of which may be equally beneficial to the Division, the University, and the people of Minnesota.

The Extension Division gained a location in downtown Minneapolis in 1966 when the MacPhail family gave the MacPhail College and School of Music to the University as of July 1, 1966. The building has been renamed the MacPhail Center and will be operated by the Division as the MacPhail Center for the Performing Arts. The music programs will be under the supervision of the University's Department of Music. Private lessons will be continued with many of the teachers who have contributed to the MacPhail reputation for excellence. In addition, faculty will be added as programs of applied music instruction are expanded. A balanced program of evening classes is scheduled to begin with the Fall Term of 1966.

The committee structure of the Division has been strengthened during the biennium, notably by the inception of a Dean's Advisory Committee. Partly elected, partly appointed, this Committee of ten, meeting weekly, has evolved into a useful communications device. Its members advise the Dean on matters of policy and operation, helping him to formulate opinions, providing a sounding board, and carrying information between Dean and staff. Other intra-Divisional committees have been revived or created, resulting

in heightened interest on the part of the staff in the total operation of the Division.

An important ad hoc committee is the Divisional Committee on Internal Reorganization. Appointed by the Dean, its six members have met throughout the last year or more, periodically convening with the Dean to keep him abreast of their thinking and to reassure themselves and him that their deliberations are realistic. The Committee is charged with looking for the structure that would best serve currently identified needs and be flexible enough and strong enough to recognize and meet newly discovered needs. It appears that, within the early months of the next biennium, final recommendations will be made to the Dean and conversations can begin with all department heads, with a view to ultimate internal reorganization.

As the Division continues to grow, space needs are becoming increasingly critical. At the present time, units are widely scattered on the Minneapolis Campus as temporary space is provided for expanding staffs.

During the biennium, it became necessary to eliminate dormitory facilities in the Nolte Center for Continuing Education and convert the rooms to offices. This met with considerable unhappiness on the part of those who in the past had scheduled residential meetings in the Center. At the same time, a rapid increase in the number of groups being served by the Center is severely taxing available meeting space.

In 1936, when the Center was first constructed, it was the first residential study center to be established on a university campus. Through the years it has earned the University a place of leadership in continuing education. Today the facilities available are hopelessly inadequate. Early consideration must be given to new and expanded space and the possible return to a residential type of operation.

Historically, the Division has been dependent for the most part on academic departments for the staffing of its programs. As the demands made of the University by the community continue to mount, and as faculty are increasingly confronted with demands for service in the classroom, in research, and in public service, teaching resources will be grossly overburdened. At this point it may become necessary to seek faculty whose primary function will be in Extension. In each instance, however, it is hoped that such appointments will be made jointly with the academic departments involved.

The Division has from the beginning been in greatest measure self-supporting. As its programs have expanded and its activities have grown, the percentage of state support dollars available to the Division has declined. It is imperative that, if the General Extension Division is to remain healthy and able to meet the requirements of the future, a larger measure of support dollars be made available to it.

Audio-Visual Extension Service

WILLARD D. PHILIPSON, *Director*

Growth in the demand for audio and visual communications services has continued to rise during the biennium. A strong increase in the number of communities served seems to reflect a spreading demand as well. As both titles and number of prints in the film collection have increased, care has been exercised to acquire broader offering of visual material for adult education as well as for school use. Superior production techniques and tremendous strides in film technology have provided a greatly improved visual product.

The year that the tape recording service was started, 1955-56, 44 tapes were recorded for 15 individuals or groups. In 1965-66, 1,538 tapes were recorded for 280 individuals or groups.

Although the number of workshops was curtailed during the biennium, the number of school visits was increased. The bulletin, *Look, Listen, Learn*, was published in five issues each year, each distributed to more than 3,000 persons.

Electronic inspection was completely adopted in the film library. The technique has greatly enhanced the ability of the staff to provide material in good condition. A new system of maintenance records also effected makes

possible wiser decisions on replacing footage and prints. A new preview service permits individuals to review collection material.

For the coming biennium, it is hoped that a computer-based scheduling and invoicing system can be placed in operation no later than January 1968, so that the materials collections can be handled more efficiently. By that date the film collection will probably reach 16,000 units. A more comprehensive tape collection is planned, and continued effort will enable the Service to supply tapes to schools on 24-hour notice.

A program of leadership in audio-visual communications will be emphasized during the 1966-68 biennium. Continued effort in improving conferences and workshops is paramount. A research program designed around application and use of instructional materials and technology in learning situations is planned.

AUDIO-VISUAL EXTENSION SERVICE
COMPARATIVE BIENNIAL REPORT, 1962-64/1964-66

	1962-64	1964-66	% of Increase or Decrease
Communities Served	5,671	6,206	+ 9.4
Visual Programs Furnished	133,344	146,223	+ 9.7
Shipments	63,533	75,525	+18.9
Prints in Library (63-64/65-66)	11,234	12,998	+15.7
Titles in Library (63-64/65-66)	6,562	7,353	+12.1
Tape Dubbings Made	1,938	2,894	+49.3
Tape Masters in Laboratory (63-64/65-66)	1,230	1,346	+ 9.4
Outstate Faculty Workshops	16	7	-56.3
Faculties Represented	19	11	-42.1
Schools, Libraries, Industries Visited	275	353	+28.3

Civil Defense Education

ROBERT J. ELLIOTT, *Director*

The Civil Defense Education Program is conducted under a federal contract from the Office of Civil Defense, Department of the Army. The biennium included the third year of the program's operation at the University of Minnesota.

The purpose of the program is to increase the training and education potential and capability of the entire State of Minnesota. The program is carefully planned and conducted in coordination and cooperation with the Minnesota Department of Civil Defense.

In 1965-66, Minnesota led the nation in numbers of conferees attending civil defense conferences for elected and appointed officials, with 1,699 persons attending; 1,517 county and municipal officials attended in 1964-65.

Courses are held throughout the state. Their titles, number, and enrollment figures for 1965-66 are as follows: Shelter Manager Instructors, four—32 enrollees certified; Radiological Monitor Instructors, seven—71 certified; Radiological Monitor Instructors (refresher), two—12 certified; Radiological Defense Officers, four—62 certified; and Fallout Shelter Managers, thirteen—159 certified.

Several new ideas and courses have been developed in the Minnesota program, including a 16 millimeter filmed message by the Governor of Minnesota, a five-minute taped message by the Minnesota Attorney General, numerous excellent vu-graphs that support the concepts discussed in conferences and courses, the taping of actual warning test exercises as they occur regularly over the National Air Warning System, the transmission of warning messages to county seat towns and cities of over 5,000 population, and a readiness scoresheet which uniquely helps conferees assess the readiness and adequacy of local civil defense planning.

A Department staff member formulated a ten-hour course of instruction on civil defense and taught it at the Wayzata High School to a group of 75 social studies students. A complete written and oral report was presented

to the Commissioner of Education, who, in turn, is causing it to be entered in the State High School Social Studies Curriculum Guide.

Minnesota will be a pioneer in the conducting of Civil Defense Conferences for School Administrators during 1966-67. The conferences are being completely planned and coordinated with the State Department of Education.

An expanded program for the coming year includes added courses in Civil Defense Management, State-Wide Industrial Conferences, and Emergency Operations Center Simulator Exercises.

Department of Conferences and Institutes

FRED E. BERGER, *Director*

In his report to the Regents, for the 1932-34 biennium, President Coffman had this to say about his plans for a Center for Continuation Study, the first official pronouncement made on the subject of the proposed Center: "Such a plan would do three things. In the first place, it would disseminate the most recent knowledge available in every branch of human learning; in the second place, it would stimulate professional interest and growth on the part of professional leaders; and in the third place, it would give to the people of the state a higher quality of professional service than they could expect otherwise." A generation later these principles serve well as basic operational guidelines in directing continuation education courses in professional, semi-professional, and technical fields.

In November 1965, the Center was renamed the Nolte Center for Continuing Education, in honor of the late Dean of the General Extension Division, Julius M. Nolte. The program formerly referred to as the Center for Continuation Study was subsequently retitled the Department of Conferences and Institutes.

The 1964-66 biennium marks a period of change with respect to planning and directing courses in some specialized fields. In the main, courses are under the general supervision of the program directors. Over the years, an exception to this has been the highly specialized field of medicine, where the courses were coordinated by a specialist. During the biennium, three additional specialists were added to cover the fields of business management, of law, and of engineering and science, with the expectation that the continuing education needs of these areas will be more carefully examined and more completely met than heretofore.

Also during the biennium, the Department was called on to mount several new programs for federal and state governments. Frequently, governmental deadlines permitted only short intervals of time to plan the programs, secure the faculty for them, and announce them to prospective clientele. A feature of conference and institute work not ordinarily taken into account is its adaptability to meet these "crash" courses. The programs enjoyed some success because persons skilled in planning and in designing different kinds of institutes and conferences lent their expertise.

The Department continues to work closely with staff of the University, with members of professional organizations, and with members of community groups to identify new areas that need development. As a consequence, during the biennium many new courses were added. Significant among them are: Training Institute for Directors of Day Activities Centers; Preservation of Historical Buildings; Minnesota-Dakotas American Assembly on the Population Dilemma; Institute on Family Therapy; Seminar on Group Psychotherapy for Clergymen; First Institute for Training in Discussion Leadership; Continuation Course in Neurologic Problems of the Aged (one for doctors and one for nurses); Workshop on Working with Low-Income Families; Role of Universities in Research on Social Problems; A Clergyman and the Disadvantaged Parishioner; Creative Writing for Children and by Children; Certificate Program in Assessment and Appraisal; Institute on Sex Education; Seminar on the Minnesota Antipoverty Program; Environmental Sanitation for Aerospace Engineers; Minnesota Conference on Communist China; and Conference on Recent Developments in the Use of the MMPI.

ATTENDANCE AT TYPES OF COURSES*

Type	1964-65				1965-66				Cumulative 1936-66			
	No. of Courses	No. Reg.	%	Avg. Reg. Per Course	No. of Courses	No. Reg.	%	Avg. Reg. Per Course	No. of Courses	No. Reg.	%	Avg. Reg. Per Course
Medical	16	923	9.0	55	16	952	8.5	60	520	27,890	13.8	54
Educational	8	1,119	10.9	140	5	1,370	12.3	91	383	23,010	13.9	73
Technological	13	1,540	14.9	119	27	2,210	19.8	82	2,9	26,916	13.4	123
State-Municipal	19	1,401	13.6	74	19	1,836	16.4	97	330	23,256	11.5	71
Public Health and Hospital Service	14	1,143	11.1	88	13	826	7.4	64	289	19,120	9.5	66
Commercial	5	398	3.9	80	3	317	2.8	106	235	15,437	7.6	67
Social Welfare	21	1,343	13.0	64	9	896	8.0	100	258	15,221	7.6	59
Nursing	16	784	7.6	49	11	658	5.9	60	204	13,365	6.6	66
Civil and Cultural	13	708	6.9	55	10	890	8.0	89	199	12,017	6.0	60
Dental	23	410	3.9	18	22	495	4.4	23	416	7,767	3.9	19
Labor	7	270	2.6	39	12	553	5.0	47	99	7,023	3.4	71
Legal	2	262	2.0	101	1	128	1.2	128	43	3,068	1.4	71
Pharmacy	1	62	0.6	62	1	31	.3	31	27	1,523	.7	56
Misc. ....	.....	.....	.....	.....	.....	.....	.....	.....	68	1,484	.7	22
TOTAL	158	10,303	100%	65	159	11,167	100%	70	3,290	202,072	100%	61

* Does not include activities of Department of Continuing Business Education or Continuing Legal Education.

Progress was made in other areas. For instance, the proliferation of Center courses outstate: Duluth, Morris, Waseca, Moorhead, Mankato, Owatonna, Virginia, and Brainerd. Also, the refurbishing of rooms and the adding of air-conditioning units have made the Center classrooms more attractive and usable. On the other hand, the number of sleeping rooms at the Nolte Center has been reduced to 12. Those registered for conferences are housed in motels close to the campus and in downtown hotels, a situation that repudiates a basic premise of residential adult education as it was originally conceived and as it is now practiced at many other colleges and universities throughout the country. Demands on the Department for more services are increasing and will continue to increase. It is hoped that the proposals that have been made with respect to relieving the critical space situation will be reviewed. Only a major building program can meet the continuing needs of the people of Minnesota.

CONFERENCES AND INSTITUTES
NOVEMBER 13, 1936 TO JUNE 30, 1966

	7-1-64 to 6-30-65	7-1-65 to 6-30-66	11-13-36 to 6-30-66
Number of Courses	158	159	3,290
Number of Registrants	10,308	11,167	202,072
From Minnesota	7,807	8,375	156,272
From Other U.S. States	2,347	2,556	43,033
From Foreign Countries	154	236	2,767
Male Registrants	6,980	8,121	136,493
Female Registrants	3,328	3,046	65,579
Number of Faculty	2,257	2,444	53,367
Course Hours	2,837	2,163 $\frac{1}{4}$	92,024 $\frac{1}{4}$
Course Days	516	498	16,137 $\frac{1}{4}$

Continuing Education in Art

HULDAH CURL, *Director*

The Department of Continuing Education in Art, cosponsored by the Agricultural Extension Service and the General Extension Division, was established in July 1964. During these two years, activities have been concentrated in two areas: the organization of extension classes in art and the initiation of a circulating exhibition program.

The purpose behind this concentration of effort is fairly self-evident. We do not need to create an audience for the arts today; we have an enormous one, made up of buyers, amateur practitioners, and simple appreciators. Merely because of its size, this audience is having a noticeable effect on the course of American art. The more this audience can be given exposure, guidance, and information, the more able it will be to make original, assured judgments.

During the first year of the biennium two classes were held; during the second, there were 19 classes and one lecture. Of the class total, 17 were non-credit Neighborhood Seminars, and two were three-credit classes. Seven classes were organized in cooperation with county extension agents, six with community art associations, two with public school systems, two through promotion at the Minnesota State Fair, and two through direct request to the Department. Total attendance was approximately 425. Classes were held as far away from the Twin Cities as Austin, Lamberton, Breckenridge, and International Falls. Four classes and one lecture were held in one county (Wright) alone. Classes used the faculties of all five art departments—at Minneapolis, St. Paul, Duluth, and Morris—as well as qualified teachers outside the University. Subjects included art history and studio work in fine arts and crafts.

The circulating exhibition program was started in April 1966 with a show of work by members of the Minnesota Craftsmen's Council. This show was

planned to minimize red tape and physical labor for community organizations and small college galleries, which frequently operate on small budgets and with volunteer staffs. The exhibition was booked for a full year at bookings of three or four weeks each within two weeks of initial promotion; it now has 16 bookings for a year and a half. Six bookings were organized through county extension agents. During the coming months, the exhibition will be shown at community art centers, public libraries, private and junior colleges, and a courthouse. The Minnesota State Arts Council has given a grant to the Minnesota Craftsmen's Council to subsidize lecture/demonstrations in conjunction with the exhibition.

On a less formal basis, substantial advice has been given by the Department to community art associations and clubs. In one instance, this resulted in the purchase of a building to be used as a community art center by the city of New Ulm; in another, in the incorporation of five art clubs as tax-exempt civic organizations.

Continuing Business Education

PETER ROSKO, *Director*

In September 1965, the Graduate School of Business Administration and the General Extension Division jointly established the Department of Continuing Business Education. The purpose of the Department is to provide a series of courses, seminars, and other programs that will be of benefit to business managers for updating their business knowledge, their decision-making capabilities, and their understanding of the environment in which business operates.

During its first year of operation, the Department of Continuing Business Education presented 12 short courses or seminars for businessmen. These included the following:

1. Communication and Persuasion Seminar (offered six times, 181 participants representing 117 businesses and other organizations)
2. Course in Superior-Subordinate Relations (291 participants, 113 businesses)
3. Management Development Seminar (46 participants, 33 businesses)
4. Computer Seminar for Certified Public Accountants (18 participants, 13 businesses)
5. Televised Industrial Relations Program for Personnel Managers (24 Rochester IBM managers)
6. Accounting for Non-Accountants (34 participants, 29 businesses)
7. The Retail Merchant and the Uniform Commercial Code (90 participants)

The total number served in all programs through June 30 was 718 people (including 66 from outside the Twin Cities metropolitan area), representing more than 300 organizations.

Under joint sponsorship, the University of Minnesota and the Twin Cities Chapter of the Society for the Advancement of Management established the Distinguished Visitors Series. Past speakers have included Clarence Francis, former General Foods Board Chairman, Professor Chris Argyris of Yale, Professor Peter Drucker of N.Y.U., Professor Ezra Solomon of Stanford University, and C. Northcote Parkinson. In the future, we hope to bring Keith Funston, President of the New York Stock Exchange, Walter Reuther, President of the UAW, Jean Paul Getty, and Roger Heyns, Chancellor at the University of California at Berkeley.

For fiscal year 1966-67, plans are under way to at least double the program. In view of the excellent response thus far, most courses will be offered again next year. In addition, a number of new courses are being planned, ranging

in length from one day to 50 hours. Included in future plans are the following types of programs: *Mathematical Methods for Business, Marketing Management Seminar, Management Programs for the Small Businessman, The Implications to Business of Civil Rights and Other Legislation, Applications of Computers to Business Problems, and Business Conditions and Outlook Conference.*

Continuing Education in Engineering and Science

JAMES E. HOLTE, *Director*

Continuing Education in Engineering and Science as a formal program began in July of 1964. Its purpose is the utilization of the resources and skills of the General Extension Division in determining continuing education needs of the technical community in the Minnesota area and deciding how the resources of the University of Minnesota may best be directed in helping meet these needs. Wherever possible, existing department facilities are used in the development and administration of programs. The primary responsibility of this Office is to provide the needed long-range planning and coordination that are essential if we are to meet the educational needs of a rapidly expanding technology.

Technical Audience Identification—The establishment of a successful program designed to meet the needs of technically-oriented industry rests upon accurate measurement of both current and future technical employment information. This includes identification of the geographic location, job discipline and level, and educational background of engineering and scientific personnel. This must be viewed in relation to the role Minnesota industry currently holds in the overall national effort as well as the likely nature of our position five to 15 years hence. In May of 1965, manpower development directors of several major Minnesota industries met to discuss the problems of obtaining this information. A survey form was developed and a preliminary study made. It was determined that specific program development to meet technical educational needs must be carried on immediately, although an accurate overall picture was not yet available. The background study is continuing and will be expanded during the coming year to include employers of smaller numbers of technical personnel.

Relations with Industry and Professional Societies—It is imperative that University participation in any program aimed at the professional development of engineers and scientists be carried out in a climate of close consultation and information exchange with the industry to be served as well as the professional societies representing the discipline involved. Industrial leaders who recognize the need for this long-range planning have been identified, and a system is being established whereby educational needs as they arise can be quickly communicated to the University for assistance where indicated. Both the American Society for Engineering Education and the National Society of Professional Engineers have established within the past year functioning arms with which we are cooperating in determining how educational programs in Minnesota may best be developed.

Graduate Study in Industry—The Electrical Engineering Graduate Evening Program (not an activity of the General Extension Division) has clearly demonstrated that industry is determined to assist its employees in progress toward master's degrees while maintaining major job functions. It has also shown that the academic problems involved in such a program are not insurmountable. During the past year, the Division has worked with the Department of Mechanical Engineering in an experimental program to bring graduate mechanical engineering studies to the Rochester, Minnesota, area through the medium of closed-circuit television. The results are encouraging and the program will continue through the coming year. Needs have been expressed for graduate study in other areas of engineering and scientific activity, and we are currently engaged in determining the feasibility of other graduate offerings for individuals in industry.

Special Technology Seminars—The major new program offerings established by this Department are the Summer Technology Seminars: 13 in 1965 and 18 in 1966. These include intensive presentations ranging from one to five days. Topics of current technologic interest range from the design of culverts, for individuals responsible for water control, to the foundations of quantum theory, aimed at research scientists. Response has been enthusiastic, with 44 firms in the Upper Midwest region participating in the 1965 series and a wide range of technical interest already represented in the 1966 series.

Extended Technical Specialty Series—A need has been identified for sequences of course offerings at the post-bachelor's level which do not carry credit toward an advanced degree but do provide a means for study in certain rapidly expanding disciplines. In the spring of 1966, a very successful first offering in a longer planned sequence, Digital System Design I, was given. Over 100 registrants were served both in a live classroom situation and over closed-circuit television. This sequence will be continued through the 1966-67 academic year and supported by a companion sequence, Computer Assisted Problem Solving. These subjects were chosen for intensive study because of the strong computer technology orientation of this area. It is anticipated that other areas such as food processing and mining will form the foundation of additional technical specialty sequences.

Correspondence Study—The many constraints and restrictions on the time of the engineer or scientist in industry clearly indicate the need for advanced, well-planned, self-study programs. A pilot correspondence offering in Quantum Theory has been developed as the first in the Minnesota Technical Study Series and will be ready for evaluation in the fall of 1966. Additional topics are currently being selected with a goal of six additional offerings by the spring of 1967.

Participation in Professional Conferences—The University is in a unique position to aid in the plans and activities of the conferences sponsored by the professional societies. In particular, the University represents a source of experts in presentation of tutorial material and in certain research activities which tend to be University-based, and also acts as a neutral ground in hearing the views of sometimes opposing factions. This Office has cooperated with such groups as the Institute of Electrical and Electronic Engineers and the Minnesota Federation of Engineering Societies in helping plan technical conferences oriented toward a specific educational function and service to the members. Requests for this kind of conference planning are rapidly increasing, and the evaluation of those thus far tried is encouraging.

Summary—The activities of this Office from 1964 to the present may be divided between general considerations of the overall problems of continuing education in engineering and science today and as we anticipate them in the future, and development of specific programs to meet current needs. A nucleus of individuals concerned with the problems of technical education has been formed, and communication with our prospective customers will become increasingly rapid and effective as the University's interest in these programs becomes known and as we learn whom to approach with specific proposals. Development of programs of the kind listed is of necessity expensive both in terms of time and money. We are now in a position to set priorities for those areas most promising. With these priorities and the information gained thus far, as well as with a growing body of information at the national level, we will be able to approach foundations and government sources of funding in addition to seeking the cooperation of professional societies.

Continuing Legal Education

AUSTIN G. ANDERSON, *Director*

The Department of Continuing Legal Education is the cooperative effort of the General Extension Division and the Minnesota State Bar Association. Created in October 1964, it became operational in December 1964. It is re-

sponsible for the creation, planning, and presentation of Continuing Legal Education programs for attorneys in the State of Minnesota. While the Department is a part of the General Extension Division, an advisory committee of practicing lawyers appointed by the President of the Minnesota State Bar Association assists in the development of and approves broad policies governing the operation of the program.

The basic goal of Continuing Legal Education in planning its course of study is to cover and assist in solving legal problems involving Minnesota law encountered by general practitioners. In an attempt to meet the needs of the entire Bar of the State of Minnesota, a number of different types of programs have been developed.

We have developed in cooperation with the Young Lawyers' Section of the Minnesota State Bar Association a "bridge-the-gap" course. It is a two and one-half day course known as the "General Practice Institute." The practical aspects of practice in domestic relations, criminal law, workmen's compensation, real estate, wills and probate administration, advising businesses, and civil litigation are reviewed by experienced practitioners under 40.

The how-to-do-it course serves to improve the competence of the general practitioner by offering him on a one-, two-, or three-day basis the review of the legal subjects common to general practice. To meet the educational needs of the Bar of Minnesota, Continuing Legal Education offers one-day courses in several locations, evening courses, late afternoon courses, and courses of several days' duration.

The following is a list of courses presented by Continuing Legal Education during the period from December 1, 1964, through June 30, 1966.

SUBJECT	DATE	ATTENDANCE
Real Estate Law Forum	April 30-May 1, 1965	323 lawyers
General Practice Institute	August 26, 27, 28, 1965	153 lawyers
Uniform Commercial Code	September 16, 17, 18, 1965	339 lawyers
Estate Planning (Ramsey County Bar Association)	October-November, 1965	172 lawyers
Product Liability Seminar	November 11-12, 1965	221 lawyers
Uniform Commercial Code (Statewide) ..	January-April, 1966	751 lawyers (1,157 bankers & others)
The Closed Corporation (Hennepin County Bar Association)	February-April, 1966	207 lawyers
Real Estate Law Forum II	May 6-7, 1966	288 lawyers

While we are encouraged with an enrollment of 2,454 lawyers (3,611 total) during the period December 1, 1964, through June 30, 1966, it is anticipated that through the recent addition of a legal editor, the publications prepared and distributed to the course registrants will be improved and will result in even greater interest and attendance by the Bar of Minnesota at Continuing Legal Education programs during the next biennium.

Continuing Legal Education's role will be to identify new problems, explore them, and keep the members of the Minnesota Bar informed about all legal developments. To improve existing activities and support new projects, the Minnesota lawyers will have to participate as fully and as enthusiastically in the future as they have in the past.

Continuing Education for Women

GERTRUDE B. ROFF, *Director*

The growth of the continuing education program for women led to the setting up of a Continuing Education for Women program within the General Extension Division, with the counseling functions of the former Minnesota Plan carried on by the Minnesota Planning and Guidance Center for Women.

In 1965-66, five special liberal arts seminars for women were given on the Minneapolis campus with a total enrollment of 100 for the Fall Semester and 94 for the Spring Semester. This represented a continuation of the plan

to broaden slowly the program of courses especially designed for women. The first seminar was offered in 1959-60; two were given in 1960-61 and four in 1964-65. An additional humanities seminar for women, with an enrollment of 26, was taught on the Duluth campus.

The number of high-calibre applicants for the 1966-67 seminars exceeds the number which can be accepted and indicates increasing interest in continuing education. Additional courses planned for the future include a short seminar Winter Quarter, and, in 1967-68, a seminar in the biological sciences.

The Department also handled the 1965 Summer Lecture Series, "The Theatre—Mirror for Man," a series of five lectures on the Guthrie Theatre plays, presented in Mayo Auditorium. Series attendance was 221, with an additional 197 coming to single lectures only. Three outstanding guest lecturers took part: Sir Tyrone Guthrie, Leonid Kipnis, translator of *The Cherry Orchard*, and Alan Schneider, Broadway director.

Correspondence Study

ALLEN D. FLINT, *Acting Director*

New correspondence study enrollments in the biennium increased three percent, from 13,691 to 14,097. Major increases occurred in business and languages. New courses offered or planned during the biennium include Human Growth and Development, The Writing of Poetry, Beginning Finnish, German Prose of the 19th and 20th Centuries, three courses in police administration, Introduction to Recreation and Leadership, Camp Administration, a revised six-course sequence in calculus, and a technical study series launched with a course in quantum theory.

One notable instance of success in correspondence instruction in the biennium occurred when one of our former students was accepted for publication and was awarded a prize for a novel written while registered in our writing courses.

The Department cooperated with the Research Department of the General Extension Division in inaugurating a study of correspondence enrollments and the ways in which correspondence courses are used to complete degree requirements.

In the coming biennium, the Department will move towards greater utilization of other instructional methods and resources. More thorough integration of audio-visual techniques and materials and the combination of correspondence instruction with conferences, seminars, and television instruction will be undertaken. Attempts will be made to provide more thorough counseling assistance to correspondence students. For all of these programs, more space will certainly be needed and certain minimal additions to clerical staff will be required.

Counseling Office

VERA M. SCHLETZER, *Director*

The recognition that many Extension students are serious students with unresolved problems relative to their educational goals resulted in the formation this year of a Counseling Office within the Division. The functions and responsibilities of this Department include program advising and counseling along with the attendant services necessary to maintain an efficient level of student personnel work.

For many years, various functions that fall under the general rubric of program advising for students have been efficiently performed in the Division. Advice about course choices, academic requirements, degree and certificate programs, and the transfer of credits was readily available, throughout the year as well as during the hours of registration for evening classes. Mrs. Udine Drews and Mrs. Eleanor Fenton handled the continuing questions, while several persons, usually University of Minnesota staff members with a counseling background, were retained on a temporary, part-time basis to help during the registration periods.

The amount of advising necessary for evening class students is considerable since over 3,000 presently registered students have indicated an interest in either a degree or a certificate program. Along with the advising, however, this Office also maintains a file on each student who is pursuing a degree program, and this file is kept up-to-date in terms of courses, grades, and the various steps that must be taken to achieve the degree. Both individual and group conferences with representatives of the various degree-granting colleges are also scheduled. Every effort is made to keep in touch with each individual degree candidate so that he or she is kept informed of all procedures and regulations.

As of December 1, 1965, 1,954 General Extension Division students were pursuing degree programs, usually within the College of Liberal Arts or the School of Business Administration, and 1,130 persons were working on the various certificates offered by the Division through evening or correspondence courses.

Before January 9, 1966, Extension students with counseling problems could go to the Student Counseling Bureau upon payment of a \$10 fee. However, since appointments were usually made six weeks or more into the future and not at all during evening or Saturday hours, counseling was, in effect, denied to most Extension students. In order to make this important service as readily available to Extension students as it is to day school students, a joint appointment between the General Extension Division and the Student Counseling Bureau was set up, and Dr. Vera M. Schletzer was appointed to the position. While Mrs. Schletzer is located in the central offices of the Extension Division, she attends staff, training, and research meetings of the Counseling Bureau, which also furnishes test scores and testing services for counselees as requested. Program advising is available during evening and Saturday hours of the registration period, and counseling has also been offered on 17 Tuesday evenings and 5 Saturdays. Each student has been able to see the counselor at times convenient to the student's schedule. This service will be extended as the demand increases.

Advising and counseling procedures have been simplified and coordinated by record keeping and an informational system which includes a card file, counseling case folders, and program folders. A complete record of all contacts of any student is readily available. During the six months ending June 30, 1966, 742 students, 591 males and 151 females, were seen in a total of 866 interviews. One hundred and seventeen counseling files were activated.

Students who came for advising or counseling tended to be young and well educated. Over 80% were 30 years old or younger, with the highest frequency being in the age group 20-22. Seventy-six percent had graduated from Minnesota high schools, and 46% had already attended the University of Minnesota. Seventy-six percent had already attended or graduated from a college, and an additional 7% had attended a trade school, thus giving to 83% of the counselees post-high school educational experiences.

The future is certain to bring an increased demand for both advising and counseling as the range of services becomes better known and as the number of potential evening class students increases. Since counseled students tend to be young and well educated, and since the population of Minnesota and the Twin Cities is becoming increasingly young and well educated, the pool of potential counselees is constantly increasing. The Counseling Office expects to meet this need with more and better service.

Divisional Relations

BEVERLY R. SINNIGER, Director

The Department of Divisional Relations, since its inception in January of 1965, has directed its major effort toward creating a consistent image for the Division through creative visual communications—publications, displays, and promotion. Development of systematic procedures, within the Division and with the University, and the availability of art resources have been important factors in facilitating the amount of work the Department is able to turn out. A complete production file is kept for each individual job and filed

by department. Production of a job (anything from a booklet of 470 pages, a brochure, a display, a news release, to a small announcement card) may involve original copy writing, layout, designing, proofing, pasting, constructing, and building. A trident symbol was designed and is used on all printed materials of the Division, including announcement letterheads, with each department choosing a different color for printing. All departments of the Division have used Divisional Relations for publications, announcements, brochures, news releases, forms, general promotion, posters, displays, exhibits, and mailing service; from July 1, 1965, to June 30, 1966, 194 job orders were placed.

In order to determine the amount of Division news appearing in Minnesota newspapers, the Department subscribed to a clipping service. News story clippings and the original news releases from University News Service are circulated to the dean, associate dean, and assistant to the dean, and then to the individual departments involved in the news stories. The clippings are then filed according to department. In the second year of the biennium, over 7,400 inches of Division news appeared in Minnesota newspapers.

A monthly Activities Calendar was initiated in March of 1966, listing scheduled programs, conferences, and special courses, plus staff activities, travel, publications, and changes. It is sent to the Division staff list, University News Service, and reporters on the University beat. The anticipated addition of a part-time news writer will make possible a wider and more complete coverage of news and feature writing.

A Twin Cities media list of persons to contact in radio, TV, newspaper, house publications, and local general magazines has been compiled. The Department also works with the State Organization Service to build and service mailing lists used in distributing Division publications. A current photo file is being developed which includes pictures of staff members, displays built and exhibited by the Department, the traveling art exhibit prepared by the Director of Continuing Education in Art, the Nolte Center dedication, and copies of photographs appearing in area newspapers.

To keep up with current developments in and information about communications, the Department subscribes to three trade publications, has obtained a direct mail encyclopedia, and has sent delegates to a Northwestern Industrial Editors conference in Minneapolis and a Direct Mail meeting in Chicago.

Developments projected for 1966-67 include the following: 1. Additional professional staff to meet the demands of continued increase in publications work load. 2. Uniformity in design and layout for all Divisional bulletins. 3. Complete and current photographic file of activities of each Division department. 4. Systematic channeling of Division news through the Department. 5. Ways of having more economic art work completed. 6. Coordination of Division publicity with Dean's administrative assistant. 7. Central mailing facility with a manager responsible for all Division mailings and for setting up selected mailing lists.

Drama Advisory Office

SHERWOOD SNYDER, III, *Director*

A 1965 American National Theatre and Academy survey of theatrical activity in the state reported that 164,971 persons witnessed productions of the 15 community theatres, six college theatres, and two high school theatres which answer the survey questionnaire. The same theatres put on 123 productions, ranging from 35-100% attendance.

This information, plus the fact that there are 31 community theatres, 36 colleges and junior colleges, and over 700 secondary schools producing drama in the state, clearly shows the extent of theatre activity, the area in which the Drama Advisory Office works.

Perhaps one of the largest functions of this Department, indeed the most popular, is the Loan Play Library. During 1964-65, this service went to 48 community theatre directors and 43 college directors; in 1965-66, it served 53 community theatres and 46 colleges. Over 900 high school drama directors

were served each year. Additionally, playreading committees, composed of five to six persons each, made extensive use of the library throughout the season in their search for possible productions. And well over 2,000 individual transactions were conducted each year for "on campus" trade. Each of these transactions involves from one to eight scripts. It is through this Office that the Drama Advisory Office influences the quality of the selection of plays being produced in the state.

Carrying out the program started in 1965, the Loan Play Library continued to build and to strengthen its collection of the accepted classics and to add to those areas in which demand seems greatest, especially the old-fashioned melodrama, avant garde, and children's theatre sections. Consequently, many new titles and duplicate scripts have been added, making the Loan Play Library one of the largest of its kind and service in the nation.

Concurrently, this Office, serving as an advisory agency for all theatrical producing organizations in the state which wish to avail themselves of the service, was involved this past biennium in the following:

1. Conducting a production workshop for the Junior League of Minneapolis in conjunction with the children's theatre production at the Guthrie Theatre.
2. Serving as consultant for the establishment of the Center Ring Theatre of St. Paul and The K and S Players of Minneapolis.
3. Assisting various theatres with such tasks as choosing a season, finding a director, and obtaining equipment; assisting with technical advice; and assisting in engaging speakers and entertainment for monthly meetings.
4. Serving as consultant toward the establishment of a puppet theatre program in St. Paul.
5. Publishing two newsletters, *The Curtain Line*, mailed to 1,091 Minnesotans.
6. Serving on the national committee for organizing the American Community Theatre Association Convention to be held in Minneapolis in August 1966.

Important to theatre activity in this three-state region (North Dakota, South Dakota, and Minnesota) is this Office's function as the central office for the North Central Theatre Association. Traditionally, the Director of the Drama Advisory Office serves as executive secretary-treasurer of this organization. As such, the Director is not only in charge of the general business and finances, but must coordinate the annual convention as the only continuing member of the executive committee.

Evening Classes

ALBERT M. FULTON, *Director*

The Department of Evening Classes serves the people of Minnesota by offering credit and noncredit courses to those unable to enroll in day classes. Representative evening class students include those working toward academic degrees, those wishing to improve levels of competency in their areas of employment, and those engaging in further study simply for the pleasure found in it.

These three aspects have determined the course of growth during the biennium. For students wishing to obtain an academic degree entirely through evening classes, increased numbers of upper division and graduate courses are now offered. During the biennium, the Departments of English, Humanities, and Art became part of the growing list of majors from which students may choose.

The Department is also increasing service to people whose primary objective is improving their job performance. Beginning fall 1964, courses offered through the School of Social Work became an organized program, with

the objective of helping people employed in social welfare positions to perform tasks with greater knowledge and skill. In other fields, recent augmentations are the Chartered Financial Analysts Refresher Course, an economics course for teachers, and the FORTRAN computer course for programmers. Increase in the variety and number of courses offered parallels rising enrollments. During the first year of the biennium, total class enrollment was 43,892. During the second year, this enrollment rose to 46,378, or an increase of 5.66 percent.

Implementation of the Cold War Veterans Bill of 1966 will affect the educational opportunities of 10,000 men in the State of Minnesota alone. Even the most conservative estimate would be that present growth trends will accelerate proportionately. In this respect, the recent acquisition of the University of Minnesota MacPhail Center has come at a most expedient time. A program of evening classes will be offered in this downtown Minneapolis location starting with Fall Term 1966. Additional personnel during the coming biennium include an assistant director of evening classes and a coordinator of administrative services.

In 1953, the University of Minnesota, with the cooperation of the Department of Evening Classes and the Division of Medical Technology, started a course for medical laboratory assistants. Since that time, over 500 young women have successfully completed the program. The course is financed jointly through tuition paid by the students and a special appropriation of funds by the Minnesota State Legislature.

EVENING CLASSES
1964-1966

Enrollment statistics, 1964-66, for Minneapolis, St. Paul, Duluth, Morris, Northwest Suburban Extension Center:

	1964-65	1965-66	%age Increase
Minneapolis-St. Paul-Robbinsdale			
Arts and Sciences	23,464	26,238	11.82
Business	7,172	7,281	1.52
Education	1,254	1,317	5.00
Engineering	5,683	5,570	- 2.03
Physical Education	1,056	538	-49.04
Duluth and Area	3,996	3,982	- .35
Morris	195	244	25.13
Summer Classes			
Minneapolis	735	704	- 4.22
St. Paul	279	354	26.88
Duluth	58	150	158.62
Grand Total	43,892	46,378	5.66

EVENING CLASSES
1964-1966

	1962-64	1964-65	1965-66	1964-66	%age Increase
Enrollments by location					
Minneapolis	48,457	33,389	35,665	69,054	42.5
St. Paul	5,060	3,954	4,054	8,008	58.3
Duluth and Area	6,611	4,054	4,132	8,186	23.8
Morris	325	195	244	439	35.1
Northwest Suburban Extension Center	2,811	2,300	2,283	4,583	63.0
Total enrollments	63,264	43,892	46,378	90,270	42.8
Number of course offerings					
Undergraduate (0-99)	1,051	564	646	1,210	15.2
Graduate level (100-)	262	165	194	359	37.0
Total course offerings	1,313	729	840	1,569	19.5
Number of class sections	2,210	1,420	1,467	2,907	31.6
Number of instructors	1,203	649	671	1,320	9.7
Number of individuals registered	39,872	23,034	24,404	47,438	18.9

Labor Education Service

JOHN J. FLAGLER, *Director*

The Labor Education Service is a joint operation of the General Extension Division and the Industrial Relations Center of the School of Business Administration. Its activities may be grouped in four categories.

The Union Leadership Academy is a two-year curriculum of eight subjects primarily in liberal studies. During 1964-65, some 300 Twin Cities trade unionists were enrolled; there were more than 450 registrants in 1965-66.

Conferences and institutes from one day to a month in length are offered throughout the state. The Annual Steel-Workers' Summer School was held in 1965 for the 11th year. Examples of other programs are the Willmar Communications Institute, Labor and World Affairs, and Employment and Manpower Problems. Nearly 2,000 registrants were accounted for in the biennium.

Research, often leading to publication, and educational consultation are the other major activities of the Service.

Department of Mortuary Science

ROBERT C. SLATER, *Director*

Enrollment in the Department of Mortuary Science rose slightly over the previous biennium as admission standards and requirements were strengthened. In 1964-65, 19 applications were turned down; in 1965-66, 24 were rejected. Enrollments for the biennium were as follows: 1964-65, 119 individuals were registered from 20 states, and 32 were graduated; 1965-66, 160 individuals registered from 23 states, and 41 were graduated.

In the area of curriculum development, the Vice-President for Academic Administration appointed a special ad hoc committee, consisting of Dean Willard Thompson, Chairman, and Drs. Anderson, Dawson, Jones, and Lazarow, Assistant Dean Page, and Professor Slater, to study and make recommendations relative to a baccalaureate degree curriculum in mortuary science. Such committee met and on April 15, 1966, forwarded to Vice-President Shepherd a recommendation which has in turn been forwarded to another administrative unit for study.

Reorganization of curriculum responsibility has occurred within the Department also. An added requirement for graduation in 1965-66 was the completion of a senior paper or project. This proved an excellent curricular innovation and has received commendation both from academic and professional sources.

In February of this year, the Department was visited by an examining team from the American Board of Funeral Service Education. At least once each five years the Department is investigated by qualified professional examiners to determine whether or not it be called an accredited Department of Mortuary Science.

Excerpts from the Examiner's Report read as follows: "An investigation of the faculty, administration, and student body connected directly and indirectly with this Department shows a total awareness as well as a constant striving to achieve the aims and purposes in their utmost reaches."

With regard to the current clinical training program, the Report stated: "The present system permits a more complete follow-up of work done and exposes the student to philosophies and practices in varied professional situations."

On the subject of staff, the Report read: "One of the most impressive features of the Department of Mortuary Science at Minnesota can most simply be stated in that instruction in all areas is conducted upon the premise that funeral service education meets the test of a true educational discipline. This attitude is carried forth not only in the Department, but also in those co-operating divisions of the University. Adequate opportunity was given each of the examiners to question and interview Chairmen of the Departments of Pathology, Chemistry, and Anatomy. In each instance there was shown tremendous interest in the Department of Mortuary Science, and, because of the

spirit of research permeating these divisions, the examining team is confident that this stimulation toward growth of capacity for independent thought and action, as well as intelligent inquiry, carries over into the student body. . . . Certainly an element of strength, the Departmental faculty without exception was found to be dedicated to and interested in the educational welfare of the Department and of its student body. Its sincerity is apparent in the way its members serve the Department in other than didactic areas."

Municipal Reference Bureau

ORVILLE C. PETERSON, *Director*

The work of the Municipal Reference Bureau is closely tied to that of the League of Minnesota Municipalities, with shared staff, shared space, and shared activities.

During 1964-65, the Bureau moved to new headquarters on the third floor of the Social Sciences Building, where new quarters and improved working conditions compensated in part for the loss of convenient access to the Law Library.

Emphasis during the biennium was on regular service in the preparation of reports and surveys for municipal officials, especially in the field of legislation.

During 1966, the Bureau prepared for submission a program for the use of funds under Title I of the Higher Education Act. The program, entitled Governmental Employee In-Service Training, was approved and will be administered by the Bureau, in cooperation with other departments of the Division.

Off-Campus Centers—Duluth, St. Paul

GILFORD W. REMINGTON, *Director (Duluth)*

PAUL J. STAM, *Manager (St. Paul)*

Duluth General Extension Office—The Duluth Office is directly responsible to the Dean of the General Extension Division, although the staff of the University of Minnesota, Duluth, provides faculty for most of its undertakings.

Enrollment in evening courses offered in Duluth totaled 2,625 during 1965-66; courses offered in the Duluth area drew 500 enrollments. This represents a steady growth in adult interest in furthering education through formal curricular offerings. Many students complete degrees left unfinished in earlier years, and others begin from the first year of college; and each year a number graduate with degrees earned entirely or almost entirely in evening classes.

Area classes, largely for teachers still working toward baccalaureate or master's degrees, were conducted during the past year in Aitkin, Aurora-Hoyt Lakes, Cloquet, Floodwood, Hibbing, Hinckley, Silver Bay, Virginia, and International Falls.

Evening class offerings are extensive enough for students to earn majors or minors in business administration, social studies, English, history, or political science. Another department in which our offerings are expanding is industrial arts. The new Industrial Arts Building offers fine facilities for these subjects and draws registration from the tradesmen of the community in such courses as welding, electronics, television, printing, and carpentry. The evening class faculty must certainly be above average. It includes 14 division and department heads, 18 professors, 15 associate professors, 23 assistant professors, and 21 instructors.

Some conferences, such as the Mining Symposium in January, which annually draws 800 to 1,000 mining engineers, and the summer workshops for teachers, are conducted annually. Those not so conducted always involve this Office in providing facilities and accommodations. A new staff member in Duluth is Dr. Cyril Milbrath of the UMD faculty, who will devote half-time

to coordinating conferences and institutes at UMD and in northeastern Minnesota.

At the end of next year, UMD is tentatively planning to discontinue its Laboratory School. This building on the lower campus could be easily converted into office space for the Extension Center and would provide very satisfactory space for conferences and institutes. The adjacent playground could provide parking space, and with the construction of new dormitories on the UMD Campus, the old but adequate Torrance Hall near the Laboratory School could be used for living and dining facilities. This has been suggested to the Provost, who was not unreceptive to the idea.

During the past year the Department of Off-Campus Classes conducted a refresher course for architects and a three-credit graduate level workshop for school principals.

The Director says that there is an unusually large registration of Correspondence Study people in Duluth and northeastern Minnesota. This Office monitors most of the examinations for these people.

During the past year, credit courses in General Psychology 1 and 2 and Geology 1 were conducted over Channel 8, the local ETV station. Examinations for these courses were given at our Office. The psychology courses, especially, were well supported, and the registrants were enthusiastic about them.

A seminar has been conducted each year, the one this year enrolling 25 in Humanities for Women. It was conducted by Dr. William Rosenthal, Chairman of the English Department at UMD. Plans are being formed for another of similar nature for the coming year.

Something new in the way of interinstitutional cooperation has been arranged for next year: At the request of the College of St. Scholastica, a day class in English 58-59, Shakespeare, will be held on the St. Scholastica Campus for two semesters. It will be taught by Dr. Lawrence Wright of the UMD English Department. This will be done through the Extension Division, which will receive the tuition from the college and will pay Dr. Wright. The six quarter credits of this course will be translated into four semester credits by St. Scholastica.

St. Paul General Extension Center—The St. Paul Center, located at Ninth and Exchange Streets in downtown St. Paul, is a self-contained unit with registration offices, counseling personnel, ten classrooms and an auditorium, and a student lounge and snack bar. Through evening and special classes, the St. Paul General Extension Center offers most of the lower division requirements for the Colleges of Liberal Arts, Engineering, and Business Administration. During the past year, the Center offered 98 different courses in 118 classes serving over 3,800 persons. The students attending classes at the Center come from the St. Paul metropolitan and suburban area and from as far away as Forest Lake, 50 miles north, and Red Wing, 70 miles to the south. In addition to the large evening class curriculum, the Center is involved in an expanding day program of conferences and seminars.

Off-Campus Classes

HAROLD J. ALFORD, *Director*

The Department of Off-Campus Classes is organized to identify and meet state-wide university-level continuing education needs. It is a service unit to other departments of the General Extension Division, channeling to them information about program needs which they can most appropriately meet and cooperating with them in the development and presentation of courses, conferences, and institutes which involve special administrative procedures. The goal of the Department is flexibility and creativity in developing a state-wide curriculum of credit and noncredit courses designed to meet the continuing education needs of the state's adult population. Through careful research and program design, utilizing electronic media, air travel, and combinations of classroom and correspondence techniques wherever appropriate, it seeks to provide academically effective instruction at times and locations most availa-

ble to the participating students. During the academic year 1964-65, 108 such courses were offered in 36 communities to 2,307 adults. In 1965-66, 108 courses were given in 59 communities to 2,408 adults; 83 faculty members participated.

The work of the Department may be divided into five categories: general off-campus classes, special classes, neighborhood seminars, closed-circuit TV classes, and graduate professional-improvement classes in cooperation with the Institute of Agriculture.

General Off-Campus Classes—Most general off-campus classes are organized in response to specific requests from individuals and organizations. They range from graduate credit courses for teachers and other professionals in outstate areas to noncredit general interest courses sponsored by community agencies such as libraries or schools. Approximately half of the offerings of the Department are in this category.

Special Classes—Special classes are those credit and noncredit offerings which require special administrative concern. They may be designed in response to an expressed community need or in response to a desire by an on-campus department to provide an experimental program. Special classes of particular interest during the biennium were a series of noncredit refresher courses for architects, a series of graduate credit courses for school administrators, and an experimental noncredit course presented for the entire Elementary School faculty of Red Wing, Minnesota, by a team from the University's Psycho-Educational Clinic on "Disturbed and Disturbing Children in the Classroom."

Neighborhood Seminars—These are noncredit courses specially designed to meet the requests of both informal and formal community groups. They may be on any subject and will be offered on a time schedule appropriate to the specific group in a location convenient to that group, whether in a private home or in a public building. More than 100 such seminars were developed and presented during the biennium. Subjects ranged from the history of religions to twentieth century political problems and from horticulture to the avant garde theatre. While neighborhood seminars have been gradually developing, mostly in the Twin Cities area in previous years, it is anticipated that in the future this type of program will be particularly useful in outstate areas. The total flexibility of the neighborhood seminar program makes it one of the most useful services of the Department.

Closed-Circuit Television—Ten courses for the general public were offered over closed-circuit television to Rochester during the 1964-65 academic year. This is a cooperative effort between the Rochester IBM Plant, the Rochester Community Evening College, the Department of Radio and Television, the Department of Off-Campus Classes, and the academic departments involved. The Department of Off-Campus Classes is responsible for planning the course offerings and supervising the registration details in cooperation with the Rochester Evening College.

In 1965-66, a master's program in mechanical engineering was started via closed-circuit television in cooperation with the Institute of Technology and the Department of Continuing Education in Engineering and Science. Joint registration in the Graduate School and the General Extension Division was undertaken for the first time in order to insure that all students participating were qualified graduate students. In addition, all students made a visit to the campus to meet faculty and consult with the advisers.

Another experiment, in connection with a graduate credit educational psychology course, involved the transfer of books from the University Library to Rochester Evening College Library for use by the Rochester students, and a time arrangement whereby the instructor not only presented the course live over television but also went to Rochester for four in-person discussion meetings with the class. In the judgment of both class and instructor, this combination of television and in-person meetings enriched the educational experience considerably.

Graduate Professional-Improvement Courses—In cooperation with the Institute of Agriculture, the Department of Off-Campus Classes sponsored gradu-

ate credit and noncredit courses in widely spaced localities throughout the state. These courses were the initial step in an experimental program seeking to determine the optimum method of serving professionals who, wishing to bring themselves up-to-date in their fields and to initiate graduate study, are not able at the present time to come to the campus for extended periods. Most significant in this program is the successful cooperative effort between the Institute of Agriculture and the General Extension Division, utilizing the total resources of the University to disseminate information state-wide.

In its first biennium of operation, the Department of Off-Campus Classes has sought to begin to define its purpose and areas of operation and to develop techniques and procedures which will enable it to provide the most effective service to the state and the General Extension Division in meeting the continuing educational needs of adults. While considerable progress has been made, a vast potential remains, and the future should see great expansion, experimentation, and consolidation and refinement of tested techniques.

Parent and Family Life Education

ELIZABETH F. PETERSON, *Coordinator*

The position of Coordinator of Parent and Family Life Education, full-time in 1965-66 for the first time, involves the following:

(1) Lectures and discussion meetings. The Coordinator gave about 80 lectures in the past year, the majority in the metropolitan area but a scattering of them from Moorhead, Thief River Falls, Aitkin, Tofte, and Duluth to Faribault and Rochester. Thirty-eight lectures were arranged to be given by other people—a staff member of the Family Study Center, a school psychologist, and a St. Paul obstetrician and gynecologist.

(2) A course in parenthood offered one quarter on the campus and the other two quarters in the suburbs to parents, teachers, doctors, nurses, social workers, clergymen, businessmen, and others.

(3) A series of institutes to train leaders (last year about 900) who return to their communities and arrange meetings which reach many thousands of people all over Minnesota: (a) four institutes for leaders in parent and family life education at the University of Minnesota in Minneapolis, at Moorhead and Mankato State Colleges, and in Virginia, Minnesota; (b) an institute in discussion leadership; and (c) a sex education institute.

By early June, the Coordinator's calendar for speaking engagements for the following school year was completely filled. If more staff were available, the program could grow so it could come closer to meeting an expressed need.

Radio and Television Broadcasting

BURTON PAULU, *Director*

The Department of Radio and Television is responsible for three types of activities: Radio Station KUOM, broadcast television, and closed-circuit television.

Radio Station KUOM—The station's major services include lecture and discussion programs, news broadcasts, programs for in-school use, fine music, and general informational and cultural offerings.

Each quarter, KUOM broadcasts some lectures direct from the classroom. An example was "Humanities in the Modern World," broadcast from October 1965 through June 1966 by Professor Robert L. Scott of the Speech Department and Humanities Program. Listener acceptance was indicated by the receipt of 195 requests for the reading list and study guide during the Fall Quarter, 255 during the Winter Quarter, and nearly 300 during the spring.

During 1964-66, over 500 talks and discussions were presented on the daily Public Affairs Forum. In a normal week approximately 45 calls, cards, let-

ters, and other comments are received relative to these programs. A 36-program, in-depth examination of the 1965 term of the Minnesota State Legislature brought listeners the most thorough analysis of legislative issues presented by any Minnesota station during the year.

Another virtually unique KUOM service is the Minnesota School of the Air, which during the biennium marked its 25th and 26th years. Approximately a dozen 15-minute programs were presented each week during the school year for use in schools. We can conservatively estimate that the Minnesota School of the Air reaches at least 50,000 children each week.

With the major portion of the station's output devoted to music, we were glad to note the return of the Minneapolis Symphony Orchestra to KUOM after an absence of six years. A new agreement between the Minnesota Orchestral Association, the Minneapolis Musicians Association, and Radio Stations KQRS and KUOM resulted in KUOM's serving as the agent to record nine complete Friday evening subscription concerts in 1965-66. These were edited and distributed by KQRS to some 20 stations in Minnesota and were broadcast in their entirety over KUOM during the summer of 1966.

Broadcast Television—During 1964-66, the University Television Hour was broadcast on KTCA-TV five evenings each week between 9:00 and 10:00 p.m. Programs were cultural and educational in nature. Audience interest was manifested by requests for supplementary materials ranging from a few to several hundred for most series, up to a high of over 3,000 for one on skiing.

The University began a three-year Television College credit course experiment in September 1964, to extend the resources of the campus to individuals finding it impossible to attend regular classes. It was hoped to offer a partial solution to the problem of space and numbers without compromising educational quality. In 1964-65, nine courses were selected from the basic freshman curricula at the University, of which about half were video tapes of day-school closed-circuit instruction. In 1965-66, 25 courses were offered. Enrollees were expected to view two televised lectures per week and to attend one class meeting at a local study center.

During the first year, 590 people accounted for 598 course enrollments, of which 528 were completed. During the second year, 692 people accounted for 979 course enrollments, of which 884 were completed. Psychology, the only offering without study centers, provided approximately half the year's enrollment. Several studies of the project have been made by the Bureau of Institutional Research.

Findings led to the decision to continue the College experimentally for a third year, but without the study centers—which proved unattractive to prospective viewers—and with fewer courses. It was further decided to de-emphasize service to the freshman-age group, in favor of the middle-aged group that formed the majority of registrants.

Closed-Circuit Television—Closed-circuit television plays an increasingly significant role in the University's instructional activities. During 1964-65, closed-circuit television was used in the teaching of 66 courses, in which the total registration was 22,915. In 1965-66, 89 courses were involved, with total registration of 32,227. During an average week of the regular academic year, the total output is about 50 hours of live and 100 hours of videotaped instruction, for a total of 150 hours. The Department of Radio and Television, therefore, is responsible for more live television production than any other television station in Minnesota. We have one of the largest closed-circuit television activities in the entire country.

Only two of these course sequences (Psychology 1-2 and History 115-116-117) used closed-circuit television for total course instruction. Typically, television was employed for the lecture portions of courses, with students also receiving face-to-face instruction in recitation, quiz, or laboratory sections.

Beginning in the winter of 1964, arrangements were made to teach some engineering classes in the IBM Building in Rochester by closed-circuit television from the University in Minneapolis, with financial assistance from IBM. During the first year of the biennium, this was done from Eddy Hall; after 1966, from 309 Aeronautical Engineering.

During the Winter Quarter of 1966, two courses, General College 30A (Reading and Vocabulary Building) and Anthropology 2A (Introduction to Cultural Anthropology), were transmitted to the two metropolitan area junior colleges as a part of the University's study of interinstitutional uses of television.

During the Spring Quarter of 1966, a second transmission line to the St. Paul Campus was added to meet the increased demand for CCTV course offerings on that campus.

A large screen television projector was installed in Northrop Auditorium in September 1965 for use in the closed-circuit television teaching of large classes in Psychology 1 and 2. Three more classrooms in Ford Hall and one in the Science Building likewise were equipped for television reception, and one additional television tape recorder was installed, bringing to five the number of record and/or playback units in the Department.

In cooperation with IBM in Rochester, a classroom studio was equipped in the Aeronautical Engineering Building. Further, plans were prepared and equipment ordered for minimum closed-circuit television systems on the Duluth and Morris Campuses.

An addition to Eddy Hall was constructed to provide two television studios and also make available additional office and work areas. Installation is currently under way, with completion set for early fall 1966.

A mobile television cruiser has been obtained and the installation of television cameras, control equipment, and television tape recorder is under way. This will make television recording possible at any University campus, experiment station, or laboratory. Completion of the installation is tentatively set for early fall 1966.

Research

CLARA KANUN, *Director*

The Department has undertaken a variety of research projects designed to provide information about the continuing education needs of Minnesota's adult population, the characteristics of adults presently participating in the various Extension Division activities, and the effectiveness of these activities in meeting the needs of the University's constituency. In addition, through publication of research study findings, the Division is undertaking to disseminate to the University faculty and to the general public knowledge about continuing education needs, activities, and participants.

General Extension Division research activities may be classified in four categories: (1) general background studies; (2) specific studies related to program and course planning; (3) specific studies related to program and course evaluation; (4) information services for the various departments of the Division.

Most significant of the general background studies during the biennium were the University of Minnesota Evening Class student inventory and a survey of conference, institute, workshop, and short-course activities of the state's several institutions of higher learning.

The evening class student inventory involved the administration and analysis of a detailed questionnaire filled out by the total evening class student population during the 1964-65 academic year. Results of this study are published in the General Extension Division Research Report No. 1. A companion study of Duluth evening students is contained in Research Report No. 2.

The conference and institute survey was undertaken as part of the State Higher Education Liaison Committee's effort to compile an inventory of continuing education activities in the state of Minnesota. Preparation and circulation of the detailed questionnaire were undertaken in cooperation with the University's Bureau of Institutional Research, and findings were made available to the Liaison and Facilities Commission for Higher Education.

Specific studies related to program and course planning have been initiated in connection with the Department of Continuing Education in Science and Technology and the Department of Off-Campus Classes. One study relates to the identification of audience, needs, and potential teaching resources in

Twin Cities industries, and the other relates to the same factors as part of a community survey in Rochester, Minnesota.

Specific studies relating to program and course evaluation were undertaken in connection with the Architecture Refresher Course of the Department of Off-Campus Classes and the College Anticipation Summer Program held at the downtown St. Paul Center of the General Extension Division during the summer. The evaluation of an experimental program was made possible when the Graduate Professional Improvement Program in Agriculture was expanded in 1965-66.

In developing the record-keeping function of the Research Department as an adjunct to the administrative activities, the historical problem of bringing General Extension Division records up-to-date with the system used for day school students is being actively explored. The research program makes more vivid the need for automating these records and also makes possible a more rational and informed consideration of the entire matter.

State Organization Service

WILLIAM C. ROGERS, *Director*

The State Organization Service provides clerical and administrative services for its member Minnesota state voluntary associations. By assisting these organizations in the administration and management of their affairs, the Service releases time of state leaders for carrying on the substantive educational work of their organizations. Although the Service in no way seeks to influence the policies and purpose of any of the groups it serves, it does make available to its members the latest information and techniques used in successful organizations. The Service began with four organizations; today it has 39 members.

The State Organization Service has served as a research laboratory for some studies. An inventory-directory of over 300 Minnesota voluntary associations is kept up-to-date and is available for educational purposes. More and more of the attention of the Service is now being turned to problems of the metropolitan community.

World Affairs Center

WILLIAM C. ROGERS, *Director*

The World Affairs Center develops special programs in world affairs and serves as a clearinghouse of information for its 30 voluntary member organizations and other interested public. Its work is divided into four principal areas: conferences and lecture series, research, publications, and continuing programs.

Conferences and lecture series included the following, among others: A series of three Minnesota-Dakota Assemblies, held in Moorhead, was cosponsored by universities in North Dakota, South Dakota, and Minnesota, Moorhead State College, and the American Assembly. Titles of the series were "The Population Dilemma," "The United States and Canada," and "Japan." The three-day invitational Assemblies, attended by opinion leaders in the area, were each made possible by \$5,000 grants from the Hill Family Foundation.

Two series of one-day symposia were conducted in cooperation with the Agricultural Extension Service. Each was also cosponsored by host institutions of higher education in the communities in which they were held. The first series, "U.S. Policy Toward Communist Eastern Europe," was given in Moorhead, Morris, and Mankato; the second, "DeGaulle and France: Challenge for America," was given in Duluth, Grand Rapids, and Bemidji. Speakers at all the meetings, in addition to World Affairs Center staff, included representatives of the Departments of State, Agriculture, and Defense.

In each year of the biennium, 40 gifted high school seniors selected from public, private, and parochial schools attended a lecture-discussion series financed by a \$2,000 grant from the Leadership and World Society of New

York. Speakers presented in the first series, entitled "Twenty Years of the United Nations," included Harold Stassen, former Governor of Minnesota, and Harlan Cleveland, now U.S. Ambassador to the North Atlantic Treaty Organization. The second series was on Human Rights and World Law and had support also from the Pierce Butler Foundation of St. Paul.

The Center cooperated with five other universities in the Eighth Midwest University Seminar on U.S. Policy Towards Latin America, supported by the Johnson Foundation, Racine, Wisconsin.

A Minnesota Conference on Communist China drew opinion leaders from all over the state. The three-day residential meeting was partially supported by the Office of International Programs and the Cargill Foundation of Minneapolis. Faculty included authorities from Australia, England, Sweden, and the United States.

Research projects completed or in process include "A Comparative Study of Informed Opinion and General Public Opinion in Minnesota on Selected Issues of U.S. Foreign Policy," published as Research Report No. 3 of the Division and accepted by *Public Opinion Quarterly*; "A World Affairs Interest Questionnaire;" and "Knowledgeables and Influentials."

The regular continuing programs of the Center include advising on speakers and audio-visual aids and the operation of a Pamphlet Shop. The staff is called upon frequently to speak, to participate in radio and television programs, to teach, and to consult with voluntary or governmental organizations. A weekly television program on world affairs was planned and conducted during the biennium. A current list of Minnesotans competent to speak on various world affairs subjects was prepared, and a continuing telephone answering service with facts about world affairs is maintained.

The expectations of the Minnesota community for programs initiated by the World Affairs Center become greater with each succeeding year. This is true in all sections of the state and with all segments of the population. A larger staff would, of course, enable us not only to respond more effectively to the demand but to initiate and innovate programs and techniques to enlarge the opportunities for continuing education in world affairs.

The interests of secondary school teachers in substantive and methodological assistance have now reached the point where a full-time professional liaison staff member to work with the schools is probably our most immediate need.

GRADUATE SCHOOL

BRYCE CRAWFORD, JR., *Dean*

Enrollment and Degrees Granted—The total number of graduate students in residence continued to rise in the years 1964-65 and 1965-66. Total enrollment rose from 9,253 in 1963-64 to 9,817 in 1964-65, an increase of 6.1 percent and from 9,817 in 1964-65 to 10,416 in 1965-66, a further rise of 6.1 percent. These totals include graduate students enrolled in the Mayo Graduate School

TABLE I—GRADUATE SCHOOL STUDENTS IN RESIDENCE DURING THE YEARS 1964-65 AND 1965-66

Classification	1964-65			1965-66		
	Men	Women	Total	Men	Women	Total
Fall, Winter, and/or Spring	4579	1062	5641	4835	1211	6046
Summer Session only	1188	660	1843	1103	680	1783
Both Fall, Winter, Spring, and Summer Session	1299	370	1669	1406	469	1875
Mayo Graduate School of Medicine (formerly Mayo Foundation) ..	637	22	659	690	22	712
Totals	7703	2114	9817	8034	2382	10416
Totals, Academic Year (exclusive of Mayo)	5878	1432	7310	6241	1680	7921
Total Individuals in Two Summer Terms (exclusive of Mayo) ..	2487	1030	3517	2509	1149	3658

of Medicine. The number of Mayo students enrolled fell from 730 in 1963-64 to 659 in 1964-65, then rose to 712 in 1965-66. Enrollments in the regular academic year (Fall, Winter, and Spring Quarters), excluding Mayo, rose by 8.0 percent from 1963-64 to 1964-65, and by 8.3 percent from 1964-65 to 1965-66. Summer Sessions only enrollment (less duplicates, and excluding Mayo) rose by 1.6 percent from 1963-64 to 1964-65, and by 4.0 percent from 1964-65 to 1965-66.

TABLE II—DEGREES SOUGHT AND OBTAINED BY STUDENTS REGISTERED IN THE GRADUATE SCHOOL

1964-65

	No Degree		Master's Degrees		Ph.D. Degrees		Total Degrees	
	Sought	Obtained	Sought	Obtained	Sought	Obtained	Sought	Obtained
Agricultural Science	10	310	46	246	66	556	112	
Rochester Campus		1				1		
Biological Science	16	72	13	48	11	120	24	
Education	203	1968 ^a	290 ^b	538	59	2506	349	
Duluth Campus	30	174	19			174	19	
Rochester Campus		1				1		
Language, Literature, Art Twin Cities Campuses	25	546	83	220	24	766	107	
Duluth Campus		13				13		
Medical Science	75	597	43	219	37	816	80	
Rochester Campus	4	628	54	10		638	54	
Physical Science	27	1042	193	481	98	1523	291	
Duluth Campus		1				1		
Social Science	36	1487	239	465	54	1952	293	
Duluth Campus		2				2		
Other	12	166	29	129	17	295	46	
Rochester Campus		15	3			15	3	
Twin Cities Total	404	6188	936	2346	366	8534	1302	
Duluth Total	30	190	19			190	19	
Rochester Total	4	645	57	10		655	57	
GRAND TOTAL	438	7023	1012	2356	366	9379	1378	

1965-66

	No Degree		Master's Degrees		Ph.D. Degrees		Total Degrees	
	Sought	Obtained	Sought	Obtained	Sought	Obtained	Sought	Obtained
Agricultural Science	17	348	56	199	45	547	101	
Rochester Campus		1				1		
Biological Science	19	83	14	48	5	131	19	
Education	242	1940 ^c	335 ^d	540	78	2480	413	
Duluth Campus	23	185	29			185	29	
Rochester Campus		1				1		
Language, Literature, Art Twin Cities Campuses	30	599	70	226	25	825	95	
Duluth Campus		14	1			14	1	
Medical Science	59	675	55	182	34	857	89	
Rochester Campus	3	677	43	13	7	690	50	
Physical Science	28	1182	210	466	100	1648	310	
Duluth Campus		2				2		
Social Science	44	1704	282	451	72	2155	354	
Duluth Campus	1	13				13		
Other	10	220	43	153	27	373	70	
Rochester Campus		17	1			17	1	
Twin Cities Total	449	6751	1065	2265	386	9016	1451	
Duluth Total	24	215	30			215	30	
Rochester Total	3	696	44	13	7	709	51	
GRAND TOTAL	476	7662	1139	2278	393	9940	1532	

^a Included are 50 students seeking the certificate of Specialist in Education.

^b Included are 6 students who received the certificate of Specialist in Education.

^c Included are 45 students seeking the certificate of Specialist in Education.

^d Included are 15 students who received the certificate of Specialist in Education.

The number of master's degrees awarded rose by 10.3 percent from the 1962-64 biennium (1,951) to the 1964-66 biennium (2,151), and the number of Ph.D.'s awarded increased by 20.5 percent, from 630 to 759, over the same period. The total number of graduate degrees awarded by the Graduate School, in its history, reached 23,464 master's degrees and 6,508 Ph.D.'s. The 2,910 graduate degrees awarded in the 1964-66 biennium represent 9.7 percent of the total number granted since 1880. Table II shows the details of the number of students seeking graduate degrees and the number of degrees awarded for the 1964-66 biennium, by the broad areas into which the Graduate School is divided.

The geographic origins of the 1964-65 graduate students are shown in Table III. Fifty-eight percent are Minnesota residents, with 8½ percent from surrounding states, 21 percent from the rest of the United States, and a little

TABLE III—GEOGRAPHIC ORIGIN OF STUDENTS REGISTERED
IN THE GRADUATE SCHOOL

1964-65

	Minnesota Residents	Economic Area	Other United States	Foreign	Total
Agricultural Science	220	46	140	160	566
Rochester Campus			1		1
Biological Science	70	15	39	12	136
Education	1999	260	355	95	2709
Duluth Campus	174	17	13		204
Rochester	1				1
Language, Literature, and Arts	443	79	224	45	791
Duluth Campus	10	3			13
Medical Science	377	84	265	165	891
Rochester Campus	236	40	237	129	642
Physical Science	797	105	317	331	1550
Duluth Campus	1				1
Social Science	1229	149	341	269	1988
Duluth Campus	2				2
Other	131	26	106	44	307
Rochester Campus	8	2	5		15
Twin Cities Total	5266	764	1787	1121	8938
Duluth Total	187	20	13		220
Rochester Total	245	42	243	129	659
GRAND TOTAL	5698	826	2043	1250	9817

1965-66

	Minnesota Residents	Economic Area	Other United States	Foreign	Total
Agricultural Science	218	56	143	147	564
Rochester Campus			1		1
Biological Science	66	20	44	20	150
Education	1965	264	386	107	2722
Duluth Campus	188	12	7	1	208
Rochester Campus	1				1
Language, Literature, and Arts	469	86	250	50	855
Duluth Campus	12	2			14
Medical Science	416	86	259	155	916
Rochester Campus	250	47	266	130	693
Physical Science	835	112	348	361	1676
Duluth Campus	3				3
Social Science	1335	169	402	293	2199
Duluth Campus	14				14
Other	170	33	126	54	383
Rochester Campus	8	1	5	3	17
Twin Cities Total	5474	826	1958	1207	9465
Duluth Total	217	14	7	1	239
Rochester Total	259	48	272	133	712
GRAND TOTAL	5950	888	2237	1341	10416

less than 13 percent from abroad. This distribution has been quite constant in the recent past. Canada leads the list of foreign countries, in terms of the number of graduate students in residence at Minnesota, followed by China and India. These three countries, in 1965-66, accounted for 45 percent of the total number; the remainder originated from some 84 other foreign countries.

Educational Program Development—Growth and development in fields of knowledge, expansion of faculty capacity and interests, and growth in demand for trained personnel led to further increases in the number of fields of study for graduate degrees in 1964-66. Nine new majors were authorized for the master's degree, including two offered at Duluth. Six new fields were authorized to offer the Ph.D., and one new degree, Master of Architecture, was approved.

The "continuous registration" system for graduate students reaching formal candidacy for the Ph.D. by the completion of their preliminary oral examinations has now ended its fourth year of operation and is working smoothly. It seems to be accomplishing some of the goals set for it: the automatic continuing reminder to the student that he is presumed to be in the process of producing his dissertation, the stimulation to complete the requirements, and the continuing contact between the Graduate School and the student. Of those placed on the list of candidates at the initiation of this system four years ago, 69 percent have completed all requirements and have been awarded the Ph.D.

In the fall of 1964, thanks to the availability of high-speed data processing equipment in the Office of Admissions and Records and the cooperation of the programming and computing staff of that Office, the Graduate School was able to initiate a new academic reporting system which gives the graduate student and his adviser each quarter an up-to-date and complete record of the student's progress toward the degree being sought. This Quarterly Progress Report has been of great assistance to the graduate faculty and to the students and provides the basis for better administration of Graduate School routines and procedures.

The great increase in student numbers has placed increasing strains on the Graduate School staff and on the facilities which service these students and the faculty. Each graduate student's program is an individual program, worked out by the student and his adviser. The handling of the resulting records and files and the administration of the multitude of procedural steps by which the Group Committees and the Dean's office review and approve all aspects of the student's program for the sought-for degree, without losing sight of the student as an individual in the process, will be an increasing challenge to our organization and procedures in the future.

During the past biennium, the feasibility of a system of joint registration between the Graduate School and the General Extension Division was explored. More recently, an ad hoc committee met to consider recommendations by the General Extension Division. Reports have been submitted to the Graduate Group Committees and discussed by the Executive Committee. Joint registration will be in effect in the fall of 1966. Basically, joint registration will allow a student who has been admitted to the Graduate School in the regular manner to take a limited number of credits through General Extension classes. Departments can decide about the feasibility of offering extension courses to be taught by the graduate faculty as a part of their regular teaching assignment or under other arrangements. Courses offered under joint registration will be reviewed by the appropriate Group Committees. Transfer of credit will be limited to allow a period in which the system can be evaluated. It is possible that a complete program, such as the mechanical engineering program at Rochester, can be set up and offered through the vehicle of the General Extension Division. This program, also offered in day school, is transmitted by two-way closed-circuit TV at Rochester.

Graduate Fellowships—Table IV indicates the number of fellowships granted graduate students through the Graduate School during the biennium. Many other fellowships are available through departments. The table includes only those grants administered by the Graduate School.

The most notable increase in fellowships came under the NDEA IV Graduate Fellowship program. Grants have been made to students in education as well as in most social science and humanities fields. Approximately two-thirds of the fellowships are in these areas, while the remainder are given for study in the sciences and engineering. The expansion of fellowship support under this program is indicative of the desire of the U.S. Office of Education to increase the number of well-trained college teachers in the nation.

The inauguration of a Traineeship program and the gradual elimination of the Cooperative Fellowship program are the latest developments in the National Science Foundation program. Under the Traineeship program, a number of grants have been allotted to the University, which has been authorized to appoint graduate students to receive these awards. Originally restricted to the engineering fields, the Traineeship program is expanding into the natural, physical, and social sciences. The Cooperative Fellowship program, which was administered jointly by the Foundation and the University, is being discontinued. The 1965-66 year marked the last year during which a substantial number of fellows received support through this program.

The number of fellowships offered by University controlled funds has remained small. A great need still exists for grants which are unrestricted as to field or which can be used in the social sciences and humanities. Many of the Graduate School Fellowships listed in the table are small grants of \$250 to \$500 and need supplementation. The typical external fellowships carried a stipend of \$2,000 to \$3,000 for a year of graduate study.

TABLE IV—GRADUATE STUDENT FELLOWSHIPS AND GRANTS
AWARDED IN 1964-65 AND 1965-66

	1964-65	1965-66
From funds controlled by outside sources:		
National Science Foundation		
Cooperative	28	16
Graduate	7	13
Traineeships	32	56
Summer	30	14
Science Faculty (pre- and post-doctoral)	7	3
National Defense Education Act		
Title IV	18	68
Title VI	2	4
National Aeronautics and Space Administration Traineeships	40	45
National Institutes of Health Predoctoral Fellowships	23	30
Fulbright Awards	5	11
Woodrow Wilson Fellowships	4	6
Danforth Fellowships	5	5
Totals, externally controlled funds	201	271
From University controlled funds		
Graduate School Fellowships	25	30
Peace Corps Scholarships	5	2
*Graduate School Special Grants	20	24
Totals, University controlled funds	50	55

* Small grants for dissertation expenses.

Special Visitors—During the biennium 1964-65, 26 visiting scholars were awarded honorary fellowships. In addition to the 8 fellows from the United States, Africa was represented by 1, Asia by 5, Australia by 1, Europe by 9, and South America by 2. Their areas of study included 18 fields of specialization in the Graduate School.

Special Programs—There are a number of special areas or programs under the Graduate School.

Cedar Creek Natural History Area—This unique 4,700-acre tract preserves outstanding plant and animal associations, provides a base for research by ecologists of the Minnesota Academy of Science as well as the University of Minnesota, and serves as a site for field studies by classes of many col-

leges. Major research projects involving studies of animal movements by radio-telemetry techniques, behavior of breeding waterfowl, energy pathways in forest detritus, and studies of properties of the ionosphere were carried out. To accommodate research workers, the laboratory space was enlarged. Purchase of nearly four hundred acres to consolidate boundaries and protect the lakes in the area was completed during the biennium.

Lake Itasca Forestry and Biological Station—Major additions to this facility were made possible by a National Science Foundation grant and the State of Minnesota Legislature to allow for development of year-round research activities. The new Aquatics-Library Building provides two large laboratories, a library, and a special room for research workers as well. The building is winterized, and, with three new cabins also built for northern Minnesota climate, makes an outstanding base for studies by field ecologists. The research program is expanding with support from the National Science Foundation and the Minnesota Agricultural Experiment Station.

Educational programs have also been increasing, with two five-week Biology Sessions and a third Forestry Session being scheduled for 1966. An outstanding faculty for graduate courses has been recruited not only from Minnesota but also from other universities. The programs are fully subscribed to by students from many parts of the country.

Dight Institute—One of the major achievements of the Dight Institute to date is the work on the genetics of mental retardation. The results of the research during 16 years were summarized by Drs. Elizabeth W. Reed and S. C. Reed in a 719-page book entitled *Mental Retardation: A Family Study*, published in 1965 by the W. B. Saunders Company. This book appeared at a propitious time and introduced a new dimension into the thinking of the state planning councils on mental retardation.

The second edition of Dr. S. C. Reed's *Counseling in Medical Genetics* came out in paperback with the title *Parenthood and Heredity* in 1964. The various English and foreign language versions of this work have reached thousands of physicians and others around the world.

The Dight Institute is only indirectly concerned with academic instruction but offers research and training facilities, though no course work, to graduate students. A generous grant from the National Institute of Mental Health to the Dight Institute has initiated a training program in human behavior genetics which is being carried out with the cooperation of members of the Departments of Psychology and Psychiatry.

Toward the end of the 1964-66 biennium, the administrative responsibilities for the Dight Institute were transferred to the new College of Biological Sciences, but the Dean of the Graduate School will continue to chair the Institute's Advisory Board, and the Institute will continue its close relationship to the Graduate School.

The Hormel Institute—The Institute, located in Austin, Minnesota, and operating directly under the Graduate School of the University as a research unit in areas of biological science, has continued and expanded its program of research in the chemistry and biochemistry of fatty acids and other lipids. Having previously attained recognition throughout the world for various contributions in these areas, it has attained, during the past biennium, additional recognition for its contributions to analytical and preparative methodology for use with various lipids and cardiovascular disease. The Hormel Foundation continues to provide basic support for the Institute's research activities, and substantial support is provided also by various other agencies, particularly the National Institutes of Health. The Institute is under the general supervision of a board of five members recommended by the President of the University and approved by the Board of Regents. Institute staff numbers approximately 90, two-thirds of whom are professional. In 1965, seventy-four scientific papers were published or accepted for publication as a result of staff research efforts. The personnel and facilities of the Hormel Institute enable it to render services in fundamental and applied research in cooperation with industry, governmental agencies, and foundations and associations that operate in the public interest.

Water Resources Research Center—On September 1, 1964, a Water Resources Research Center was established in the Graduate School as an interdisciplinary component of the University. The Center has the responsibility for unifying and stimulating University water resources research through the administration of funds covered in the Federal Water Resources Research Act of 1964 and made available by other sources; coordinating University research with water resources programs of local, state, and federal agencies, and private organizations throughout the state; and assisting in training additional scientists for work in the field of water resources through research. The Director of the Center is W. C. Walton, Professor of Geology and Geophysics. The fiscal year 1965 and 1966 budgets of the Center were \$82,297 and \$149,870, respectively. Most of the funds were provided by the U.S. Department of the Interior. The Center is sponsoring with these funds fourteen research projects involving the physical and biological sciences. Principal investigators are faculty members in nine departments of the University.

Mayo Graduate School of Medicine—The Mayo Foundation for Medical Education and Research was renamed by the Board of Regents in 1964 the Mayo Graduate School of Medicine, continuing its role in graduate medical education as part of the University of Minnesota Graduate School. The total number of graduate students in 1966 exceeds 700, most of whom are in residency training in clinical specialties. The quality of the educational program is under constant review by the Medical Graduate Committee in Rochester, since it is only by maintenance of high standards that promising applicants are attracted from many parts of the country. A recent medical manpower survey showed that 682 physicians who had training at the Mayo Graduate School of Medicine now reside in Minnesota, and that 566 of these had attended medical schools outside of Minnesota. Of these 682 physicians, 387 are currently on the staff of the Mayo Clinic and the Graduate School, and 233 are located in other cities and towns in Minnesota. This demonstrates how opportunities for higher education may attract talented young people to the region, many of whom remain.

Financial Support of Education—The educational program of the Mayo Graduate School is supported by the Mayo Foundation, Rochester, in the amount of \$3,000,000 annually. In addition, approximately \$500,000 per year is awarded in training grants by outside agencies such as the National Institutes of Health, the American Heart Association, and other voluntary health agencies. Earnings from the endowment funds given by Dr. William J. Mayo and Dr. Charles H. Mayo provide about \$200,000 per year to support education primarily in the basic sciences.

Medical Student Programs—Periods of elective study for medical students continue to attract an increasing number of applicants. In the past year, more than 83 students from 42 medical schools spent two to six months in elective study at Rochester in either a clinical or basic field. This represents a more than twofold increase in students from as far east as Massachusetts, as far west as California and Washington, and as far south as Texas and Florida. They have chosen to take usually two but sometimes five or more months of elective study away from their home campuses to broaden their professional education. The number of medical students in the Mayo Graduate School at any given time of this year-round program varied from eight in the Winter Quarter to 50 in the Summer Quarter.

University of Minnesota Medical School Comprehensive Clinic Program—Twelve senior students during the 1966-67 academic year are fulfilling their comprehensive clinic program in Rochester rather than in Minneapolis in a cooperative venture by the faculties of the Medical School and the Mayo Graduate School of Medicine. The program includes two quarters of the four-quarter senior year.

Graduate School Research Funds—A summary of the appropriations made from research funds managed by the Graduate School is given in Table V.

These funds are used for the support of research and scholarly activities of the faculty. Application may be made by any faculty member for funds

TABLE V—GRADUATE SCHOOL RESEARCH FUNDS

	Appropriations		Number of Grants Made	
	1964-65	1965-66	1964-65	1965-66
General Research	\$125,000	\$130,000	48	50
Overhead Reserve Research	110,000	125,000	47	38
Medical and Cancer Research	95,000	100,000	71	83
Minnesota Institute of Research	37,000	37,000	16	18
Nonmedical Research	31,000	21,000	61	42
Totals	\$398,000	\$423,000	243	231

to support graduate research assistants to be used on the project, for necessary equipment, or for other expenses. Applications are reviewed by the General Research Advisory Committee, and recommendations are made to the Graduate Dean concerning grants to be made from these funds.

Most of the grants are relatively small, averaging less than \$2,000, and could generally be characterized as "seed-money" grants to explore new research areas or run pilot studies of some research problems. Many of these projects develop into larger or continuing projects which can turn, at that point, to external financial support.

One very valuable program supported from these funds is the Faculty Summer Research appointments. Nineteen such appointments were made in 1965, and the number was increased to 35 for the summer of 1966. The range of projects under this Summer Research program covered the following fields: education, law, chemistry, English, psychology, mathematics, history, chemical engineering, political science, art, romance languages, library science, industrial relations, classics, German, mining and metallurgy, sociology, electrical engineering, science and mathematics (in Morris), social sciences (in Morris), anthropology, accounting, civil engineering and hydraulics, philosophy, music, geology, zoology, speech and theatre arts, botany, physics (in Duluth), economics, and social studies (in General College).

Graduate School Research Center—The Graduate School Research Center has continued in its role of providing the faculty with services which will facilitate their teaching and research activities. The Center acts as a source of information and application forms for various federal research and training programs. An attempt is made to keep a running record of applications for research support from external sources. In addition, the annual *Inventary of Faculty Research*, based on questionnaires to the faculty, was published each fall, with preparation of the 1965-66 edition now well advanced.

The two Advisory Councils, one for the Arts and Letters and one for the Social Sciences, continue to be active. The 1964-65 Guy Stanton Ford Lecturer, sponsored by the Arts and Letters Advisory Council, was Bernard Weinberg, Professor of French and Chairman of the Department of Romance Languages at the University of Chicago. In 1965-66, the Ford Lecturer was George M. A. Hanfmann, Professor of Art History at Harvard University and Curator of Art History at the Fogg Museum. Another Arts and Letters Council activity is the new Monograph series. The first volume, *Prose Styles*, by Huntington Brown, was published in March 1966. The second volume will be Avron Fleishman's *A Reading of "Mansfield Park,"* which is now in press and is expected to appear in the spring of 1967.

The Social Sciences Council produced two successful television series during the biennium. "Man vs. Time," which appeared in the spring of 1965, was published in 1966 as a paperback. The 1965-66 program, "In the Shadows of Affluence," was televised in the spring of 1966.

The Research Center functions as the research arm of the Graduate School (Dean's Office) and has been engaged in a variety of special studies of interest to the Graduate School and to the University.

Possible reorganization of the Research Center is now under discussion, with the aim of increasing its effectiveness in assisting faculty teaching and research activities and its role as an information and study center of research in the University.

Administration and Staff—The function of the Graduate School office is to serve graduate students and graduate faculty, providing focus and coordination and record-keeping facilities for their activities. With the ever-increasing number of graduate students, the number of personnel in the Graduate School office has necessarily increased, though by no means proportionately. We have continued to put considerable effort into the improvement of our procedures and of such mechanical details as the forms used in record-keeping, since these constitute either a help (if well designed) or a hindrance (if not) to the effective work of the graduate faculty. We are especially concerned that we provide sufficient office help to the members of the Group Committees of the graduate faculty, so that they can continue to provide effective review of each individual student's program and at the same time not be overwhelmed by the sheer volume of business. It is essential that we do so if we are to retain one of the greatest strengths of our Graduate School—namely, the direct participation of the graduate faculty as advisers, and through appropriate committees, in the guidance and counseling of each separate graduate student. We are therefore continually improving our procedures, adding to the amount of mechanical equipment used so that the actual results of the procedures will be not mechanical but thoughtful and individual.

BUREAU OF INSTITUTIONAL RESEARCH

JOHN E. STECKLEIN, *Director*

General Educational Research Unit—Perhaps the most ambitious study undertaken by the Bureau during the 1964-66 biennium was one of examination practices on the undergraduate level at the University. All faculty members who taught undergraduate courses were sent questionnaires in which they were asked to describe the kind of tests they gave and any other means they used to evaluate the students' work. Analysis of the data in this study is now being completed, and the final report should be available by January of 1967.

When tuition was raised, effective Fall Quarter 1965, students were much concerned with the effect this raise might have on their ability to attend college. They urged the administration to undertake a study of student financial needs. The request for such a study was forwarded to the Bureau, and, after approval of the Senate Committee on Institutional Research, a special subcommittee was established to define its scope and to assist in its design. A questionnaire survey of students is planned for next fall, and a report of this study is expected to be ready by spring of 1967.

The Bureau's long-term interest in studies of the faculty continued during the biennium. A pilot study was undertaken in which an attempt was made to assess quality characteristics of the faculty. However, it was determined that additional planning was necessary before a complete study could be made.

Several research studies were made for the TV College, an experimental program financed in part by a grant from the Hill Family Foundation and offered under the sponsorship of the General Extension Division. Characteristics of students enrolled Fall Term during 1964 and 1965 were examined, as well as the characteristics and attitudes of the noncredit viewers during Winter Quarter 1965. Another study was concerned with students who expressed an interest in the TV College but did not enroll, and, finally, a study was made of selected counselors in the Twin Cities area to find out how much they knew about the TV College and to what extent they considered it to be a real choice for a student desiring a college program.

During the biennium, several evaluative studies were made for departments of the University. One of the studies involved student reaction to the beginning biology courses taken via closed-circuit TV. A more recent study was made for the German Department comparing three methods of teaching Beginning German.

The second phase of the study of academic progress of student athletes was begun during the 1965-66 academic year. This study is based upon the

entering freshmen of 1962-63. Essentially, it is a replication of the earlier study in which athletes were compared with nonathletes on such things as rate of progress toward a degree, number of degrees conferred, probation status, and rate of drop-out. Since all of the data on the students will not be available until the end of the 1967-68 academic year, the study is not expected to be completed before spring 1969.

Administrative Research Unit—One of the most significant advances made during this biennium was the adaptation of the course inventory summary for computer analysis. Previously these data had been summarized by hand computation, involving many hours of clerical work. Now the summary reports are prepared from the same source data as the course inventory itself.

Several special studies were undertaken by the administrative unit at the request of central administration. One of these studies was a comparison of University salaries with those of other Big Ten Institutions and the University of California. High, low, and median salaries of selected departments were included in the comparison. Another of these special studies was the summarization of some measures of faculty output such as publications, advisees, and degrees awarded.

One of the ongoing research projects of the Bureau, which was continued during this biennium, was the annual enrollment survey. This survey has been done on an annual basis since 1954 in cooperation with the Minnesota Association of Colleges and has been widely used as a source of enrollment information.

Updating of the faculty information form, which was initiated by the Bureau during the preceding biennium, was done in June of 1965. Because of certain problems encountered in having data on faculty from two different academic years, and in order to have the most recent information available at the time of the preparation of the budget, it was decided to collect information on a calendar-year basis instead of an academic-year basis. The next updating will be done in December of 1966.

State-Wide and Regional Studies—Two of the members of the Bureau staff continued to serve on the research team of the Liaison Committee on Higher Education during the first year of the biennium. As such, they were involved in the preparation of the report for the Legislature and also in the development of the statistical supplement to this report. Even after the new Liaison Commission established by the Legislature in 1965 came into being, the staff continued to be involved in bringing new members of the Commission up to date on the work done by the Liaison Committee.

Early in 1965, the Bureau completed for the Midwestern Standing Committee on Higher Education of the Council of State Governments a study of mid-western enrollments for professional studies in five fields: medicine, dentistry, veterinary medicine, pharmacy, and forestry. This study was designed to provide background information for possible interstate agreements in professional programs.

The 1965 session of the Minnesota State Legislature voted \$150,000 to the University to conduct a state-wide study on the feasibility of the interinstitutional use of television in instruction. These monies were budgeted in the Bureau of Institutional Research. Although persons outside the Bureau were hired as project director and associate director, staff members were involved in the overall management of the project and particularly in the research associated with the action projects of the study. One of the projects, completed in 1966, involved a relationship between the University of Minnesota and the two campuses of the Twin Cities Junior Colleges at Central and Centennial. Two courses from the University, one in anthropology and the other in reading and vocabulary development, were sent by closed-circuit television from the University to classrooms in the two Junior Colleges. A second project, during the Spring Quarter of 1966, found Mankato State College supplying the tapes for a health course to Austin Junior College. The tapes were sent by mail and played back at the Junior College. It is expected that the research on these two projects will supply many of the an-

swers to questions concerning interinstitutional relationships in television instruction.

In the spring of 1966, Dr. Stecklein, in cooperation with the Directors of Institutional Research in several of the other Big Ten Institutions, developed a proposal for a postdoctoral internship program for institutional research workers. This proposal was approved by the Department of Health, Education, and Welfare, and will become operative in September of 1966, when one of the interns will start his program in the Bureau.

Other Activities—A series of seminars was held in cooperation with the Office of Admissions and Records, the Dean of Students' Office, and representatives of several academic units during the 1964-65 academic year. The purpose of these seminars was to acquaint as many persons as possible with the research which was being done concerning students.

Starting in the spring of 1965, the Bureau initiated *Capsule Reports*, a semi-annual publication which summarized some of the most important studies done during the year. Three issues were distributed during the biennium, devoted, respectively, to the following topics: (1) Enrollments in the TV College; (2) Focus on the Faculty; and (3) Survey of Undergraduate Examination Practices.

The Bureau has continued to administer student evaluation forms at the request of instructors. During the 1965-66 academic year, approximately 100 staff members availed themselves of this service.

During 1964-65, the sections of the Aliferis-Stecklein Music Test on Musical Knowledge and Auditory Analysis of Musical Selections were given a national administration in order to establish norms. This past year, two pilot administrations of the Score Analysis Test were given. A national administration of this section of the test will be given during the 1966-67 academic year.

As in the past biennium, members of the Bureau staff continued to carry major responsibility for advising and teaching in educational psychology courses in the areas of measurement and evaluation and for advising graduate students and assisting faculty in research design.

Bureau Personnel—The nucleus of the senior staff of the Bureau remained quite stable during the biennium. Two new research associates were appointed during 1965-66, Dr. Robert Fenske and Mr. Clarence Bagley. In January of 1966, when Dr. John E. Stecklein, Director of the Bureau, took a sabbatical leave, Dr. Earl N. Ringo became Acting Director.

Future Plans—In addition to completing studies now under way, as indicated in the previous paragraphs, the Bureau already has plans for future studies and activities. During the past year, the groundwork has been laid for the development of a Graduate Program for research focused on higher education. It is contemplated that this program will be developed within the present framework of academic majors. The Department of Educational Psychology has agreed to cooperate with the Bureau in the development of the first phase of this Graduate Program. It is intended that a proposal will be submitted to the U.S. Office of Health, Education, and Welfare to help support participants in this program on a fellowship basis. Pending approval of the proposal, the first fellows will be enrolled in September of 1967.

The Bureau has already begun to work with a subcommittee of the Senate Committee on Radio and Television, and with the Department of Radio and Television, in the development of a study of closed-circuit television. An attempt will be made to determine what effect closed-circuit offerings have had upon the University in terms of expenditures, effectiveness, and efficient use of space.

To date, the Bureau has had several opportunities to be of assistance to the Planning Office of the University. It is contemplated that the research activity related to planning will be greatly expanded during the next biennium in order to determine the form, direction, and amount of growth which will take place at the University between now and the year 2000.

OFFICE OF INTERNATIONAL PROGRAMS

WILLARD W. COCHRANE, *Dean*

Introduction—In the fall of 1963, the Office of International Programs was organized to guide, coordinate, and, where appropriate, administrate the international programs at the University. Dr. W. M. Myers was selected as the first Dean of the Office of International Programs, but unfortunately he resigned from that position in December 1964. The direction of the Office of International Programs was then taken over and ably performed by Professor Charles H. McLaughlin and an Executive Committee of the College Coordinators for International Programs. This interim arrangement lasted for six months, until the appointment of the present Dean, Dr. Willard W. Cochrane, in June 1965.

The Office of International Programs as an administrative unit works with, encourages, and assists departments and colleges in their work in the international field. Out of necessity, the Office must develop and maintain close working relationships with the many units concerned with international teaching, research, and service functions, and whenever necessary serve as a focusing agent for interdisciplinary and interdepartmental activities.

The missions of this Office, as they have emerged through directions of the central administration and from operating experience, are as follows:

- A. The provision of leadership, coordination, and planning in all aspects of international activities within the University.
- B. The general administration and policy guidance of overseas projects, with the aid and advice of the colleges and departments involved.
- C. The provision of policy guidance and administration of funds provided the University by state, federal, and private agencies for increasing the international capabilities of the University in research, instruction, and library and graduate training, with the consultation of the faculty, colleges, and departments.

The administrative staff of the Office of International Programs, which has the responsibility for carrying out these missions, consists of the Dean, who is responsible to the Vice-President for Academic Administration; an Associate Dean; an Assistant to the Dean for Administration; three half-time Coordinators for International Programs from the College of Liberal Arts, the College of Education, and the Institute of Agriculture; a Manager from the Chile-Argentina service programs; and a Manager from the Brazil service program.

An All-University Council on International Programs is formally appointed each year by the Vice-President for Academic Administration. The members of this Council are chosen to represent the major units of the University which contribute to international programs activities and to advise and assist the Dean in carrying out his responsibilities. An Executive Committee chosen from the Council consults frequently with the Dean in the intervals between general Council meetings.

To assist in furthering international programs, this Office is supported by eight faculty committees which offer advice and recommendations. These are committees on Asia; Latin America; Western Europe; Russia and Eastern Europe; Economic and Social Development; Intercultural Communications; Science, Technology, and Development; and International Relations. Through this committee structure, there is an excellent liaison between the Office of International Programs and the colleges and departments of the University.

Expansion of Campus-Based International Programs—At the time of printing the last Biennial Report (1962-64), many international activities were still in a proposal stage. However, many of these have now come to fruition, and significant new activities have developed both on campus and overseas.

The University was successful in securing a \$1,250,000 grant from the International Training and Research Division of the Ford Foundation for support of a five-year program of international development within the Univer-

sity. This grant was approved on September 30, 1964, and is being used for support of research, interdisciplinary seminars and workshops, the preparation of special materials, a contribution toward the salaries of new faculty in Asian and Latin American studies, support of international relations, cross-cultural and developmental studies, administrative services and library support, and free development funds.

(a) *Research Support*—The Office of International Programs initiated a small-grant program to assist faculty with their research and teaching. Invitations to submit proposals were extended to all faculty of academic rank (instructor or above), and as of April 1, 1966, 143 proposals for study and research had been received, of which 59 were funded. The Office is restricted in its use of these funds by the terms of the Ford Foundation grant and is able to support only those projects of study or research which clearly show relevance for the subject areas of international relations, intercultural communications, economic and social development, and Asian and Latin American area studies. In addition, the funds available for support of this small-grant program are limited, and it has been necessary for the Office, with the assistance of its faculty review committees, to develop a priority listing from which projects are selected for funding. The grants are for modest sums which, in many cases, supplement sabbatical or single-quarter leaves, Graduate School Research Grants, or other support.

The Office of International Programs has also allocated a portion of the funds of the Ford Foundation grant specifically for larger team research projects, since it is recognized that effective research in depth usually requires funding in larger amounts than those available to individuals under the small-grant program, particularly if the research is of an interdisciplinary nature. Team projects involving several disciplines in significant research, both in the United States and in foreign countries, have been funded and are identified as follows:

(1) *Interdisciplinary Project on Western Europe and Atlantic Relationships*—This study, conducted by Professors Robert H. Beck, Harold C. Deutsch, Philip M. Raup, Arnold M. Rose, and John G. Turnbull, will inquire into and analyze the background and character of contemporary developments from January 1963 in the social, educational, economic, political, and military situations, institutions, and policies in Western Europe, particularly in their broader relations to Atlantic affairs.

(2) *Cultural and Personality Variables Which Affect Face-to-Face Communication Between North Americans and Nationals of Other Countries in the Institutional Settings of Business and Education*—Although face-to-face communication between North Americans and citizens of other countries is admittedly imprecise and productive of misunderstandings, it has not been subjected to significant and systematic study. Professor William S. Howell, with the collaboration of senior staff members from the Departments of Anthropology, Sociology, and Speech, is conducting research which, it is hoped, will contribute to increased effectiveness of Americans overseas by furthering the knowledge of behavior patterns and personality traits which aid or obstruct this communication.

(3) *Occupation and Ecosystems: A Study of Occupational Role Adaptation*—In a period of accelerating rates of socio-cultural change, persons in all parts of the world are faced with increasingly complex occupational choices. Adjustment to change by persons in rural areas can take the form of (a) choice of traditional occupations, (b) development of new occupations, and (c) migration to urban centers. A series of hypotheses about choice of, and adjustment to, occupational roles in different ecological settings will be tested by Professors Luther P. Gerlach, Frank C. Miller, and Pertti J. Pelto through field research in Mexico.

(4) *Team Research Project on Communication Through Mass Media*—This project, submitted by the School of Journalism and Mass Communication, with Professor Raymond B. Nixon as Project Director and Professor Roy E. Carter as Associate Project Director, is intended to in-

investigate mass media use patterns, perceptions of media credibility, and personal modernization effects apparently related to media content and usage by dwellers in urban slums of two developing nations, one in Asia and one in Latin America.

(5) *Comparative Analysis of Political Modernization and Democratization*—Research will be conducted by Professors William H. Flanigan and Edwin Fogelman to investigate systematically, in historical depth, the patterns of relationships between social and economic conditions and the development of modern and democratic political systems. Of special concern will be the social and economic requisites of democratic regimes.

(b) *Faculty Seminars and Workshops*—A modest beginning has also been made in developing seminar programs. In March of 1965, the Office of International Programs arranged for the visit of Professor Fred W. Riggs, Director of the International Development Center at Indiana University, to discuss informally with a selected group of faculty members recent research in development theory. The strong interest shown signaled the need and desire for the subject of development in future seminars.

For the 1965-66 academic year, two seminar programs were held, one on the St. Paul Campus and the other on the Minneapolis Campus. The St. Paul Campus seminar held four sessions focused on the world's food supply with regard to our growing population, which is expected to double by the year 2000. Though we have the physical resources and much of the technical knowledge required to feed twice our present population, there is doubt as to whether we can find solutions to the many problems involved in expanding our food supply sufficiently within 35 years. These problems were explored by University faculty members and community leaders in the agricultural and food industries at the Minnesota Winter Seminars.

The Minneapolis Campus seminar held six sessions focused on economic development, and on the psychological, socio-cultural, political and legal, biophysical (medical and environmental), and technological factors which together comprise the components of the ecological system pertaining to human beings. The seminar series began with consideration of some major ways in which top economists view economic development and continued with a study of the role of noneconomic variables in such development presented by specialists in psychology, sociology, anthropology, political science, law, physiology, geography, and technology.

(c) *Faculty Expansion*—Within a short time after the Ford Foundation grant was announced, financial support was authorized for the positions of: East Asian Library Curator (Library); Assistant to the East Asian Library Curator (Library); Assistant Professor in East Asian Government and Politics (College of Liberal Arts, Department of Political Science); Professor in Asian Geography (College of Liberal Arts, Department of Geography); Assistant Professor of Oriental Languages (College of Liberal Arts, Department of East and South Asian Languages); Professor in Latin American History (College of Liberal Arts, Department of History); and Instructor in Portuguese (College of Liberal Arts, Department of Romance Languages).

Subsequent efforts during the academic year 1965-66 were directed toward determining additional positions to be supported in the fields of international relations, cross-cultural studies, development studies, and Asian and Latin American area studies. Seven new professorships were authorized in the following fields: Latin American Rural Sociology (College of Liberal Arts, Department of Sociology); Development Administration (College of Liberal Arts, Public Administration Center); Cross-Cultural Communication (College of Liberal Arts, Department of Speech and Theatre Arts); International Marketing (School of Business Administration, Department of Marketing and Business Law); Agricultural Development Economics/Asian Emphasis (Institute of Agriculture, Department of Agricultural Economics); International Veterinary Science (College of Veterinary Medicine); and Education in Development/Economics Emphasis (College of Education).

The positions noted here have exhausted all grant funds available for faculty expansion. It was not expected that this initial Ford Foundation

grant could provide a full and integrated program of faculty expansion for the University in any of the subject or geographic areas of emphasis; at best, it could only enable departments to fill their most pressing needs in international areas.

(d) *Library Support*—The University of Minnesota has, on the whole, an excellent library collection and is actively seeking to build upon the existing strength of international and foreign area holdings. It has been decided that the best use of the Ford Foundation funds available for library support is to help build the East Asian Library to the minimum level of 100,000 volumes. This number of volumes would support Ph.D. programs in disciplines concerned with East Asia. About 50% of the funds will be used for this purpose. The remaining funds are being used to purchase expensive research sets, not ordinarily available from regular support funds, for other areas of need, especially South and Southeast Asian studies, including the Indian subcontinent, Latin American studies, and international relations (general).

Expansion of Overseas International Programs—In 1964, the Office of International Programs completed negotiations with the International Programs Division of the Ford Foundation for two three-year grants to provide assistance for programs in Chile and one two-year grant for a program in Argentina.

(a) *The University of Concepción, Concepción, Chile*—The largest grant (totaling \$782,600) is for development of higher education at the University of Concepción, Concepción, Chile. This assistance is to focus initially on reorganization of the overall academic program of the University of Concepción, including development of the social sciences and humanities, the establishment of a university-wide first year program for the students, and the institution of a central library and library services.

The University of Concepción offers unusual promise of becoming a well-organized, modern institution of higher learning. Located less than 200 miles from Santiago, Chile's capital city, it maintains a centralized campus with a majority of its students and faculty working full-time. The officials of the University have committed their efforts to a long-term reorganization of the institution, which will de-emphasize the traditional independence of the professional schools and provide a more liberal and cultural cast to the general education of the students.

The former Rector, David Stitchkin B., developed the reorganization plan in consultation with a U.N. educational adviser, and the current Rector, Ignacio Gonzalez G., is firmly dedicated to the continuation of this program. A number of Central Institutes in the basic disciplines of the natural and social sciences were created to provide service courses to the professional schools as well as to develop major curricular programs for specialists in these disciplines. Four of these Central Institutes, Biology, Chemistry, Physics, and Mathematics, were established with the assistance of the Ford Foundation in the early 1960's. The current University of Minnesota-Ford Foundation program is organized to support these efforts. The University of Minnesota is focusing its attention on three principal areas of development during the term of the present grant: (1) continued support of the basic academic programs by the upgrading of Concepción faculty with scholarship assistance for advanced study abroad and by the creation of Central Institutes for the social sciences and humanities; (2) support of administrative reorganization, including the institution of a new basic-year program for all entering students; and (3) support of library services, emphasizing the creation of a centralized library collection and cataloguing services.

Four University of Minnesota faculty members have served as short-term consultants in various aspects of the program during the past year. At present there are two visiting professors from the University of Minnesota in Concepción: Professor E. W. McDiarmid, who replaced Dean Francis M. Boddy as Chief of Party and Academic Adviser to the Rector, and Professor James Kingsley, Jr., who is serving as Acting Director of the University of Concepción Library and consultant on library programs.

One of the principal features of the University of Minnesota-Ford Foundation agreement is the provision of funds for scholarship assistance to the faculty of the University of Concepción for advanced study abroad. A dozen Concepción faculty members have taken advantage of this opportunity for study in their particular disciplines at the University of Minnesota and elsewhere. Several University of Concepción faculty members have already completed their studies and have returned to Chile.

(b) *Agricultural Production Education—Chile*—The second three-year grant (totaling \$518,100) is for assistance in agricultural production education and provides for University staff to assist the Government of Chile and Chilean universities in the development of agricultural extension activities. By working primarily with the Institute of Agricultural Research, a quasi-autonomous institute of the Chilean Government, the University of Minnesota staff is helping develop education and training programs in Santiago and in several experiment stations throughout Chile.

Minnesota activities in an agriculture program in Chile were initiated in December 1964, when a study team from the University of Minnesota visited Chile and developed a program plan. The program plan was subsequently submitted to the Minister of Agriculture of Chile by the President of the University of Minnesota and was approved.

It was recognized at this time that the expansion of the food supply of Chile and the improvement of Chilean rural life would require many kinds of activities by many public bodies. It was felt, however, that the University of Minnesota, with the financial assistance of the Ford Foundation, could best contribute to this effort by assisting the Institute of Agricultural Research in developing a technical service for other public bodies doing work with rural people. This service program has the following objectives:

1. Establish within the experiment stations at La Platina, Chillán, and Temuco, production education sections composed of Chilean and University of Minnesota agriculture workers as colleagues.
2. Synthesize the results of the research of the Institute into useful educational materials.
3. Provide technical training, based on research, for field workers of Chilean agriculture agencies.
4. Conduct research on methods of production education and develop effective extension methods and techniques adapted to Chilean conditions.
5. Serve as a link between experiment station staff and agencies needing technical information and also as a channel through which experiment station workers may obtain information on needs for new research.
6. Collaborate in University training of agricultural workers.

The University of Minnesota initiated this program in March 1965 upon arrival of the project leader in Santiago. Three other Minnesota staff members have subsequently arrived to aid in the implementation of this project.

(c) *Agricultural Consultant to the Ford Foundation*—A third grant was established for the services of a University of Minnesota faculty member to act as a consultant to the Ford Foundation in agricultural programs in Chile and Argentina. In the fall of 1964, a staff member from the Institute of Agriculture, Department of Agricultural Economics, began a two-year assignment as Program Specialist in Agricultural Economics with the Ford Foundation office in Buenos Aires, Argentina.

(d) *The Federal University of Paraná, Paraná, Brazil*—The most recent overseas program was announced in April 1966 as an educational assistance program in Brazil, financed by a five-year grant from the Ford Foundation to the federal University of Paraná. From this grant, the University of Min-

nesota will administer funds in the amount of \$935,550 for the services of visiting professors, consultants, and graduate students from Minnesota.

Brazil, potentially a good exporting country in terms of resources, suffers an agricultural shortage, partly because its rural population is not adequately trained to take advantage of new techniques in agriculture. Before there can be significant improvement in agricultural yields, Brazil must develop a good secondary school vocational program and a trained staff of teachers to reach its rural, farming population.

The Ford Foundation first became interested in this problem in July 1964. A preliminary visit was made by a Minnesota staff member and the President of the Agricultural and Technical Institute at Delhi, New York, who toured Brazil for two months studying problems of agricultural education. Their findings were submitted to the Ford Foundation in August 1964. Following several months of study, observations, and discussions, the federal University of Paraná was selected because it appeared to hold the greatest potential for development of an agricultural training program. Accordingly, in June 1965, an official of the University of Paraná drafted a "Project for Development of a University-Level Program to Train Teachers for Agricultural Secondary Schools," to be a joint program between the state government of Paraná and the federal University of Paraná with external assistance from the Federal Ministry of Education, the Ministry of Agriculture, U.S. AID, and the Ford Foundation. Further reports made by both Ford and Minnesota staff members indicated that the proposed project was viable and feasible; consequently, funding was provided by the Ford Foundation, with the University of Paraná issuing a formal request to the University of Minnesota to participate in the program.

The objectives of the project are to enable the University of Paraná to prepare agricultural education leaders and teachers to help meet the need for vocational agricultural training in rural junior high schools and to promote development of vocational agricultural education throughout the state of Paraná. The University of Minnesota will provide resident professors for 12 man-years and consultantship for 60 man-months.

There will be three principal phases to the program. The first phase, to be in operation in 1966, is a two-year junior college level teacher training school for graduates of agricultural high schools. Upon completion of the training program they will be qualified to teach either in agricultural junior high schools or an agriculture course in general junior high schools.

The second phase, to be in operation by March of 1967, is a four-year University degree program for qualified graduates of any senior high school. Its graduates will be absorbed into the agricultural high schools, into ministries of education and agriculture at state and federal levels, into preparatory programs for teacher training, or into other assignments involving agricultural development.

The third phase of the program is an Agricultural Teacher Training Center which will serve as the Directorate for all three aspects of the program. The Center will also develop teaching materials; sponsor seminars and conferences for teachers, state and federal supervisors of agricultural education, and educational leaders; provide for itinerant teaching training; and assume responsibility for the function of student teaching for both the two-year and four-year programs.

A unique feature of the Ford Foundation-University of Minnesota participation in the Paraná Project is a proposed research component. The research component is an autonomous part of the Paraná Project, with its own objectives and budget. Researchers from the University of Minnesota will work jointly with researchers from the University of Paraná. Opportunities will be available, thus, for Minnesota faculty to engage in research activities that are relevant to their interests in development. Hopefully, this will help establish research as a continuing element in the development of agricultural education in Paraná. The research component, which will be analytical and evaluative as well as descriptive, will focus on the role of education in the development process.

Conclusion—The foregoing is not an exhaustive listing, but it is an identification of the major directions taken by the Office of International Programs during the biennium 1964-66. Progress has been made in the area of International Programs at the University of Minnesota. Overseas projects are moving toward their stated objectives, mechanisms for undertaking international activities within the University are being developed, and grant monies are being expended to increase staff and to assist faculty in their research. However, the international dimension within the University is lagging in certain respects. Area studies, international curriculum development, language training, cumulative and concentrated research, and interdisciplinary activities need to be further developed in a sustained and creative way.

During the coming biennium, considerable effort must be directed toward further development of an international dimension at the University of Minnesota, toward developing an effective organization that can successfully handle increased activity both on the campus and overseas, toward encouraging more departments and faculty members to increase their involvement in international activities, and toward the provision of further leadership, coordination, and planning in all aspects of international activities, so that University of Minnesota colleges and departments will move into the forefront of international teaching, research, and service.

LAW SCHOOL

WILLIAM B. LOCKHART, *Dean*

Curriculum and Training—During the biennium, the curriculum was subjected to numerous changes. Not only was the content continually revised to reflect the ever-changing face of the law, but second and third year students were given a much freer hand in choosing electives. It was the belief of the faculty, in revising course requirements, that those students who were sure of the type of practice they would follow, or who had decided interests, should be able, in an era of increasing specialization, to select more courses in a particular area than was possible under the earlier curriculum. It was the further belief, since borne out, that the majority of students would continue to select a broad curriculum that insured solid training in the basic areas of the law.

To the extent of available resources, an attempt has been made to place greater emphasis on several aspects of the legal profession which are too frequently minimized—planning, drafting, counseling, and negotiation. It is in these fields that faculty shortages are most painfully felt. If we are to develop attorneys who will function effectively, not only in the traditional role of courtroom advocate but in the increasingly important areas mentioned above, the faculty must be of size to permit more individual and small-group tutorial instruction.

During the biennium, the Law School dropped its required Summer Session. For a number of years, three and one-third academic years of successful attendance had been required for the LL.B. degree. The faculty determined, however, that the drain on student energy of working at the pace required in law school over this extended period cost more than it was worth. The required Summer Session likewise imposed serious financial hardships on many students dependent on summer earnings. Also influential in the decision was the fact that Minnesota was one of the few law schools with this extended requirement, which caused some of the potentially best students and lawyers to leave the state for their legal education.

Late in the biennium, the State Public Defender was provided with a temporary office in the Law School, and the Legal Aid Clinic gained a unique training opportunity. Participating students, under the guidance of the Public Defender and his assistants, investigate, conduct research, prepare legal documents, and assist in case presentation in many hundreds of criminal cases referred to the Defender's office from trial to appeal to the Supreme Court.

In 1964, the Law School joined with the Minnesota State Bar Association, the General Extension Division of the University, and the William Mitchell College of Law to develop an intensified and greatly expanded program of

continuing legal education for the practicing bar of Minnesota. A full-time director was appointed by the General Extension Division, and a series of lectures, conferences, and symposia was devised to give to every attorney in the state the opportunity to keep himself abreast of the latest developments in the law. Presentations were given by the faculty of the Law School throughout the state and were extremely well-received. The program has placed an additional strain on the faculty, but the results, in helping the entire bar to maintain its superior standards, have been well worth the effort.

Student Body, Faculty, and Facilities—Student enrollment continued its upward spiral during the biennium, reaching 536 in 1964-65 and 566 in 1965-66. These figures will continue to mount as the crest of the country's population wave reaches the law schools. In the face of this pressure, it has been necessary to limit entering classes to 250 because of sheer lack of physical space. To hold to this level, it has been necessary to raise entrance standards each year, with the inevitable result that in the near future some well-qualified applicants will be denied the opportunity to matriculate until such time as a new and larger facility is available.

A growing student body has also had a deleterious effect on the already unfavorable faculty-student ratio, which has now risen to 23 to one. This imbalance has forced the School to curtail plans to offer more seminars and tutorial instruction, both vital elements in the last two years of legal training.

During the 1964-66 period, the Law School was plagued by personnel losses in the faculty, now numbering 24 full-time teachers. Four young professors of great promise accepted positions at other institutions. In each instance a more attractive salary structure with greater promise of long-range salary improvement was a strong motivating factor. In addition, the decision to leave was influenced by greater financial resources for research at the competing school or a more attractive and functional physical plant, including, in at least two instances, the belief that a law school with a built-in residence facility for students would mean a more responsive and stimulating student body.

Replacing these men has proved difficult. Grave shortages of potential law school faculty in the national pool are now being felt not only at Minnesota but elsewhere. Competition for outstanding faculty members, the real heart of any school, grows keener each year with the establishment of new law schools and the development of larger student bodies all over the country.

The School was subjected to an almost intolerable strain throughout the biennium as the result of constant use of every available inch of space by the undergraduate colleges at the same time that the Law School student body was rapidly increasing. The undergraduate schools, of course, had their own space problems, and naturally turned to Fraser Hall whenever a classroom appeared not to be in use. If the reason was understandable, the results, however, were most unfortunate. The Law Library was overcrowded at peak hours despite constant efforts to restrict its use to law students. The student lounge was thronged with undergraduates, and it was impossible for the law students to put the lounge to the use for which it was intended—a place for informal discussion of the course materials which is so important to an understanding of the law. Similarly, the seminar rooms, constantly in use by small undergraduate classes, were unavailable for group work, for practice for oral arguments, and for the taking of depositions for moot court. The faculty, too, felt the demoralizing impact of limited space. The several new faculty offices which were created for new members were, of necessity, substandard by any measure.

The Law School library continued to face a series of crises throughout the biennium, born of increasing prices and the expanding needs of a larger faculty and student body. A larger student body necessitated the purchase of more duplicates, which, in turn, dictated a cutback in acquisitions of new materials. The Law Library is a priceless asset. It is not only an attraction to high quality faculty but constitutes a great resource of the State of Minnesota: yet the book and binding budget of this, the fifth largest law school library in the United States, lags in ninth place among law schools. Greater support for the library will be a continuing and paramount need of the Law School.

If it is to maintain its position as a leading law school, Minnesota must improve its faculty salary standards, maintain its library in at least its fifth-ranked position, seek a suitable building and a student residence facility at the earliest possible date, and obtain the funds which make possible a vastly increased legal research program.

COLLEGE OF LIBERAL ARTS

E. W. ZIEBARTH, *Dean*

The College of Liberal Arts experienced a series of major changes during the biennium 1964-66, continued the pattern of growth exhibited in recent years, and instituted a variety of organizational, administrative, and other alterations in the interest of furthering its educational mission.

Enrollment—The College continues as the largest single entity in the University of Minnesota educational complex. In the Fall Quarter of 1963, the College enrolled 11,133 students. By fall 1965, two short years later, the figure had reached 14,138. This constitutes an absolute increase of 3,005 students; on a relative basis it represents a growth of 26.9 percent over the biennium. The magnitude of this increase posed a wide range of critical problems to which the College had to address itself.

Given these kinds of pressures, the College introduced an increase in its admission requirements—the first it had made in twenty years. The increase was part of a larger University policy focusing upon controlled growth. The change was made effective beginning the Fall Quarter of 1965; it was estimated that had the change not been made, another 1,000 students would have been admitted. Mindful of its educational responsibilities to the youth of the state, the College timed the change to coincide with the opening of two Twin City Junior College units. Hence, alternative educational opportunities were immediately and locally available.

The increase in the size of the student body continues to exert heavy pressures upon the provision of high-quality education. The College was generously treated by the state and by the University's central administration in terms of the provision of new staff. But the enrollment growth was of such a magnitude as to pose severe strains even with increased staff. The outlook for the next biennium indicates further rapid expansion, which, in turn, will not reduce the burden.

In an effort to increase efficiency in its teaching mission, the College continued to experiment in various ways. Closed-circuit television offerings were expanded, and student and faculty reaction to this method of instruction has been most favorable. More intensive use of language laboratories, the large lecture-quizz section method, and scheduling of CLA classes on the St. Paul campus have provided some positive results. Beginning in the fall of 1966, the East and West Banks will operate on identical class-hour schedules. This will make for greater efficiency in the provision of instruction. Notwithstanding these efforts, the pressures will remain heavy in the foreseeable future.

Organization and Administration—The College completed the reorganization that was begun in the 1960-62 biennium. The Departments of Botany and Zoology were formally transferred to the new College of Biological Sciences. The College of Liberal Arts continues, however, to operate as a "functional" organization, and departments budgetarily located elsewhere in the University continue to offer majors in CLA leading to a Bachelor of Arts degree. This "functional" operation works very satisfactorily, and cooperation between the College and its functional counterparts continues at a high level.

An Honors Division was formally constituted during the biennium, with a Director of Honors in charge. Honors work in the College is developing in a most significant way and increasingly serves to satisfy the needs of the high-ability student.

A series of major departmental changes occurred, reflecting changing educational trends and serving to meet changing needs. The Department of

Slavic and Oriental Languages was reconstituted into three departments: East and South Asian Languages, Middle Eastern Languages, and Slavic and East European Languages. The Art Department was restructured into two separate departments: Art History and Studio Arts. These changes will permit the respective units to more effectively fulfill their educational responsibilities. A Linguistics Department was created to meet the growing needs in this discipline. The Public Administration Center was separated from the Political Science Department to become a separate entity.

The College adopted in January 1966 a new Constitution which the Board of Regents subsequently approved. The major change effected was to substitute a representative form of government for total faculty participation in the decision-making process. With the marked growth in enrollment over the years, and the corresponding increase in faculty, the older system had proved to be unwieldy. It is anticipated that the new structure will be more effective, with, however, no loss in faculty participation. The new Constitution also takes cognizance of the functional nature of the College and makes provision, for participation in the educational deliberations of the College, for those units budgetarily located elsewhere but which offer courses and majors in CLA.

At the end of the biennium, several major issues were in the stages of discussion and deliberation. The status of Interdisciplinary Programs within the College is under review, and it is anticipated that recommendations therewith will be forthcoming in 1966-67. The role of the College in the proposed expansion of the St. Paul Campus is also under advisement, and here also it is expected that recommendations will be issued in the next biennium.

Curriculum—The College enacted in 1966 a series of major changes in its graduation requirements. These fall into several categories. First, the foreign language requirement was increased to two college years (25 credits) in a single language, with allowance of five credits for each year of high school study in the language. A special language provision is available for those who wish to continue Latin. Second, the pattern of distribution requirements has been altered. In part this change is one of reclassification and reflects the proposals of the All-University Council on Liberal Education. But also included is the opportunity afforded the student to expose himself to a wider range of liberal disciplines. Third, changes in upper division and major-minor requirements have been introduced so as to permit student and adviser greater flexibility in program planning. The freshman English requirement and the English proficiency stipulation remain. (The administration of the English Proficiency Test has been streamlined, and counseling service is now available to students taking the test and to those who have failed.) It is anticipated that the new graduation requirements will become effective in the summer of 1967 or 1968, contingent upon resource availability necessary to meet staffing needs and upon impacts which other institutions will face consequent to the changes.

The College created and approved a new degree, the Bachelor of Fine Arts. It is currently anticipated that this degree will be available to selected students in the creative and performing arts. The curriculum will include a wide range of liberal arts courses, but will be tailored more specifically to individual needs, and will include more intensive work in the creative or performing specialty. The degree will become available to students entering in the Fall Quarter of 1966.

Honors Program offerings have expanded significantly, this in keeping with the formal action taken by the College in 1961. Honors Program advisers have been established in all departments. Honors sections and honors courses have been increased, as have the number of College Honors Seminars. A sophomore honors seminar was established, and beginning in 1966 the number of freshman honors seminars will be increased. The overall programming designed for the high-ability student has, in a two-year span, become much enriched.

Regular curriculum developments proceeded at a rapidly accelerating pace during the biennium, as departments revised their requirements for majors, altered their pattern of course offerings, and introduced new courses.

The processing of curricular changes has become a major administrative activity within the College, this in contrast to experiences of, say, five or ten years ago. The preparation of a new *Bulletin* for the College was a major and extremely time-consuming task, given the dynamic developments taking place during the biennium.

Physical Facilities—No major changes occurred during the biennium. No new buildings were erected for occupancy by the College units, nor were any relocated in other quarters, with the exception of certain segments of Studio Art which moved into the recently acquired Naegele Building on the West Bank Campus.

Office space needs have become critical for the College. Folwell Hall on the East Bank and the Social Sciences Building on the West Bank house the majority of the College departments, and these have reached an occupancy rate of 100 percent. The short-run solution may involve doubling up on office usage. If the building requests of the University are granted, relief may be expected by 1969.

Classroom space problems also exist, but are not as critical as office space. The previously noted class schedule change (for East and West Bank classes) to go into effect in the fall of 1966 will help to resolve this problem, at least partially.

Research and Training—Research continues to be an integral and important part of College activity. In the biennium, grants from outside sources for research by departments in the College totalled \$1,600,000, this in contrast to \$1,900,000 in the previous two-year period. The number of grants received during the biennium was approximately 191. These figures tell only part of the story, however, for there is an impressive amount of research undertaken by the faculty which is not supported by outside funding. The productivity of this kind of research is indicated by the reports of faculty publications and activities found elsewhere in this report and in University files.

A number of activities, designed to enhance or facilitate research, were begun during the biennium. The Statistical Center, whose purpose it is to provide statistical assistance for the researcher, was transferred from the Graduate School to the College. The Social Science Research Facilities Center was created to provide computer programming and assistance. Also created were the Center for Immigration Studies, the Social Welfare History Archives Center, and the Center for Northwest European Language and Area Studies, all of which have important research implications. It is anticipated that the College will become importantly involved in whatever develops in the "community planning" activities of the University.

Training grants are increasing at a rapid rate, both in number and in dollar amount. It was noted above that research grants decreased from \$1.9 million in the 1962-64 biennium to \$1.6 million in the 1964-66 biennium. But training grants approximately doubled between the two biennial periods, reaching a figure of over \$3,600,000 in 1964-66. These grants have important implications for the College, but do pose problems of various kinds.

Student Personnel Programming—A continuing problem is that of serving adequately the ever-increasing number of students enrolled in the College. The new divisional offices located in Folwell Hall and the Social Science Building, coupled with the Johnston Hall complex, have made it possible to meet student needs in a more personal manner than previously. The Honors Division office, set up during this biennium, is proving effective in serving this category of students. Increases in staff, in addition to the locational improvements noted above, have helped to meet the increased demand for services brought about by an additional 3,000 students.

Changes in the admission requirements of the College were discussed above. No basic changes have been made in retention regulations, but a short one-year's experience with a freshman class that entered under the new admissions policy suggests that proportionately fewer students are being dropped for unsatisfactory performance. Various phases of student personnel programming are currently under review, and it is expected that a series of

policy recommendations will result and that new policies will permit more effective and efficient serving of students in the matters of registration and retention. Study is also under way on techniques of using computer programs to greatly diminish the time required to process student records.

The College continues to serve as the major intake point for the majority of students in the University. As a result of several changes in the admissions practices of the College of Education, all students (physical education majors excepted) desiring an Education degree must now enter through the College of Liberal Arts.

Faculty and Staff—Education has been the primary growth industry in the economy. Such growth manifests itself in a number of ways. Relevant here are the problems of attracting new faculty to meet increasing enrollments or to build new programs and of retaining present staff. The College has been singularly fortunate on both counts, attraction and retention. In the face of salary escalation around the country, this good fortune is all the more gratifying.

But numerous and serious problems do exist. The College has lost a number of distinguished persons it was most anxious to retain. The "star" system used by certain universities and colleges played a part in several cases. Under this system, an institution will select a given position to be filled and fund it at a very high salary level, hoping to secure thereby an outstanding faculty member. It is to the credit of the College that its faculty is of such prestige that offers were made to various individuals. The "star" system resulted in a number of departures, since a number of faculty members accepted offers made them.

As for recruitment, the University was able to attract a corps of outstanding young faculty members. But given the increases in beginning salaries found elsewhere, a number of outstanding persons chose to take positions at other institutions. As noted in the last report, language departments have particularly difficult problems, although the College was fortunate during this biennium to attract a nucleus of capable younger persons.

Since the last biennium, the salary structure of the College has fallen relative to that of the institutions with which comparisons can logically be made. Hence, unless adjustments are made during the coming biennium, the attraction-retention problem will become extremely serious. What has been up to now difficult but not critical may become an issue that will threaten, on an across-the-board basis, the quality of the total CLA faculty.

Needs—In the light of the above, the needs of the College can be summarized along several lines. First, salary improvement is necessary to attract new and retain present staff. Failure to make such improvement can only reduce the quality of the faculty and result in a deterioration of the distinguished position the College enjoys. Second, new positions are required to meet the anticipated increases in enrollment. These demands are less than they would have been had admission requirements not been increased, but they are still sizeable. Fall Quarter 1966 enrollment projections indicate that an additional 1,400-1,500 students will register in the College. Third, new construction is necessary to provide classroom and office facilities for students and staff. Given increasing enrollments, and increasing salaries elsewhere, the College's budgetary requests have been modest. But a fairly constant ratio needs to be maintained between the size of the student body and the size of the staff. To maintain this ratio poses a problem; to improve it involves still greater effort.

Programmatic developments have been minimal, given the priority of needs resulting from sheer increases in numbers. But such developments cannot be too long deferred; to fail to move in new directions is to weaken the progress and status of the College.

A number of special needs exist. First, the new language requirements adopted by the College will require the deployment of sizeable resources. Second, in order to attract high-level graduate students, special attention needs to be paid to the stipends for teaching associates and assistants. Departments in the College are having serious difficulties in attracting the out-

standing graduate students their faculties are well able to serve. Third, provision needs to be made for additional civil service staff, supplies, and expense monies for the increased enrollments.

The College has progressed. It has been treated generously by the citizens of the state and with equity by the University administration. But every other educational institution in the United States is also moving ahead. Hence, merely to remain abreast will require enormous effort, and to forge ahead, even more.

UNIVERSITY LIBRARIES

EDWARD B. STANFORD, *Director*

For the future of the University Libraries, the 1964-66 biennium was especially significant because of two major achievements that, after several years of effort, finally came to fruition.

Acquisitions Budget Increased—During the late 1950's, it had become painfully evident to the Library Administration that its relatively static book budget was no longer sufficient to provide the widening range of scholarly books and journals needed to support the University's expanding programs. Some relief had been provided, to be sure, through allocations from "research overhead" and by occasional nonrecurring grants to meet special needs. In 1964, the Senate Library Committee, convinced of the need for a major increase in recurring funds for library acquisitions, presented a special report on the problem to the central administration. As a result, the University included in its 1965 legislative presentation a specific request for an increase in the budget for books, periodicals, and binding. Thanks to favorable action by the Legislature, the budgets for the Minneapolis and St. Paul Campus Libraries were increased, effective July 1, 1965, by more than \$200,000. While the direct application of student fees to the book fund was discontinued under this new arrangement, the significantly greater level of support for developing the collection made possible, by the end of the biennium, the purchase of retrospective desiderata previously not obtained for lack of funds. The Library was also able to acquire many basic books and journal files needed for specialized subject areas in which new faculty and new or expanded University programs had recently been authorized. Also in 1965, a substantial increase in library funds was provided for the University of Minnesota, Morris, to develop the collections needed for its emerging four-year college curriculum.

West Bank Library Assured—The 1964-66 biennium brought to a successful conclusion the final planning and funding for the proposed West Bank Library. After failing to obtain planning funds for this urgently needed facility in 1961, and with funds only for a first phase of the building authorized by the 1963 Legislature, the Library was, in 1964, faced with the possibility of constructing only a basement and first floor building, which would not have provided sufficient space for a viable library move. With the matching federal help that became available during the biennium through the Higher Education Facilities Act, and by the State Legislature's generous grant of a second appropriation in 1965, it became possible finally to plan and fund (at \$10,142,000) the complete West Bank Library, as originally programmed, by June 30, 1966. Barring unforeseen delays, the West Bank Library, planned to house and service the University's major holdings in the social sciences and the humanities, should be ready for occupancy by late 1968, providing greatly improved library service to the many departments that will use this new facility as their primary resources storehouse. With a working capacity of 1,500,000 volumes and seats for approximately 2,500 readers (including some 90 faculty studies and nearly 300 individual carrels), this Library will be fully air-conditioned to assure proper temperature and humidity controls for the collections and to permit its most efficient use for study and research during the winter and summer months alike.

For the understanding and support of the University administration, the State Legislature, and the U.S. Office of Education (in its response to our requests for matching building funds) in making these major achievements possible during the biennium, the Library Administration and staff are deeply grateful.

Other Physical Plant Developments and Needs—Aside from the outstanding progress in completing the plans and funding of the West Bank Library, the other most notable accomplishment in providing better library facilities occurred in 1964-65 with the completion of the two-floor addition to the Bio-Medical Library. This involved finishing the entire fourth level, including an "all-night" study room larger even than the initial one on the main floor, and furnishing air-conditioned areas for the history of medicine and for graduate carrels and faculty studies on the fifth level.

Also during the year, the Forestry Library expanded into larger quarters in Green Hall, the Public Administration Library was moved to a new facility in the West Bank Classroom Building, and the Math-Physics Library received supplementary shelving for its growing collection.

Ventilation problems continue to plague certain library areas, and it is hoped that steps may be taken soon to improve air handling in three especially critical areas: the Education Library, the St. Paul Campus Library, and the Walter Library basement study facility.

To house the University's rapidly growing archival collections under proper conditions for their preservation and use, the construction of an Archives Research Center building in the Como area was recommended to the central administration early in 1966. Owing to other higher priority building needs, this proposal has been deferred for later consideration.

With the West Bank Library now assured, the University should soon begin planning new facilities for the Engineering Library and the addition to the Agriculture Library that will be needed to serve the expanded student body and new programs intended for development on the St. Paul Campus.

Both of the University campuses outside the Twin Cities developed plans for new or expanded library facilities during the biennium. In July 1964, construction was begun on a second phase addition to the Library at the University of Minnesota, Duluth. In the spring, a grant of federal funds made it possible to enlarge the project so that the early completion of phase three will give Duluth a library with a total capacity for 250,000 volumes and 1,000 readers. At Morris, the planning for a much-needed separate library building also went forward in 1965-66.

In St. Paul, new and larger quarters were constructed during the biennium for the Biochemistry Library and for the Veterinary Medicine Library. Planning also was begun for library space in the proposed building for Entomology, Fisheries, and Wildlife. On the Minneapolis Campus, studies were made for a Mathematics Library (to be separated from the Math-Physics Library) in the proposed building to join Vincent and Murphy Halls.

Two New Archival Programs Established—Until late in the 1962-64 biennium, the Library's only major activity in the area of manuscript and archival collecting was the University Archives. Over the years it has been notably effective in acquiring, organizing, and servicing original correspondence records, committee minutes, publications, photographs, and other materials related to the history and growth of the University.

Early in 1964, primarily on the initiative of members of the History Department, there developed in the University Library a new enterprise known as the Immigrant Archives. Its purpose was to collect, process, and maintain a wide range of both published and manuscript materials relating to the emigration of various groups from their respective homelands and their adjustment to life in a new environment. Through the untiring efforts of participating faculty members, the Immigrant Archives, with ethnic collections divided into Ukrainian, Polish, Greek, Yugoslavian, Croatia, Russian, Italian, and Czechoslovakian sections, have been developing rapidly during the current biennium.

In 1966, Professor William Wright of the History Department was appointed Director of the newly established Center for Immigration Studies.

By the end of the biennium, this enterprise, jointly supported by funds from the Hill Family Foundation and the University, was firmly established and was growing at a rapid rate, almost entirely through materials received as donations. Many gift subscriptions of immigrant newspapers were arriving at the Library, and the processing of resources received from many individuals and organizations was well under way.

A second new archival undertaking, developed in the latter part of 1964, is the Social Welfare History Archives. Begun largely through the efforts of Professor Clarke Chambers of the Department of History, this enterprise has also burgeoned rapidly during the biennium. Starting with a grant from the Russell Sage Foundation and the gift of the office archives of the *Survey* and the *Survey Graphic*, Professor Chambers has, with unusual success, solicited deposits of archival files from many of the principal social welfare associations in the United States. From funds provided by the National Institutes of Mental Health, several basic collections have been carefully organized and inventoried, including files from the National Federation of Settlements and Neighborhood Centers, the National Association of Social Workers, and the United Neighborhood Houses of New York. Negotiations are continuing successfully for the deposit of additional papers and for receiving gift publications from other leading associations in social welfare.

In order to center responsibility for the organization and management of these varied archival undertakings, a Division of Manuscripts and Archives was established within the Library's Department of Special Collections, under the direction of Mrs. Maxine Clapp, archivist in charge of University Archives. Only the availability of space assigned for Library use in the Chemical Storehouse has made the temporary housing of these new archival collections possible. In due course, a more suitable permanent facility for manuscripts and archives must be provided if the University is to care for these irreplaceable resources and make them effectively available for scholarly use.

Operational Highlights—Both from available loan statistics and from striking subjective evidence noted by the staff in various Library departments, the use of the University Libraries continued to increase during the biennium. This increase reflects both the overall growth in enrollment and the intensification of graduate programs and more honors work at the undergraduate level. Use of the Library's collections (especially scientific journals) by research personnel in local industries also increased significantly over the previous biennium. The availability of inexpensive Xerox copying service has helped, however, in sharing resources with such users without taking needed periodicals from the campus. Also, growing student demands on the collections have necessitated duplicating more of the heavily used titles for which one copy previously sufficed.

Again this biennium, the number of patrons using the various reading rooms has increased. During typical week days, these areas are filled to capacity from as early as 9 a.m. to late afternoon. On a sample day, when a formal count was taken, over 10,000 individuals entered the Walter Library. During the winter months as many as 150 to 200 students may be observed at one time sitting on the stairways and corridor floors for lack of any other space in the Library for reading and study. With the completion of the West Bank Library in 1968 this problem should be greatly alleviated.

Chile (University of Concepción) Project—Early in the biennium, in connection with the University's Chilean project, the Library was called upon to assist in the development of a central library, including a new library building, at the University of Concepción. Arrangements were made, because of his previous library experience in Latin America and his fluent command of the Spanish language, to release James M. Kingsley, Jr., Chief of our Department of Special Collections, for a two-year appointment as Acting Director of Libraries at Concepción. Mr. Kingsley undertook his extended assignment in the spring of 1965. At his request, Mr. Paul Berrisford, Chief Catalog Librarian, also spent three months in Chile setting up a system for creating a central catalog of the University of Concepción's library holdings.

Automation and the Library—Since the rapid development of computer technology has been making possible the application of machines to many library operations heretofore handled by manual methods, the University Library has been closely following the research and experimentation that has been going forward in this field. The Library Administration has taken part in several conferences dealing with the potentialities of data processing for libraries. In September 1964, all of its department heads took a short course, "An Introduction to Electronic Computers," to prepare them for exploring automated approaches to their respective departmental operations. In the fall of 1965, many members of the staff attended an Institute on Automation and Information Retrieval, conducted under the auspices of the graduate Library School and the Center for Continuation Study.

During the biennium, the Library engaged an Automation Coordinator who has been selectively making systems analyses of various library operations to assist the administration in determining whether and where in the Library automated techniques might be feasibly applied to improve our procedures and services.

Because of the extremely high cost of converting collections of over two million volumes to an automated system, and to assure compatibility with national information systems now in the research phase, the University Library will probably, for the present, limit its applications of machine technology to changes that can be introduced without jeopardizing its eventual participation in future national cooperative library automation developments. Meanwhile, rather than unilaterally installing any sweeping and costly computer-based, locally-designed bibliographic system, the Library is closely watching the research being carried on nationally, pending a break-through that may have feasible local applications.

Growth of the Collections—On June 30, 1966, the holdings of all libraries throughout the University totaled 2,478,055 volumes. This represents an addition of 186,596 volumes during the biennium, or 24% more than the number of volumes (148,928) added to the University Library collections during 1962-64. Within the total figures, the 1966 holdings according to campus locations may be reported as follows: Minneapolis—2,217,137 volumes; St. Paul—117,566 volumes; Duluth—106,735 volumes; Morris—25,500 volumes.

Significant Accessions—Subscriptions were entered for three important microfilm projects, including one which will film all titles in the British Museum's *Short-Title Catalog of Books Printed in Germany . . . to 1600*. Considerable material relating to Nazi Germany was acquired during the biennium. The Hoover Institution's microfilms of the NSDAP *Hauptarchiv* (134 reels) was bought. A phono-tape collection, "Tondokumente des Dritten Reichs," consisting of over 300 speeches and excerpts from Hitler, Goebbels, Goering, and lesser party functionaries, will also add to a growing collection of material from this period.

During this biennium, the remaining balance of the initial \$100,000 donated by Mr. and Mrs. John S. Pillsbury for works on the history of medicine was expended for scarce and rare books for this collection. Additional gifts from the Markle Foundation and other donors have added another \$50,000 for library development in this area.

In a bequest from the estate of the late Dr. Irvin Kerlan, the Library received a huge shipment (10,000 lbs.) representing the balance of his extensive collection of children's illustrated books and original art work. The Kerlan Collection is now probably the finest collection of its kind anywhere extant.

Among the most valuable reference guides for research are the reproduced catalogs of outstanding specialized libraries. Several that have been purchased during this biennium include catalogs of the libraries of the U.S. Department of Health, Education, and Welfare; the School of Oriental and African Studies, London; and the Mariners Museum, Newport News.

Among the acquisitions during the biennium for the James Ford Bell Collection were several items of unusual significance for studies on the history of exploration and commerce. These include a 1577 manuscript copy of *Statuti della mercanzia de Firenze* and three editions [German (1516), French (1576), and a little-known Latin (1526)] of Sacro Bosco's *Sphera Mundi*, one

of the earliest works dealing with the spherical shape of the earth. Also acquired were seven different 16th century editions of Ptolemy's famous *Geographia*. A collection of letters of Peter Pallas, relating to his early explorations in Siberia, a very rare Dutch map of Western Africa and Brazil, and John White's *The Planter's Plea* (1630), seeking government support for colonization in Massachusetts, were also obtained.

COLLEGE OF MEDICAL SCIENCES

ROBERT B. HOWARD, *Dean*

Growth—The College of Medical Sciences experienced vigorous physical expansion during the 1964-66 biennium with the construction of the new Children's Rehabilitation Center, the Variety Club Heart Hospital two-story addition, a two-story addition to the Masonic Memorial Hospital, and a Meditation Room for patients, visitors, and employees. In addition, extensive remodeling of hospital areas and expansion of laboratories and business offices is expected to bring a new level of efficiency to the College's operations.

This vigor was also evident in the recruitment of a number of new young men to key positions in the faculty and in the quality and volume of research activity in all areas of the Medical Center. The Center continues to rank among the leaders in such fields as open heart surgery and organ transplantation, and important research in such fields as space medicine, cancer, and immunology has also focused national attention on the University. The construction of a History of Medicine area within the Bio-Medical Library and the anticipated establishment of a chair in medical history have also enhanced the academic program.

Anniversary—The College's celebration of its 75th anniversary during the year 1965 culminated in a symposium in November which brought distinguished medical people from all over the country to the campus. Alumni and faculty also participated enthusiastically. Although it was an occasion for a nostalgic look into the past, the College preferred to direct its eyes toward the future with a program entitled, "Demands on Medicine in the Modern World." Noted authorities who participated in the event included: Dr. William S. Middleton, Dean Emeritus of the University of Wisconsin Medical School; Hudson Hoagland, Executive Director of the Worcester Foundation for Experimental Biology; Dr. Edward Dempsey, Special Assistant (Health and Medical Affairs) to the Secretary of the Department of Health, Education, and Welfare; Dr. Raymond D. Pruitt, Chairman of the Department of Internal Medicine at Baylor University; Dr. Franz Goldman, Professor Emeritus of Public Health at Harvard University; former Dean Harold S. Diehl; Dr. E. Allen Boyden, Professor Emeritus of the Department of Anatomy; Dr. Leo G. Rigler, former Head of the Department of Radiology; and Ray Amberg, Director Emeritus of University Hospitals.

Faculty and Service—During 1966, the College revised its Constitution and By-Laws to provide a more effective medium for faculty participation in the affairs of the College, to increase communication among the faculty, and to foster identification by faculty with the institution. Among the resulting changes were the appointment of a Chief of Staff of the Hospitals, filled by Dr. Harold O. Peterson; the elevation of assistant professors with full tenure to the Executive Faculty of the Medical School, providing them a voice in the affairs of the School; and the establishment of a Medical Staff-Hospital Council to establish and implement medical policy within the Hospital. The new Constitution also provides mechanisms for assuring continual review of policies and procedures to bring them into line with the innovations we believe to lie ahead in the field of medicine and medical education.

It has become obvious that the traditional means of rendering health care, both here and elsewhere, must be greatly modified to meet the challenges of the population explosion, the acute need for more and better trained medical and paramedical personnel, the technical revolution in medical science, and various government programs, such as Medicare. Recognizing the problems

and challenges of the future, the University suggested an independent study of Minnesota's manpower needs in the health fields, and the Health and Manpower Study, supported by the Hill Family Foundation of St. Paul, resulted. At the same time, the University inaugurated a Long-Range Planning Study of the Physical Facilities for the Health Sciences. These two reports, summarized below, will most certainly be the basis for innovation in medical education and practice here at the University and throughout the Upper Midwest.

Hill Family Foundation Health and Manpower Study—In an extensive study of health manpower and health professional education facilities in the Upper Midwest, the following recommendations affecting the University were made:

1. That the University of Minnesota expand its entering medical class from 150 to 200 students at an early date and lay plans for further expansion to 250 at some time in the future.
2. That students from two-year medical schools in North and South Dakota be encouraged to complete their education at the University of Minnesota, since studies indicate that a major proportion of the graduates who complete their medical education here remain in the Upper Midwest to practice.
3. That a greatly increased demand for medical care be anticipated with Medicare, rapid growth of personal income, improvements in health insurance, and population growth. The Commission estimated that by 1975 there will be between 200 and 300 fewer physicians than will be needed to maintain the present ratio of active physicians to population. For this reason, the committee was deeply interested in the proposal to establish a private medical school in St. Paul and favored the ultimate establishment of a second medical school in this region. However, it felt strongly that the formation of any new medical school should be attendant upon two considerations: first, a new medical school should be placed in an established institution of higher learning; and second, it should be adequately financed.
4. That, in view of the growing need for personal or family physicians in this area, the teaching of skills and attitudes relevant to the responsibility of the personal or family doctor be strengthened at the University of Minnesota Medical School so that the institution's position as a major provider of personal physicians for the Upper Midwest will not be lost.
5. That, since the Medical School and the School of Dentistry are closely related and share staff and curriculum, a modest increase in the number of dental students accompany the expansion of the Medical School. Since dental disease is prevalent, and the demand for care will grow, there are compelling reasons for substantially increasing the number of available dentists. The inadequacies of the physical plant of the School of Dentistry can most economically be corrected by expanding the School and the Medical School at the same time. Data do not indicate that a second undergraduate dental college is required at this time.
6. That some permanent group be established to provide a continuing surveillance of health manpower and health profession educational facilities.

Long-Range Planning for the Health Sciences—Until the present time, it has been possible for the Health Science units to develop in response to the acute needs and immediate opportunities for financing without regard to long-range planning. Now that land for expansion on the Minneapolis campus is severely limited, however, it is imperative that the use of this land be carefully planned. Therefore, as part of the overall University effort, an attempt has been made to read the foreseeable future of health care education and to determine with some accuracy the physical facilities that will be required,

within the given land limitations. Some of the notable conclusions of the report of the committee are as follows:

1. Increased emphasis on ambulatory teaching programs.
2. The development of a team approach to comprehensive health care.
3. For Dentistry—more basic sciences, more research, and a more preventive orientation.
4. Increased postgraduate and continuing education programs.
5. The probable evolution of a program to train family physicians.
6. Strengthened affiliations with community hospitals.
7. The need for an increase in hospital beds in this complex.
8. The need to coordinate all programs on a health science basis.

Based on the foregoing considerations, and on the recommendations of the Hill Family Foundation Health Manpower Study, the committee recommended the following construction to accommodate both changes in program and increases in enrollment: (1) A new School of Dentistry building; (2) A new combination Clinic-Hospital facility, to include space for the Schools of Nursing and Public Health as well; and (3) A building for research for the clinical departments, including a new, modern facility for large animals.

The study represents the first attempt of the College of Medical Sciences and the School of Dentistry to plan the orderly development of health sciences education for a substantial number of years into the future. Perhaps more importantly, this planning effort is being conducted by the faculty members themselves, upon whom the ultimate responsibility for teaching, service, and research rests. The work of the planning committee will be a major factor in determining the degree to which recent concern leads to developments that will best serve the interests of the University and the state.

Significant Departmental Activities and Developments—In the summer of 1964, the Division of *Medical Student Affairs* was moved from the Office of the Dean to a remodeled suite in 1305 Mayo Memorial. Dr. Robert J. McCollister, Assistant Professor of Medicine, joined the staff on a half-time assignment in August of 1964. He continues to share, with Dr. H. Mead Cavert, Associate Dean, responsibilities for administration of all medical student matters.

The Division is participating in several research and data collection projects of the Division of Education, Student Studies, and Services of the Association of American Medical Colleges, and is also implementing a study on development of predictor indices for medical student admission as validated by subsequent performance in medical school. The National Heart Institute sponsored grants for a cardiovascular program project, cardiovascular multidisciplinary clinical graduate training, and cardiovascular undergraduate teaching.

The *Department of Anatomy* received a new research grant from the Division of Research Facilities and Resources of the NIH to extend the current basic information retrieval studies. The Department is also supported by a long-term project grant which covers various diabetes studies.

This Department has been using closed-circuit television to an ever increasing degree in laboratory instruction, especially in courses where there are multiple laboratory sections.

In *Biochemistry*, a newly inaugurated research project sponsored by the United States Public Health Service concerns the metabolism of the amino-hexuronic acids, and four new general courses have been added to the curriculum for graduate majors in biochemistry, along with a biochemistry course for medical technology students.

In the *Comprehensive Clinic*, a model Comprehensive Medical-Dental Care program for children has been designed to offer total medical and dental care to a group of Minneapolis children eligible for the care under the Social

Security Act. Emphasis will be placed upon primary and secondary prevention of disease without sacrifice of quality of care in the management of acute and chronic problems. A primary objective of the program will be its integration into the medical education structure, and demonstration to students at all levels of experience of the manner in which medical care may be carried on for the mutual reward of the patient and the professional. Of basic importance will be the opportunity for demonstration of both responsibility in education and research and service which can be appropriately replicated in practice. Objectives of the program are to treat a defined patient population in physical facilities within the patient's geographical area, with a staff of multidisciplinary personnel using the existing community resources for consultation, care, and educational purposes.

In addition, the Comprehensive Clinic has extended its program in a pilot project with the Mayo Graduate School of Medicine in Rochester, beginning June 1966. Twelve students from the senior medical class at the University will complete their Comprehensive Clinic requirements at Mayo, gaining out-patient medical experience and responsibility as student physicians. It is the first time the Mayo staff has been linked to the University of Minnesota Medical School in the effort of undergraduate education.

The *Department of Continuation Medical Education* continues to sponsor its successful, well-attended courses in postgraduate training for physicians. In 1964-65, the Department offered fifteen courses and two seminars with a total attendance of 940 physicians. In 1965-66, the Department sponsored sixteen courses and one seminar, and attendance totaled 965 physicians.

Among research studies being carried out by the *Department of Internal Medicine* with the aid of grants from the United States Public Health Service are one in allergy and immunology training; a group diabetes program to study the effect of treatment on the complications of diabetes, along with studies of secretion of insulin by the pancreas; and a feasibility study on diet and heart disease, the Minnesota Coronary Survey Research Project on the Effect of Dietary Change on Human Atherosclerosis.

Major grants in *Surgery* above \$30,000 went to: Dr. Richard Lillehei for the treatment of shock; Dr. William D. Kelly for homograft tolerance induction in man; Dr. Eugene Bernstein for the development of a mechanical heart; Dr. Colin Markland for renal preservation during total ischemia; Dr. C. Walton Lillehei for cardiac surgery research; and Dr. Owen H. Wangenstein for (a) gastric cooling and healing of duodenal ulcer, (b) the physiological interrelationships involved in therapeutic problems of the esophagus, stomach, and liver, (c) training program in cancer research, and (d) surgical cardiology training program.

In *Neurosurgery*, research projects have been directed toward the study of relationships between thyroid function and the central nervous system, techniques valuable in assessing personality variants in patients with specific neurological lesions, and development of a stimulator to control urination in paraplegic patients.

With the opening of the Children's Rehabilitation Center in 1964, the *Department of Physical Medicine and Rehabilitation* has been able to provide facilities for a complete program of in-patient and out-patient rehabilitation for children and adults. The courses in physical and occupational therapy moved into new laboratories and classrooms in the building, freeing space for a departmental reference library, psychological testing rooms, and office space. The service load of the Rehabilitation Center increased from 148,098 treatments for 4,849 patients in 1964, to 157,245 treatments for 5,116 patients in 1965.

The Department, in collaboration with the Kenny Rehabilitation Institute, has been designated Regional Rehabilitation Research and Training Center No. 2 of the Vocational Rehabilitation Administration. Support of \$1,225,000 was received in each of the last two years for research and training. Research involves such areas as: evaluation of the work of the heart during hospital and daily activities; peripheral vascular disease leading to amputation; kidney function after spinal cord injury; methods of rehabilitation of children with cerebral palsy; musculoskeletal performance of patients with muscular weakness; rehabilitation following stroke; speech evaluation and therapy for

children and adults; vocational rehabilitation of handicapped patients; public health nursing in rehabilitation; methods of improving rehabilitation; and education in rehabilitation.

Each class in physical therapy is limited by laboratory space to 24 students, in spite of the critical shortage of physical therapists available. It has been estimated that there is need for four times as many physical therapists as are available. Therefore, the curriculum has been revised so that new classes of third-year students will be admitted in the Fall and Spring Quarters. Twenty-four students will be admitted to the Fall Quarter 1966, and 16 students in the Spring Quarter of 1967.

Members of the *Division of Radiation Therapy* have reported new observations and techniques in the clinical applications of nuclear medicine and radiotherapy; research activities were reported before various learned societies here and abroad. The latter included articles dealing with heavy particles in radiobiology and medicine, the biology of murine lymphomas, new techniques in exploiting the oxygen factor in radiobiology, and a new technique for interstitial implantation.

The role of preoperative radiotherapy in the management of patients with cancer of the lung is being explored. Radiotherapy and chemotherapy in various disease entities also are being studied. Notable among these is the irradiation of children with leukemia in an attempt to augment the efficacy of chemotherapy. Another study is the use of intra-arterial oxygen of factors that enhance radiation efficiency. Two major grants are pending dealing with the training of radiotherapists and ancillary personnel and with research in advanced cancer. A \$22,000 United States Public Health Service grant went to the division for the study of biology of murine lymphomatous tumor cells.

Through the *Division of Urology*, consultant services are provided to the State Mental Hospital in Anoka, the Veterans Hospitals, and to numerous postgraduate study groups. Further, a one-day symposium was held in 1965 in conjunction with the Division of Neurosurgery and the Department of Neurology on problems of neurologic bladder dysfunction.

Urological research projects in progress include a study on renal ischemia in connection with investigations on the ischemic kidney and transplantation, a neurologic bladder study, a five-year United States Public Health Service training grant, and a study on urinary tract infections among school children in Roseville, Minnesota.

The Division expects broadening interest in renal transplantation, renal failure, and studies with the neurologic bladder. Advances have also been made in radical surgery, pediatric urology, and the developing fields of transplantation and urinary diversion. The specialized field of transurethral surgery is of particular importance in the Division's activities and continues to help maintain the Division as one of the active teaching centers for urology in the midwest.

Research is being carried out in the *Department of Ophthalmology* on the effect of high intensity light on the retina, isolation of gamma-glutamylcysteine synthetase, and the effect of diabetes on cation transport of the lens. Major National Institutes of Health grants have been received for research and training, and for research to prevent blindness.

In the last two years, 367 publications by members of the *Department of Pediatrics* have appeared in national scientific journals. The Department has obtained 119 renewal and newly funded research grants each year from all sources, totaling approximately \$3,328,092. These encompass practically every area of fundamental and clinical research applicable to diseases of infants and children. The Department has been visited at least monthly by outstanding scientists from throughout the world.

Dr. John A. Anderson organized and conducted, on request of the Children's Bureau, a three-day international conference concerning phenylketonuria and related inborn errors of metabolics. About seventy participants from the U.S., Canada, England, and Germany participated in the conference at Washington, D.C. A proceedings publication in book form is in preparation for widespread distribution through the Children's Bureau.

A research request to the National Institute of Mental Health to conduct a follow-up study into adulthood on 1,000 adolescents seen in the *Department*

of *Psychiatry* and the *Division of Child Psychiatry* between 1938 and 1950 has been approved. Data gathered on this group should provide significant material for many pertinent studies.

In cooperation with the College of Education and the Minneapolis Public Schools, a year-round school program has been initiated for teaching children admitted to the Children's Psychiatric Hospitals. This development permits not only an opportunity for disturbed children to profit educationally but also makes it possible for students of special education to secure practical experience in their training.

In the *Department of Pathology*, the contributions of Dr. Wattenberg and his colleagues in the study of enzymes which are capable of rendering chemical carcinogens harmless is of great theoretical and practical importance. An American Medical Association grant to Dr. Wattenberg is one of ten programs for tobacco research made possible by a \$10 million grant from major tobacco companies.

Dr. Halberg and his research group continue to make significant contributions in studying rhythms of various physiologic functions. Dr. Halberg is the principal investigator of the first scheduled biosatellite study on rhythms in extraterrestrial space. Of particular interest is Dr. Haus's attempt to find periods during which chemical therapeutic agents are maximally effective and minimally injurious.

The remodeling of the third floor of Lyon Laboratories into laboratories for periodicity analysis in pathology (chronopathology) will be completed in July 1966. The remodeling was financed by the National Institutes of Health, the National Science Foundation, and the National Aeronautics and Space Administration.

The E. T. Bell Pathology Museum is now operating as an effective adjunct to the teaching program. Six console projectors are utilized to display koda-chrome transparencies of material covered in the lectures and laboratory. The material displayed is from material coming through the Department, which enables it to be kept up to date.

In *Physiology*, major grants have been received from the United States Public Health Service for cardiovascular studies and for training and recruitment. Dr. M. Bacaner of the Department discovered that bretylium tosylate is a patent antifibrillatory drug that may be of value in the prevention of fatal heart arrhythmias in human beings. The University is patenting the use of the drug, and, if clinical trials are successful, it should return money to the University.

For the *School of Nursing*, recruitment and retention of suitably qualified faculty in nursing continues to be a major concern because of national shortages in the face of expanding needs. In the past biennium, five members of the faculty have published one or more articles in nursing journals. Six faculty members are engaged in investigations as part of the five-year Research Development Grant awarded to the School by the United States Public Health Service. Other grants received from the Service were for (1) Graduate program in psychiatric nursing, \$144,303; (2) Undergraduate program in psychiatric nursing, \$50,714; (3) Professional nurse traineeships, \$237,782; and (4) Public health nurse traineeships, \$15,635.

The first students were graduated from the newly revised 13-quarter baccalaureate program in nursing in June 1965; the last students to complete the previous 16-quarter program were graduated in March 1965. The master's program in medical-surgical nursing was initiated in the fall of 1965. The first six students will complete their studies at the close of Fall Quarter in 1966.

The following workshops were held by the School in cooperation with other groups: (1) Annual Practical Nursing Education Conference, and (2) Annual Conference for Licensed Practical Nurses. The two workshops had a total of 222 participants. Short-term courses were held on (1) The Role of the Director of In-Service Education Programs in Improving Patient Care, (2) Patient-Centered Approaches to Teaching, (3) Supervision of Patient Care in Nursing Homes, and (4) The Roles of the Head Nurse. A total of 157 nurses were in attendance.

Under the direction of Dr. Amedeo Marrazzi, the *Department of Pharmacology* has initiated two new studies on the mechanism and drug modification

of memory and learning, and the pharmacological comparison of brain stem and other cerebral synapses. These studies are supported by grants of approximately \$95,000 from the National Science Foundation and the Air Force Office of Scientific Research. With National Institutes of Health funds, Dr. Edward Cafruny has begun a study of the mechanism of action of certain diuretics.

During the past biennium, the *Department of Microbiology* has received research assistance from the National Institutes of Health, the National Science Foundation, the Atomic Energy Commission, and the American Cancer Society. In addition, graduate students are supported by two major training grants from the National Institute of Allergy and Infectious Diseases and the National Institute of General Medical Sciences, with budgets totaling approximately \$200,000.

In cooperation with the new College of Biological Sciences, a single quarter course in microbiology has been established as part of the biology sequence for all biology majors; in addition, a major in microbiology will lead to the B.S. degree in the College of Biological Sciences.

The *Division of Neurology*, in addition to enjoying the continuation of two major grants for the Neurological Research Center in Cerebrovascular Disease and Clinical Neurology Training, has been the recipient of approximately 30 grants covering most of the major areas of neurology: neurophysiology, neuropathology, neurochemistry, and pediatric neurology. Further, the Division participated in the International Collaborative Study of Cerebrovascular Disease with Minnesotan and Japanese investigators in Hawaii, 1966, as well as in a symposium on epidemiology of multiple sclerosis.

The following changes took place in the *Department of Laboratory Medicine* during the 1964-66 biennium: (a) Establishment of a Division of Immunology, (b) Establishment of a Computer and Data Processing Division, (c) Establishment of an emergency acid-base and electrolyte laboratory for surgical services, (d) Establishment of a biochemical genetics laboratory, and (e) Initiation of research in development of methods division in the Division of Clinical Chemistry.

Studies are in progress in the Department on the likenesses and dissimilarities between cardiac and skeletal muscle properties, and a United States Public Health Service grant was received to support studies of the hydrogen exchange properties of proteins. Grants were also received for research on (a) Oxygen exchange reaction on heart and skeletal muscle proteins, (b) Relationship between the sub-unit structures of enzymes, (c) Purification of blood coagulation factors to make improvements in clinical tests of the coagulation mechanisms, (d) Inhibition of glycolysis in cancer cells and normal cells, (e) The nucleic acid replication patterns in developing cells as related to congenital defects in man, and (f) A summer institute on teaching techniques in medical technology, established and supported by the United States Public Health Service.

Research grants totaling approximately \$164,000 were awarded the Department from the United States Public Health Service, the Muscular Dystrophy Association, the American Cancer Society, and the Minnesota Heart Association. Five new courses were added to the Department's curriculum, as well as an honors program in medical technology.

The southwest courtyard addition to the clinical laboratories will be completed early in 1967. It will add 8,000 square feet to the laboratory area and provide new facilities for chemistry, microbiology, a division of genetics, and a new division of immunology laboratory.

Acute needs for future laboratory space for teaching, and classroom and office space in relation to teaching, are particularly urgent because of increased enrollment in medical technology and changes in the curriculum. Additional faculty needs will be felt in the years 1967-69.

Building has characterized the activities of the *University Hospitals* during the last biennium. At present, the capacity of the Hospitals, with all units open, is 764 beds. The \$1,000,000 addition to the Masonic Memorial Hospital will add one floor with 40 beds—5 for children and 35 for adults—and another floor for cancer research. The addition was started in 1965 and will

be completed in the fall of 1966. Funds were contributed by the Masons of Minnesota.

The new Children's Rehabilitation Center houses 40 patients—20 children and 20 adults—with occupational and physical therapy treatment areas for children and facilities for the teaching and research activities of the Department of Physical Medicine.

The addition to the Variety Club Heart Hospital was started in May 1964 and will be dedicated in September 1966. It will provide facilities for the conduct of more diagnostic and therapeutic procedures. Building costs have amounted to approximately \$1.2 million, the Variety Club of the Northwest raising over half, with matching funds from Minnesota Hill-Burton.

The Meditation Room, the gift of an anonymous donor, was constructed at a cost of \$187,000 and was finished in the fall of 1965. It is well used and appreciated by patients and their families who wish a quiet spot for meditation or a place for counsel with their clergyman or doctor.

Remodeling in the Hospitals during the last two years has included the following:

1. Station 22, with a capacity of 27 beds and facilities for special study and care of patients admitted for kidney transplants, opened November 1964.
2. The four stations on the east side of the building—Stations 50, 40, 41, and 31—were remodeled in two phases. Work began in November 1964, and the stations were reopened in February 1966. A large share of the funds for Items 1 and 2 were provided by the legislature as part of a long-range remodeling plan for the Hospitals.
3. Obstetrics and the Nursery—The first phase of the remodeling will be completed, and the patients moved to the remodeled area, the last of June.
4. The addition to the Hospitals Laboratories and the Business Office is well under way. This project includes remodeling of the old area and the Admissions Department. It will not be completed until fall or winter of the next fiscal year.

The Hospitals started participation in providing care for patients under the Minnesota Medical Assistance program, part of the new federal Medicare legislation. The inauguration of this program has produced a change in pattern of financial operation of the Hospitals which we expect to continue, especially with the advent of Medicare.

The statistical summary for 1964 and 1965 shows the activities of the Hospitals.

UNIVERSITY HOSPITALS STATISTICAL SUMMARY

	1964-65	1965-66
Admissions		
Inpatients	15,982	15,288
Outpatients	24,957	23,764
Average Daily Census	623	621.45
Average Length of Stay	14.2	14.8
Total Patient Days of Hospital Care	227,557	226,830
Patient Visits to Outpatient Department	123,056	119,812
Patient Treatments in Rehabilitation Department	153,313	163,678
Patients assisted by Social Service Department	13,421	14,551
Hours given by Volunteers	22,637	21,132
Surgical Operations	11,695	12,002
Prescriptions filled by Pharmacy	367,206	377,531
Hospital Laboratories Examinations and Procedures	843,681	934,946
Radiographic Examinations	71,932	70,992
X-Ray and Cobalt Therapy Treatments	13,642	13,005
Medical Records used for all purposes	248,271	256,874
Medical Records used for research	32,408	31,238
Meals Served	934,648	929,557
Number of Employees	2,088	2,182
Cost of Operation		
Outpatient	\$ 1,388,844.00	\$ 1,452,872.67
Inpatient	\$12,936,222.87	\$13,629,551.49

This large complex of hospitals, designed to care for patients with a wide range of problems, provides facilities for teaching, service to patients, and research. Its staff, alert to new developments and changes, constantly works toward the improvement of patient care.

During the 1964-66 biennium, the *School of Public Health* continued to serve in a three-fold capacity, namely, instruction in hygiene, preventive medicine, and public health for students throughout the University; professional training of personnel to be employed in various public health programs; and promotion of research and research training in a wide variety of fields.

As of the end of the biennium, the School was operating under 27 special training grants, chiefly from the U.S. Government, and 45 research grants, the former totaling \$1,558,422 (including student stipends) and the latter amounting to \$1,285,078.

Also, during the biennium, 27 physicians, 15 veterinarians, seven dentists, 94 public health nurses, 35 health educators, 84 students in various aspects of environmental health, 70 in hospital administration, 53 in biostatistics, and nine with miscellaneous professional backgrounds have been registered in the various degree programs in the School. The special summer courses in ground water development, hospital engineering, and sanitary biology have attracted 60 engineers, 72 hospital personnel, and 34 biologists, respectively.

Among the various programs of training carried on within the School, several are worthy of special note either because of their unusual character or as significant additions to an already broad program of professional training.

1. *Ground Water Development.* This program, initiated at the request of the Department of State and the World Health Organization some eight years ago, provides ten weeks of intensive summer work for a select group of engineers from nations that are faced with serious problems of limited water resources and must do more to develop their ground water supplies.

2. *Hospital Engineering.* The growing complexity of modern hospitals and the new problems with which they are confronted in providing facilities for the treatment and care of patients undergoing some of the newer procedures such as cardiac surgery and organ transplant have created a need for more serious consideration of the engineering aspects of hospital maintenance and construction. In this country, the School of Public Health has pioneered in the establishment of a recognizable program of hospital engineering, in support of which the School has obtained Public Health Service training and research funds to conduct short courses for engineering staff currently employed by hospitals, long-term training of a small group of highly specialized environmental health experts, and promotion of research in the environmental problems confronting the modern hospital.

3. *Training of Public Health Nutritionists.* Although a number of other schools of public health have for several years been training persons to work in the public health aspects of nutrition, establishment of such work at Minnesota has been delayed until the past biennium, by which time the School felt that it was prepared in terms of staff to provide a coordinated program, utilizing facilities not only of the School but also of other parts of the University.

4. *Training in Research Methods in Sanitary Biology.* For over ten years, staff of the School have been working during the summer months on studies of pollution of Lake Superior, such studies being carried on in collaboration with staff of the Department of Biology at the Duluth Campus and housed within a limnological laboratory located on the shore of Lake Superior.

5. *Personal Health.* In addition to the various types of professional training programs that are available through the School of Public Health, special note should be made of the undergraduate instruction in personal health and hygiene provided by the School for students in the various undergraduate colleges. During the past biennium, instruction of this character has been provided to more than 10,000 students, an enormous teaching load carried almost

exclusively by one person, Dr. Stewart C. Thomson. The high quality of instruction provided by him has been such as to attract the attention of many other universities, a number of which have belatedly recognized the importance of college level instruction of this character as a part of the cultural development of the student and are instituting courses modeled so far as possible after those developed at Minnesota.

When the several programs leading to the Master of Public Health degree were established ten to twenty years ago, they were envisioned as comparable to those in other schools of public health and as requiring only a single academic year. As years have passed it has become increasingly apparent, however, that the minimum course content cannot be provided within this limited period of time. Several of the Master's degree programs within the School have already been materially expanded in duration and content. Those in environmental health, health education, and veterinary public health have been lengthened to a minimum of 11 months, and each year more students are staying for a second or third year of study. The program in public health nursing has been extended to five academic quarters, and all students entering in the fall of 1966 will be required to remain in residence for six quarters. In 1967, students entering the course for medical health officers will similarly be required to be in residence for a minimum of 11 months.

During the past biennium, there has been a rapid expansion of the research programs, particularly in the fields of physiological hygiene, environmental health, and epidemiology. For many years, the Laboratory of Physiological Hygiene has been conducting an active program of investigation of the relationship between nutrition and cardiovascular disease. With the development of expanded research laboratories in the basement of the west wing of the Health Service, financed by a research construction grant from the Public Health Service, the School has been able to expand materially its growing program of research in environmental health. Most notable in this regard are studies in the control of the spread of infections within hospitals and on various aspects of space biology and air pollution, for all of which areas the School has obtained generous support from various parts of the federal government.

The rapid growth of the School and the expansion of its many programs of instruction and research have created serious problems both as to staff and as to physical facilities. The School of Public Health has today the second largest student enrollment of all such schools in the United States. In addition, it provides instruction in the undergraduate and other professional colleges which is not provided by all other schools in their respective universities.

The School is urgently in need of expanded physical facilities, and, in the case of the Laboratory of Physiological Hygiene, extensive renovation of its present facilities to make them useable until such time as new facilities can be provided. Unless expanded facilities can be provided, the School must unfortunately look forward to retrenchment of its growing programs, retrenchment that will result in a decrease of federal support at a time when more is needed simply to keep up with present demands.

DEPARTMENT OF MILITARY SCIENCE

WILLIAM D. BEARD, *Colonel, Infantry*

The Army ROTC continued its traditional mission of providing students with an opportunity to earn a commission in the Regular Army or the United States Army Reserve through an integrated program of college-level military instruction.

The military science curriculum remained substantially the same. A two-year ROTC program, begun in the fall of 1965, permits students to enter the program at the beginning of their junior year and be commissioned in two years. The special course, "World Affairs in Anthropological Perspective," conducted by the Department of Anthropology, continues to be offered.

Beginning with the school year 1965-66, the Department of the Army began a scholarship program which provided recipients with full tuition, fees,

classroom supplies, and \$50.00 a month. Four-year scholarship recipients were selected from national competition. Five such students were enrolled at the University. Two-year scholarship recipients were nominated by the PMS from the MS II class. This University had a quota of two, which was filled.

ROTC strength at the end of each school year was as follows:

School Year	Basic Course		Advanced Course		Total
	1st Year	2nd Year	3rd Year	4th Year	
1964-65	86	48	29	35	198
1965-66	81	56	45	30	212

A total of 69 students were commissioned during the biennium, compared with 88 during the previous period.

Reserve Officer Commissions, 1964-65: 29
 Reserve Officer Commissions, 1965-66: 31
 Regular Army Commissions, 1964-65: 9
 Regular Army Commissions, 1965-66: 11

An analysis of ROTC graduates at officer basic courses conducted at Army Service Schools during 1964-65 shows that University of Minnesota graduates were above the national average of those placing in the upper and middle third of their courses.

OFFICER MEMBERS OF THE DEPARTMENT OF MILITARY SCIENCE

Name	Grade	Reported	Departed
William D. Beard	Colonel, USA	Aug. 1965	
Robert J. Elliott	Lt. Co., USAR	April 1959	Aug. 1965
Linton C. Beasley	Major, USA	Sept. 1962	July 1966
Ro'and E. Berg	Major, USA	June 1952	Aug. 1965
Eric A. Erickson	Major, USA	April 1962	Oct. 1954
Raymond L. George	Major, USA	July 1961	Sept. 1964
Daniel R. Zenk	Major, USA	Aug. 1963	(to leave— Aug. 1966)
Kent E. Harrison	Captain, USA	June 1965	
James F. Iaconis	Captain, USAR	July 1965	

The Army Flight Training Program was conducted at the University Flight Facility during the biennium. Three students completed the program during 1964-65, and two completed it during 1965-66.

The Pershing Rifles, the Scabbard and Blade Society, the Army ROTC Rifle Team, the Cadet Band, and the "Kadettes" continued to be active.

The ratings for the Annual General Inspection were again "Satisfactory," the highest rating, with comments on the excellent quality of the program.

UNIVERSITY OF MINNESOTA, MORRIS

RODNEY A. BRIGGS, *Dean*

Continued change and maturation characterize the 1964-66 biennium for the University of Minnesota, Morris; for after becoming a four-year liberal arts college in 1964, this campus has experienced further developments in enrollment, curriculum, administrative and faculty structure, building program, and potential to continue to offer the best in education and cultural events to the State of Minnesota. The significant aspect of the growth of this college is that it moves in directions of increased quantity and improved quality simultaneously. A brief study of the changes that have taken place in the last two years in terms of human resources and physical plant facilities will demonstrate these aspects of growth.

Enrollment has increased from 690 in 1964 to 984 in 1965, and the scholastic aptitude of the qualified student has risen in like manner. In each type of measurement, the 1965-66 freshman class ranked above previous classes.

High school rank has risen from 81% in 1963 to 84% in 1965, and MSAT and ACT composite scores have climbed from 58% to 72% and 23 to 25, respectively. With new and expanded housing facilities, the percentage of students who commute to campus has dropped steadily until, in 1965, eighty-two percent of the student body lived on campus or in housing in the community of Morris. Sixty-nine counties and 207 high schools from Minnesota are now represented in the student population.

In order to provide the physical setting for the rapidly expanding work of the campus, the original building program for the college has been accelerated. The Morris Campus Planning Committee, after five years of deliberation, has completed a proposed ten-year master plan for the entire campus which will serve a student enrollment of 2,000. At the present time, the first of many new residence hall units has been completed. This structure houses 120 students and was financed through federal loan monies as was the second dormitory unit for 140 students, scheduled for completion during 1967. Before the first residence hall for 120 students was completed for the Winter Quarter of 1966, a "hotel dormitory" had to be established last fall in the two hotels in the community of Morris, and a commuter bus service operated during that time for students involved in this temporary housing. The first unit of the natural science complex will be ready for use in the fall of 1966, with the second unit planned for completion the following year. The first unit of the new library, to begin construction during the summer of 1966, will help remedy the inadequate and temporary storage of the library in Edson Hall. Future expansion of the physical plant on the land immediately surrounding the present campus will become possible as the West Central Experiment Station of the University begins to move its facilities to recently purchased property located one mile east of the present site.

Special funds obtained through governmental agencies have provided monies to initiate and improve teaching and research facilities on campus. In 1962, Dr. Eric Klinger received a National Science Foundation grant of over \$46,000 to conduct experiments in psychology dealing with stimulus determinants of fantasy and identification. This research has assisted in the equipping of a laboratory for motivational experiments from which both faculty and students have benefited. Other monies totaling \$16,600 have been received to equip other psychology laboratories that will familiarize the student with current research tools and strategies in areas of perception and sensation. Matching funds with a federal grant under Title VI of the Higher Education Act has provided a total of over \$36,000 to equip a new foreign language laboratory and a new statistics laboratory. Plans are being made now to establish remote access to the CDC 6600 computer on the Minneapolis campus of the University when possible so that the Morris campus will be able to utilize this important tool for aspects of its administrative work, teaching, and research.

Curriculum—As the core of the liberal arts college, the curriculum has developed with other aspects of the campus. In the fall of 1966, four additional liberal arts majors are to be offered in Philosophy, Speech and Theatre Arts, Chemistry, and Physics, raising the number of majors offered to 18, and minors to 19. On the basis of a thorough reexamination of the four-year curriculum as it was developed from 1960 to 1964, a new set of requirements was introduced for the Bachelor of Arts degree on this campus in the fall of 1966. General education requirements were raised from 90 to 120 credits, to be distributed over the five general areas of English, foreign language, social sciences, humanities, and the natural sciences. In addition to these requirements and a major, the student must earn an additional thirty credits, preferably outside the general area of his major subject. Such an increase in numbered requirements does not make the program more stringent. On the contrary, it paradoxically allows for greater ease in program planning and hopefully leads to a sound liberal arts experience within the curriculum. Studies have also been made of the tutorial method of instruction, and such pedagogical methods are now being followed in some courses in psychology, the fine arts, and history, as well as in the directed research studies offered within each subject matter area of the curriculum.

Another significant development relating to curricular matters is the introduction on an experimental basis in the fall of 1966 of television replay units to the Morris campus. These will be used to supplement the present course offerings through taped lectures, to teach multisection classes, and to act as a visual aid in demonstrations necessary in some types of instruction. Preliminary discussions have taken place with administrators and staff members of Fergus Falls and Willmar Junior Colleges to establish interinstitutional uses and benefits from this medium of instruction through cooperative work in the area and to utilize the present educational television channel which operates from Appleton, Minnesota. The first results of such unified efforts will be an introductory course in mathematics offered from the Morris campus via taped lectures to the three colleges. This project will be implemented as soon as it is feasible.

One more important adjunct to the curriculum was introduced to this campus in the fall of 1965. A freshman honors program was put into operation with forty-seven students organized into three discussion groups with faculty advisers. It is the purpose of the honors program to identify the student of high ability and allow him to experience continuous and cumulative achievement in academic situations varying from group discussions to independent study. After the initial freshman honors seminars of 1965-66, a sophomore program will be introduced in 1966-67 with the purpose of developing a four-year honors program in the years to come. Interdisciplinary in nature, supplementary to the regular course offerings, and reliant upon independent inquiry, the honors program will continue to be a highly important aspect of growth within the liberal arts goals of this college.

Organization—Less obvious but equally important are the patterns of growth and stabilization that occur within the internal structure of the institution. A faculty constitution was approved by the faculty during the 1965-66 academic year and has now been forwarded to the central administration of the University for ratification. This document defines the powers and responsibilities of the Dean, administration, and faculty, and formally establishes eleven standing committees to carry out the work of the college in academic affairs. Students are represented on seven of the committees and were placed there on the premise that students should have a representative voice in matters of curriculum, student behavior, and other work of the college that directly affects and concerns the total campus.

With the recognition that the first responsibility of the college is to insure the student an enriching experience within a liberal arts framework, additional efforts have been made to create a campus environment conducive to attaining such a goal. An Office of Student Activities was created in the fall of 1965 to coordinate and direct extracurricular activities of the students. Fundamentally, the Office operates as a catalyst to stimulate students to take an active role in their education while in college and individually contribute to the total life on a liberal arts campus. Responding to this stimulus, the Morris Campus Student Government has redefined its responsibilities by reworking its constitution to allow equitable representation of students in their own government and also to establish officers and committees to promote student responsibility in significant programs such as course evaluation and quarterly student-faculty symposia. Beginning in the fall of 1965, the Danforth Foundation designated a faculty member as a Danforth Associate for the Morris campus and provided the challenge to further the development of educational experiences through informal group discussions and activities. A Danforth Discussion Group was created on the campus which established some precedents for more fruitful and less formal contact between students and faculty. Also, an Alumni Office was established after the first commencement in June of 1964. In addition to distributing a quarterly newsletter to graduates, the Alumni Organization has assumed the role of successfully directing the annual Dollars for Scholars Drive for student scholarship money.

The Financial Aids Office on this campus has kept abreast of developments in resources available through the federal government to assist students with the financial burden of their education, which many must assume themselves. Through the National Defense Student Loan Program and other loan

agencies, a total of \$248,760 was borrowed in 562 transactions in the last biennium, serving approximately 30% of the student body during each academic year. Scholarship funds originating from individual contributors and the Dollars for Scholars Fund Drive benefited approximately 10% of the student body by awarding a total of \$227,250 during the last two years. All-University Scholarships presented to freshmen during the same period amounted to \$19,030, and an additional \$3,950 was awarded to students with advanced standing. An average of 125 new job opportunities per quarter have been made possible on this campus since June 1965, when the Federal College Work-Study Program went into effect. From June 1965 through December 1966, a total of \$272,692 will have been allocated for this significant program to allow the student to earn a portion of his college expenses while attending school.

In addition to those matters which serve this campus directly, other projects have been carried out which not only benefit the larger environment of the state but also reflect the continued energy and creative outlook of the college. The Division of Education has accomplished two such projects of wide implications. The first is an N.D.E.A. Institute in Reading, offered on this campus simultaneously with an identical program on the campus of the University of Minnesota, Duluth, from June 13 to August 5, 1966. The primary purpose of the Institute is to aid first- and second-grade teachers in improving their teaching skills in reading. This intensive course includes lectures, guest speakers who are specialists in the field, and class demonstrations to the thirty teachers enrolled at Morris. These teachers were chosen from numerous applicants because they qualified as individuals who would be able to lead in matters of curriculum in their own schools and return to their teaching to benefit their entire school systems through the experience of the Institute. Twenty-four children from the ages of six to seven are an essential part of the Institute. They, also benefiting from the experience, act as the laboratory in which the principles of instruction in reading can be demonstrated and the actual creative work of teaching can take place.

A regional nonprofit corporation consisting of fifty-five member public institutions has also been created through the efforts of the Division of Education on the Morris campus. This second achievement of the Division is called the Southwest and West Central Minnesota Educational Research and Development Council. Major functions of the Council, which was incorporated in 1966, are to obtain and disseminate information about resources that could be obtained to improve education in this region of the state, to carry on research to assess the needs of the area, to develop programs in education beneficial to member institutions, and to coordinate the efforts of all educational agencies in the region. Officers and board members of the Council have been elected, and the work of the organization is already under way in assessing the educational needs of the youth in the region.

Cultural Events—The offering of numerous cultural events on the campus of the University of Minnesota, Morris, continues to provide a stimulus to fine arts on the campus and in this region of the state. The Artists Course series of concerts, convocations, fine art films, art exhibitions, dramatic performances, and orchestra and band concerts comprised the regularly scheduled offerings throughout the year. The third annual Arts and Letters Festival presented from May 15-24 climaxed the year's offerings of the fine arts by presenting 23 events within a nine-day period. Two new regular features were added to the campus during 1965. One is a rare-book display, which presently shares the space in the art gallery in Edson Hall and provides exhibits of rare volumes from the sixteenth to the eighteenth centuries in a series of four displays. The Office of Student Activities initiated the second new feature in the Celebrity Series of concerts, which brings to the campus nationally known entertainers who are especially popular with the student body.

Facilities—When this college of the University was begun in 1960, it was predicted that student enrollment would reach 1,000 by 1970. This level was effectively reached in the academic year 1965-66. Because of this rapid rate

of growth and the tremendous potential that continues to become realized in the various aspects of this college, the needs of this campus have continued to be great. The need for an expanded physical plant is the most obvious, and the most pressing requirement in this area is residence halls to house the rapidly growing student population. The community of Morris can no longer meet this need because all available off-campus housing is filled. Unless 250 new spaces in dormitories are added each biennium, enrollment must be limited to existing housing. A total of \$300,000 is needed to meet 25% of the cost of a new residence hall to be constructed during the 1967-69 biennium and financed largely through federal loan monies. The campus is also critically short of office space for its faculty. When the second unit of the natural science building is completed in the fall of 1967, it will provide space for eighteen faculty offices; but even at that time there will still be a 15% shortage in space despite the fact that many offices are shared by two faculty members. Faculty will continue to be cramped in inadequate office space for the next year.

The present indoor and outdoor physical education facilities are inadequate to the task of preparing future teachers for physical education careers, meeting general education needs of the students, and providing voluntary recreational and intramural experiences. The existing gymnasium was constructed 37 years ago for the West Central School of Agriculture, was built for a student population of 400, and was to be used for only six months during the year. Consequently, the present structure is not only too small for the Morris campus, but outdoor playing fields have never been adequately developed to serve the campus. These outdoor areas, consisting of an intramural football field and an intramural baseball field, together with a gymnasium that will handle the predicted student enrollment of 2,000 students, are high on the list for new construction during the next biennium. The cost for these projects is estimated at \$1,500,000.

Changes and additions must be made in existing utilities and service facilities to allow for adequate functioning of present and future buildings on campus. The first phase of a new heating plant, heating tunnels, and piping, the first phase of an electrical distribution system, and new roads and drainage systems are also required during the next biennium if this campus is to develop according to the plan created by the Morris Campus Planning Committee. The addition of the new construction and installations would total \$1,037,300.

The need for a new food service building is directly related to the proposed rate of increase of residence housing on campus. By the fall of 1967, when 600 students will be living on campus, the present food service facility which serves 400 will be totally inadequate. Preliminary planning is complete, and cost estimates for the new structure fall between \$630,000 and \$650,000. It is hoped that financing can be found for the proposed structure. The new building would be able to service 1,000 students comfortably at peak capacity and adequately function to meet growth patterns in residence housing.

Needs—With the predicted enrollment of 1,150 in the fall of 1966 and the concentrated use of classroom space, which in 1965 was scheduled 90% of the normal classroom day, nineteen new faculty positions are needed during the next biennium. Fundamental to this need is the responsibility of the college to offer to the student those courses with which he can meet his requirements for a sound liberal arts education. Because the liberal arts curriculum contains specific areas of instruction within a single subject matter area, faculty who are competent in these disciplines must be secured to adequately offer the major courses of study in the curriculum. Multisection classes, courses offered each quarter or every academic year, and the increased number of major subject matter areas of study are also causes of the need for additional faculty positions.

The Morris campus of the University of Minnesota is geographically removed from other centers of the University and thus must provide for itself locally many of the internal structures, functions, and units which are parallel, but not necessarily identical, to those on other campuses of the University. It seems proper and necessary that the University recognize and deal with

its multicampus nature. Presently there is no codification of Regents' policy as it affects various campuses of the University, no appropriate structuring of the University Senate and its standing committees, and no recognition of the obvious differences among the various colleges of the University that might necessitate changes in tenure code, scheduling of examinations, scheduling of the academic year, grading systems, and other important areas in the administrative and academic functioning of each college. A study of the University of Minnesota as a multicampus institution and a resultant modification in structure and function is imperative at this time, before present problems become more complex and new dilemmas arise in the future growth of the entire institution.

The commencement exercises for eighty-four seniors on June 13, 1966, brought the total of University of Minnesota, Morris, graduates to 248. The number, though small, is, however, satisfying in the realization that the majority of these persons would not have been able to receive the Bachelor of Arts degree unless the State of Minnesota had the concern and the wisdom to meet the need for higher education after that need became evident in this region of the state. Presently the meeting of that need extends beyond the immediate community and region of the University of Minnesota, Morris, as this college continues to become an institution of higher learning that is known throughout the Upper Midwest. Certainly those students who have graduated will continue to demonstrate the high quality of liberal arts education received at the Morris campus as they fill their roles in society as individuals who are well-trained in their specific professions and who possess a larger realization of their responsibilities as persons in an extremely difficult and challenging time.

MUSEUM OF NATURAL HISTORY

W. J. BRECKENRIDGE, *Director*

Two major events dominate this biennium in the history of the Museum: (1) The building of the new wing on the Museum, and (2) The administrative transfer of the Museum from independent status under the Academic Vice-President to comprise a unit within the new College of Biological Sciences. The new wing has only the top and bottom floors completed for use. The middle two exhibit floors remain unfinished, awaiting the remaining \$140,000 legislative appropriation comprising the second half of the University request made to the last legislature. The top floor is now occupied by the collections, laboratories, and offices of the mammalogy and ornithology departments, while the basement level now houses the ichthyology collection recently moved from Zoology and the pleistocene paleontology collections together with their laboratories and offices. An open house was held on June 21, 1966, giving donors the opportunity to view the building and learn of the future plans.

The Museum staff has some reservations about the benefits to be derived from the transfer into the College of Biological Sciences, but the cooperative reception it has received from the present dean, Dr. Richard S. Caldecott, gives promise of continued growth and effective service.

Research—The research program of the Museum is being continued with the following grants active during the 1964-66 biennium:

1. The Maud and Louis Hill Family Foundation: \$69,523—November 1, 1964, to October 31, 1965. Not renewed. A study of motile responses of animals to radiation fields and other environmental factors.
2. U.S. Atomic Energy Commission: \$17,020—May 1, 1964, to April 30, 1965; \$17,321—May 1, 1965, to April 30, 1966. Radiation and other factors influencing the distribution of animals.
3. U.S. Atomic Energy Commission: \$63,692—October 15, 1964, to October 14, 1965; \$75,809—October 15, 1965, to October 14, 1966. *Effects of Ionizing Radiation on Certain Aspects of the Breeding Behavior of Selected Species of Anatidae (Waterfowl).*

4. National Institutes of Health: \$14,287—May 1, 1964, to April 30, 1965. Terminated April 30, 1965. Energy Requirements of Birds under Varying Activity Levels.
5. National Institutes of Health: \$46,677—July 1, 1964, to June 30, 1965; \$46,541—July 1, 1965, to June 30, 1966. Ornithology, mammalogy, ecology, microbiology, and tropical medicine.
6. Office of Naval Research: \$14,947—April 1, 1965, to May 31, 1966. A method for obtaining total quanta of light impinging on animals in the natural environment by electrolytic memory systems.
7. University of Minnesota Graduate School: \$4,000—March 1, 1966, to June 30, 1967. Serological studies of phylogenetic relationships in bears.
8. World Wildlife Fund: \$2,000 (first installment) May 1966. Spectacled bear study.

Our research collections have been added to as follows: Birds, 1,000; Mammals, 206; Fishes, 25,000 (new collection transferred from Zoology); Pleistocene vertebrates, 122 (new collection); Molluscs, 755 (new collection, gift of Samuel Eddy).

Gifts—We are further indebted to Mr. Whitney Eastman, who, after fulfilling the Museum's promise to secure \$300,000 of nonstate money for the new Museum wing, has continued seeking funds and has secured \$5,000 gifts from Mr. Wallace Dayton and Mr. and Mrs. George Harsh, and \$2,557.86 from Mr. Thomas Crosby. These will be used to finance exhibits in the new Museum wing. The Morse Foundation, mainly through the influence of Mrs. Herbert Richardson, donated \$6,000 for major costs in developing the aviary-terrarium in the glassed-in area between the Museum building and the new wing. The Minneapolis Audubon Society has contributed another \$150 to the work of the Museum, together with a rare and very valuable specimen of the now possibly extinct Ivory-billed Woodpecker.

The World Wildlife Fund had asked Dr. A. W. Erickson, prior to his appointment as Curator of Mammals, to advise on research in South America regarding the preservation of the disappearing spectacled bear. A gift of \$4,000 was offered him to make preliminary investigations in Brazil, Peru, and other South American countries. The first installment of \$2,000 has been received and is being handled through our Special Collections budget, as are other gifts to the Museum.

The Wilkie Brothers Foundation again generously subsidized W. J. Breckenridge's Alaskan trip, which was carried out in June 1965, with \$1,737.95. Bird specimens were collected and motion pictures taken, primarily for a film dealing with bird migration.

Exhibits—Five permanent exhibits have been completed and 32 temporary displays have been installed for varying lengths of time. These latter supply the element of change so necessary to supporting sustained interest on the part of Museum visitors. Many of these displays are retained for showing in state parks or at appropriate educational meetings and later will be available for temporary use in the new wing previous to the completion of more permanent exhibits planned for that area.

State Park Naturalist—As noted in the 1962-64 biennial report, this report will include the complete summer activities for 1964 and 1965, and subsequent biennial reports will cover the previous two summers' operations. This is due to the fact that the fiscal year terminates in the middle of the active season for this public service. This University of Minnesota-Division of State Parks cooperative program served visitors in 18 different state parks.

Mr. D. K. Lewis and the staff of naturalists are still striving hard to meet the increased demands for additional naturalist services in the various state parks. Seventeen self-guiding trails served 150,750 visitors, and nine additional trails are being prepared. Six naturalists serving in six state parks personally

conducted trail walks, auto caravans, and boat trips serving 30,000 park visitors. These naturalists conducted illustrated evening programs attended by 75,000 guests. Eight park museums (the Itasca Museum was closed in 1965 for rebuilding) were visited by 360,000 persons.

Attendance—Due to the fact that bona fide Museum visitors cannot be distinguished from students who may be attending classes as well as viewing exhibits, no effort is made to tally attendance during the week except for organized groups. Sunday programs have been well attended, with a total of 10,515 visitors at the 20 programs, for an average attendance of 526. Museum guides conducted 418 groups (12,529 students) through the Museum in 1964-65 and 481 groups (13,693 students) in 1965-66. During this period, 153 groups (7,641 students) visited the Museum in 1964-65, and 204 groups (9,012 students) in 1965-66, guided by their own teachers.

Future—With the Museum becoming a unit in the College of Biological Sciences, opportunity is presented for expansion of several of our public services as a public information source for all the biological sciences. This applies particularly to exhibits, radio-TV, Sunday program series, and other staff lectures and publications. An additional series of programs on a week-day evening, giving various biological fields an opportunity to present research findings, is being considered.

The new wing displays will expand the Museum's coverage of geology and archeology-anthropology. The lower of the two exhibit floors is being planned to treat the geologic past of the Minnesota region, explaining the basic sources of our regional natural resources in a somewhat chronological manner and including evidences of prehistoric man and his cultures known to have existed in this region. The present Museum treats the modern natural life of this area while the new hall will explain why such natural life occurs here. The upper exhibit hall will be reserved for temporary treatment of many varied and timely subjects in the natural history fields, units remaining on exhibit for several months to perhaps a year. These halls will give the Geology and Geophysics and Anthropology Departments the opportunity to display pertinent collections which have been removed from public viewing in recent years due to the press for classroom and research space.

Significant additions to our Museum personnel, as well as support funds, will be essential to carry out the above programs without extremely slow progress in their accomplishment. Private funds and support of certain commercial concerns will be sought to aid these projects.

DEPARTMENT OF NAVAL SCIENCE

J. M. MARSHALL, *Captain, U.S. Navy*

During the biennium, the Naval ROTC Unit continued its primary mission of providing, by a permanent system of training and instruction in essential naval subjects at civilian educational institutions, a source from which qualified officers may be obtained for the Navy, the Marine Corps, the Naval Reserve, and the Marine Corps Reserve.

The NROTC Unit also continued to maintain command and administrative responsibility for naval personnel attending the University under other college training programs sponsored by the Department of the Navy.

Annual NROTC enrollment consists of two main groups—the "Regular" NROTC students and the "Contract" NROTC students. Both groups follow the same Naval Science curriculum. The Regular NROTC student is a candidate for a regular commission in the Navy or Marine Corps. His training is subsidized by the Navy, i.e., tuition, fees, books, and a subsistence allowance. The Contract NROTC student is a candidate for a reserve commission in the Navy or Marine Corps. His only financial support by the Navy is the payment of a subsistence allowance during his final two years at the University.

The annual enrollment in the Regular program is relatively stable. Enrollment of incoming Freshmen Regular students this biennium is as follows: fall 1964—44; fall 1965—36. Total for this biennium—80, compared with 83 for the last biennium.

Contract student enrollment also remained relatively stable. Enrollment of incoming Freshmen Contract students this biennium is as follows: fall 1964—54; fall 1965—34. Total for this biennium—88, compared with 83 for the last biennium.

The Naval Science curriculum remained substantially the same as during the previous biennium. The one exception was the up-grading of the Naval Engineering curriculum in the fall of 1965 to present a considerably more sophisticated treatment of thermodynamics as related to a marine propulsion plant.

Beginning with the school year 1966-67, the Department of the Navy will offer a two-year NROTC Contract program. Students selected for this program will attend a summer session at another university to complete the first two years of the Naval Science curriculum and will join the Midshipmen of this University as second classmen (juniors) to complete their final two years of the normal Naval Science curriculum.

All Regular NROTC students participate each year in a summer training period either aboard a naval ship or at a naval base. Contract students participate in only one shipboard cruise, the summer prior to their last year at the University.

NROTC students, Regular and Contract, have the option to choose at the end of their sophomore year to continue in the Naval Line Officer sequence or to apply for either the Supply Corps or the Marine Corps programs offered at this University. Successful completion of these programs leads to commission as Ensign or Second Lieutenant, respectively, in the two programs.

The Flight Indoctrination program to motivate NROTC students toward flight training has been successfully continued. About 35 hours of flight instruction by private flying schools have been provided to each qualified senior and junior NROTC student.

NROTC graduates of the University of Minnesota during this biennium follow:

	1964-65	1965-66
Ensign, U. S. Navy	24	14
Ensign, U. S. Navy Reserve	12	9
Second Lieutenant, U. S. Marine Corps	2	4
Second Lieutenant, U. S. Marine Corps Reserve	0	1
Total for Biennium: 64		

All students who qualified for commissions were ordered to active duty within a month of being graduated and commissioned.

OFFICER MEMBERS OF THE DEPARTMENT OF NAVAL SCIENCE

Name	Grade	Reported	Departed
James M. Marshall	Capt., USN	Sept. 1965	
Edward M. Morgan	Capt., USN	Aug. 1962	June 1965
Arthur J. Sullivan	Lt. Col., USMC	July 1962	June 1965
Edward O. Dietrich	Cdr., USN	June 1965	
Charles Fimian	Major, USMC	Aug. 1963	June 1966
George C. Greene	Lcdr., USN	Aug. 1963	June 1966
Ian G. Pottinger	Lcdr. (Sc.), USN	Aug. 1963	June 1965
Leon L. Pierce	Lcdr. (Sc.), USN	Sept. 1965	
Stanley B. Palmer	Lt., USN	Sept. 1962	June 1965
Donald E. Taylor	Lt., USN	Aug. 1965	
Kenneth M. Royalty	Lt., USN	Sept. 1965	
Michael J. McCabe	Lt., USN	Aug. 1963	May 1965
John M. Richardson, Jr.	Lt., USN	Aug. 1963	June 1965
Steven R. Closson	Lt. Jg., USNR	Sept. 1965	

COLLEGE OF PHARMACY

LAWRENCE C. WEAVER, *Dean*

Enrollment—Undergraduate enrollment increased, as is indicated in the table below:

<u>Year</u>	<u>Fall</u>	<u>Winter</u>	<u>Spring</u>
1963-64	230	221	218
1964-65	230	234	229
1965-66	228	226	221

It is anticipated that the growing shortage of health specialists will increase the competition for students capable of successfully accomplishing the professional pharmacy curriculum. Thus, better recruiting procedures must be developed. The demand for our graduates far exceeds the present supply. Throughout our country, some 3,600 pharmacy school graduates are having little trouble finding employment, at higher salaries than last year. The number of pharmacy graduates seeking careers in fields other than retail stores continues to increase. This year, hospital pharmacies and graduate schools are claiming 10 and 11 percent of the graduates, respectively. The percentage of graduates claimed by manufacturing has remained at approximately 4 percent. The graduates of 1966 are more professionally oriented and better qualified than ever before. Consequently, they tend to be a little more critical and to weigh closely their possible fields of endeavor. These trends are being seriously considered as we review our curriculum.

The average enrollment of graduate students in the last biennium (30 and 32) decreased slightly from that of the previous biennium.

<u>Year</u>	<u>Pharmaceutical Technology</u>	<u>Pharmaceutical Chemistry</u>	<u>Pharmacognosy</u>	<u>Hospital Pharmacy</u>
1963-64	13	19	2	*
1964-65	7	17	1	7
1965-66	3	20	2	5

* Graduate curriculum approved during this biennium.

The demand for M.S. and Ph.D. graduates far exceeds the supply in each of the pharmaceutical sciences. In the 73 pharmacy schools there are over 100 faculty positions remaining unfilled. This deficit increases the undergraduate teaching load and adversely affects the graduate program. Further, industry and institutes have increased their demands for graduates in these disciplines. We are in the process of building a strong graduate program in Pharmaceutics (pharmaceutical technology), aided by the addition of two staff members in that Department. One of the more rapidly growing needs today is for research in drug absorption and metabolism. Our Pharmaceutical Chemistry Department remains very strong. We are being successful in involving this graduate program in more biology. Joint programs with the pharmacologist give every indication of success. We are receiving more applications for graduate study in Hospital Pharmacy than we will be able to handle; we must find ways to increase this rapidly growing area. We are recognized as having one of the best graduate programs in Hospital Pharmacy.

Research—The fundamental research supported by grants in the pharmaceutical sciences and conducted by faculty members and graduate students includes:

1. Phytochemical Investigation of Certain Digitalis Species
2. Synthesis of Amino Acids from Alpha-halolectones
3. Conformationally Rigid Medicinals
4. Stereochemical Studies on Certain Narcotic Analgesics
5. Chemistry of Coumarins of Interest as Vasodilators

6. Studies on *Gibberalla zeae* Metabolites
7. Segregation Kinetics of Particulate Solid Systems
8. Distribution of Narcotic Analgesics in Newborn Mammals
9. *Fusarium Graminearum* Growth Studies
10. The Relationship Between Chemical Structure and Biliary Excretion of Organic Acids

The above research project titles are indicative of the nature of the work going forward in the several divisions of the College. Some additional work is proceeding with in-house support. Particularly encouraging is the increased cooperative effort between disciplines, so greatly needed in the pharmaceutical sciences. There are also plans developing for cooperative research programs with scientists outside the College of Pharmacy.

Curricular Developments—There have been no curriculum changes during this period. However, two faculty curriculum committees (undergraduate and graduate) are presently making an "in-depth" study of our offerings. It is anticipated that there will be some changes in Pharmaceutical Technology and in accounting courses.

Special Conferences and Symposia—The twenty-fifth and twenty-sixth Continuation Study Courses in Pharmacy were held in 1965 and 1966. It is now apparent that the rapid changes in pharmacy make it mandatory that we expend a greater effort in Continuing Pharmacy Education. Plans are under way to initiate new programs on a trial basis to determine eventually the variety of approaches necessary to supply this need.

Physical Plant Additions and Needs—The remodeling of the Pharmacognosy Research Laboratory represents the only addition during this period. Additional renovating is needed as follows:

- A. Pharmaceutical Technology Laboratory—Funds are available and the completion of this laboratory is anticipated by fall 1966.
- B. Pharmaceutical Technology Laboratory—Plans have been completed and the estimates of funds needed will be available soon. This graduate laboratory will be needed by fall of 1967.
- C. Pharmacognosy Undergraduate Laboratory—Replacement of laboratory furniture and some services is essential.
- D. Pharmaceutical Chemistry Laboratory and Chromatography Laboratory—Replacement of laboratory furniture and services is essential.
- E. Pharmaceutical Chemistry Faculty Laboratories—Fume hoods are needed in two office laboratories.
- F. Additional office facilities will be required.

A planned addition to Appleby Hall has been temporarily tabled while a study is being made of the University Health Center Complex and Pharmacy's place, if any, in it. This study will be completed in 1966.

Future Plans—A biological activity screening and testing facility has been established in the College of Pharmacy by the addition of Dr. Kupferberg. Experience over the next couple of years will determine whether this facility should be expanded to include evaluation phases. It may prove possible to render service to other departments of the University that are interested in biological evaluations.

Preliminary discussions are being undertaken with persons in the School of Public Health to determine the feasibility of integrating the radioisotope courses in the two units. It is anticipated that a more effective single unit could be established.

SUMMER SESSION

WILLARD L. THOMPSON, *Dean*

With record enrollments achieved in the summer of 1965, the Summer Session at the University of Minnesota is increasingly serving as a fourth quarter for students regularly enrolled, thus providing year-round operations on all campuses.

In 1964, total enrollments in the two five-week terms were 22,438, an increase of 9.59 percent above those of 1963. Included in this total are some students who were counted twice, having attended both of the two terms. The number of unduplicated enrollments was 15,507. In 1965, total enrollments were 23,641, or 5.3 percent above those of 1964. The unduplicated figure for 1965 was 17,179, the highest such figure in the history of the University.

It is difficult to know precisely how many of the students enrolled in the Summer Session are also enrolled in the academic year. More than 50 percent of those enrolled in a particular Summer Session are enrolled in regular academic programs the following fall; however, the number of students seeking degrees, and therefore to be considered regularly enrolled, is much higher, reaching as high as 75 percent.

As enrollments in the Summer Session continue to mount, the availability of classroom space becomes increasingly difficult, and the length of the academic day is expanding.

As in the previous biennium, the College of Liberal Arts enrolled the largest number of students in the Summer Session. The Graduate School enrolled the next largest number and the College of Education, the next.

In the summer of 1964, an effort was made to persuade students who had graduated from high school in June to begin their University careers in the Summer Session. This was not overly successful, with only 363 registering. In 1965, the number of entering freshmen rose to 539, an increase of 48.5 percent. In part, this increase was attributed to the fact that students enrolling in the Summer Session could escape higher admission requirements being applied in the following fall term.

Of the total enrollments reported above, 114 were enrolled at the University of Minnesota, Morris, in 1964, and 115 in 1965. The Summer Session on the Duluth campus enrolled 1,488 in the summer of 1964 and 1,508 in the summer of 1965.

Despite increases in tuition in the regular academic year, there were no commensurate increases in the Summer Session, where tuition and fees remained unchanged. This was done in an effort to reduce the disparity between tuition fees of the Summer Session and those of the regular academic year, which are significantly lower.

In 1964, training institutes for teachers were held in the following subjects: German, Spanish, chemistry and physics, radiation biology, and biology. In 1965, under the National Defense Education Act (as revised in 1964), training institutes were held for teachers of German and Spanish, college guidance workers, education media specialists, teachers of English, teachers of geography, and school librarians. The National Science Foundation sponsored institutes for teachers of agricultural sciences, high school teachers of physics and chemistry, and college teachers of inorganic chemistry.

Among the many special programs offered both summers at the University were an institute on Minnesota government and politics, workshops for college faculty and administrators, and workshops in journalism. Field sessions were held, both years, in anthropology, geography, and public health (ground water development). In 1965, workshops were held in home economics, industrial education, social studies education, and school administration.

Travel courses were in art and foreign studies (SPAN: Students' Project for Amity among Nations) both summers. Also, in 1965, the Summer Session provided a six-week term in Spanish language and literature at the University of Veracruz in Jalapa, Veracruz, Mexico, with twenty-six students enrolled.

The Biology Session at the University's station in Itasca State Park continued to grow. In 1965, two six-week terms were offered. In late summer and fall 1965, plans were worked out for three summer terms at the Itasca Forestry and Biology Station. Two terms of five weeks each will be offered in the field biological sciences for advanced students. A third term of approximately five weeks will accommodate the undergraduate professional students in the summer forestry session. We are attempting to accommodate enrollments up to 125 for each of the five-week terms.

Deutsches Haus and *Maison Francaise* (residence programs in modern language) showed substantial growth in 1965 and, for the first time in recent years, were housed separately. (In 1966, for the first time, they will be on the St. Paul campus, at Dexter Hall and Meredith Hall, respectively.)

Distinguished lectures in chemistry were presented again in 1964 and 1965, underwritten by the Minnesota Mining and Manufacturing Company.

During the biennium, the groundwork was laid for a new emphasis on the arts in the summer (beginning with "Summer Music at Minnesota," June 12-July 11, 1966), with the Minneapolis Symphony Orchestra as a teaching unit in special programs in music and music education. The Orchestra will also serve the summer program of cultural events.

In 1964 and 1965, the Summer Session continued to provide a wealth of offerings through the Department of Concerts and Lectures, Coffman Memorial Union, St. Paul Activities Center, University Gallery, Museum of Natural History, Audio-Visual Education Services, and University Theatre, whose Scott Hall Theatre was air-conditioned in time for the second term in 1965 and whose Centennial Showboat continued to attract capacity audiences.

INSTITUTE OF TECHNOLOGY

ATHELSTAN SPILHAUS, *Dean*

Program Changes—A major curriculum change during the past biennium has been the replacement of the five-year degree programs in engineering with four-year degree programs. This change was approved by the Institute of Technology faculty during the Fall Quarter of 1964 and was approved by the Board of Regents on December 11, 1964.

The change is in keeping with what has developed in engineering education in recent years. Following a fifteen-year period of experimentation with baccalaureate degree programs extending over five years, nearly all major universities which, like the University of Minnesota, had participated in this experiment, have either reverted to four-year baccalaureate degree programs or have been modifying the five-year program so as to award a master's degree at the end of five years.

The new four-year program has been developed to be consistent with the liberal education requirements adopted by the University as a whole. Nearly all of the reduction in graduation requirements for the four-year program have been in the technical subjects. Transfer programs from other colleges in the state will continue to satisfy the requirements for admission to I. T. as in the past.

An interdepartmental Ph.D. program in the control sciences was approved by the Graduate School. It is a cooperative program between mathematics and most of the engineering departments and is intended to provide an opportunity for broad training in a number of related areas for the control sciences. During the biennium, also, the Center for Control Sciences was established to provide opportunities for postdoctoral study in the control sciences and to serve as a focus for research support in this area of study.

Organizational Changes—With the concurrence of the faculties involved, we have recommended the establishment of the School of Mechanical and Aerospace Engineering. This recommendation has been approved by the Board of Regents. The School will include two existing departments: the Department of Mechanical Engineering and the Department of Aeronautics and Engineering Mechanics.

Establishing the School can provide mutual benefit to the two departments involved. For example, it can provide a means of mutual strengthening of the programs in fluid mechanics and engineering design, in which both departments have an active interest. The establishment of the School will also offer possibilities of more extensive coordination in the use of facilities. These include a number of the undergraduate laboratory programs, some of the research activities in the two departments, and a number of service facilities. Finally, in the development of new programs in which both departments have a professional interest, the establishment of the School makes it possible to plan such activities on a coordinated basis.

National Meetings and Conferences—Three major conferences were organized by staff members of the University of Minnesota and held at the University of Minnesota during the biennium 1964-66.

On August 16-18, 1965, the American Institute of Aeronautics and Astronautics National Guidance and Control Conference was held. The conference brought to the University approximately 400 participants. On June 14-17, 1966, the Fifth U. S. National Congress of Applied Mechanics was held at the University of Minnesota. Over 400 papers were presented at the Congress, which attracted 1,100 participants. One of the annual meetings of the American Physical Society was held at the University on June 20-22, 1966. As part of this meeting, the Physics Building was named the Tate Laboratory of Physics in honor of the late Professor John T. Tate.

Research and Special Programs—Within I.T., research activities continue to experience a steady growth in both quality and support. The current level of support is in excess of ten million dollars annually.

It is feasible to provide only a few of the major highlights of activities for the past two years. These summaries are given for individual academic units or research centers associated with the Institute of Technology.

(a) *School of Physics*—The past two years have been marked by substantial additions to the building and facilities used by the School of Physics. Two floors were added to the south side of the building, a six-floor addition was completed on the north side of the building, and a large laboratory building was constructed to house the new Tandem Van de Graaff accelerator.

The south wing addition was financed entirely by a grant from the National Aeronautics and Space Administration, the total cost amounting to approximately \$550,000. The total area of the two floors, added above a previously existing portion of the building, is 19,000 square feet. This addition is being used by several cosmic ray, atmosphere, and space research projects and includes both office and laboratory space. Construction of the south wing addition began in the summer of 1963 and was completed in the fall of 1964. On February 26, 1965, a dedication for this addition was held.

A larger addition to the Physics Building was the new north wing. This consists of a sub-basement, a basement, and four above-ground floors and was financed by an appropriation of the State Legislature and a grant from the National Science Foundation. The cost of construction amounted to \$1,055,000. This added 38,000 square feet to the floor area of the building. It is being used for office and laboratory space devoted to both teaching and research. Construction began in June 1964, and the addition was occupied in August 1965. The added office space is very welcome since it has made it possible to bring back into the Physics Building a substantial fraction of the staff who had been using offices in a temporary building. The additional teaching space in the north wing has allowed us to accommodate our undergraduate and graduate teaching commitments in a more satisfactory fashion than had been possible in the past few years.

A major addition to the nuclear physics research facilities of the School of Physics is the "Emperor" Tandem Van de Graaff machine, which is at present nearing completion. It is anticipated that this accelerator will be ready for operation during the summer of 1966. The part of the laboratory building in which the accelerator is located was completed in the spring of 1965. An addition to the building which will contain shops, small laboratory

rooms, and a few offices for the accelerator operation staff should be finished in June 1966.

The accelerator and funds for its installation and operation are being provided by the Atomic Energy Commission. The construction of the building was financed from a legislative appropriation, a grant from the National Science Foundation, and other funds provided by the University. The equipment being installed will cost about \$3,500,000, and the building, etc., will cost about \$800,000.

This laboratory and the nearby Linear Accelerator Laboratory, which has been in operation for about 15 years, were named in honor of the late Professor John H. Williams in a dedication ceremony held on May 3, 1966.

(b) *Space Science Center*—In order to provide better coordination in space research, to expand the output of graduate students in the space sciences, and to provide for joint use of facilities for space research, the Regents of the University of Minnesota have established the Space Science Center. The primary aim of the Space Science Center is to foster a multidisciplinary approach to the problems and challenges of space research and exploration. Participating in the activities of the Center are members of the staff and graduate students of departments in the Institute of Technology, College of Liberal Arts, College of Biological Sciences, College of Medical Sciences, and Institute of Agriculture. Some of the areas represented in the Center's activities are astronomy, geochemistry, microbiology, control sciences, mechanical engineering, and electrical engineering.

The building to house a major portion of the activity of the Center has been made possible by a grant from the National Aeronautics and Space Administration. Some of the special facilities of the Center are ultra-clean laboratories for studies of microbiological contamination, a hybrid analog-digital computer for use in control studies and simulation of engineering processes, and a 30-inch aperture telescope for use in a broad range of problems in astrophysics. The Center has available to it a sustaining grant for space-related research. The initial amount of this grant is \$400,000 annually.

The hybrid computation facility associated with the Space Science Center was made possible by a \$400,000 grant from the National Science Foundation. The acquisition of this computing facility combined with the new digital computer to be acquired for the Numerical Analysis Center provides the University of Minnesota with one of the most extensive and modern university computing facilities in the United States.

(c) *Numerical Analysis Center*—During 1965-66, the University administration approved the acquisition of a large digital computing facility, a Control Data 6600 computer. The present facility, a CDC 1604, which was acquired in 1962 on the basis of a National Science Foundation grant and matching funds from the University and the State Legislature, became inadequate for the University's rapidly growing needs. The new system has a capacity of approximately 20 times that of the CDC 1604. The latter system will be retained for instructional purposes.

(d) *Minnesota Geological Survey*—An objective study of the needs for geologic research in the state, begun four years ago, was completed during the past biennium and published in a report entitled *Our Land and Mineral Resources—A Long-Range Plan for Geologic Research in Minnesota*. A major program proposed in the long-range plan, systematic state-wide geologic mapping, was started during the past year. The objective of this research is to complete in a ten-year period a geologic map atlas of the state at a scale of 1:250,000 (four miles equals one inch). Data obtained during the program will aid in the development of new mineral resources and in locating and evaluating ground water supplies.

Thirteen technical reports were published during the period. As a result of a concerted effort to provide materials for the general reader, publication of an Educational Series was initiated. This series is being widely used for recreational as well as for educational purposes.

Although support of geologic research has steadily increased during the past five years, it is not yet adequate to meet the needs in the state. Addi-

tional scientific staff and laboratory equipment and more efficient laboratory and office space are required to enable the Survey to carry out its research and public service obligations.

(e) *Limnological Research Center*—The Limnological Research Center continues to operate under the founding grant of the Hill Family Foundation, but other research grants have been received from the Minnesota Outdoor Recreation Resources Commission, National Science Foundation, National Institutes of Health, Office of Naval Research, and Office of Water Resources Research.

Minnesota has an unusually large spectrum of lake types, ranging from the "unproductive" lakes of the northeast corner to the "rich" lakes of the southwest. A program of broad sampling of these lakes is well under way to study the variations in organic productivity, algae content, and water chemistry, with respect to climate, regional vegetation, general hydrology, and geology.

The other major activity of the Research Center is concerned with the study of lake sediments to determine the long-range history of lakes and their environment. This involves analyses of pollen, larger plant fragments, and microinvertebrates of the sediments, as well as chemical analyses. Although studies in the Minnesota area are perhaps the most elaborate, other projects are active in the western United States and in the eastern Mediterranean region.

(f) *Mines Experiment Station*—The research projects undertaken by the Mines Experiment Station can be conveniently divided into three broad categories: (a) efforts directed toward improving existing technology on the Mesabi Range and in developing new processes for concentrating Mesabi Range ores; (b) research efforts directed toward developing an economic process for making beneficial Cuyuna Range ores; (c) general research directed toward developing the mineral deposits in the state other than iron ores.

Although approximately 95 percent of the mineral sales value produced in Minnesota is iron ore, the state contains valuable deposits of stone, peat, and clay, and small quantities of copper, nickel, and titanium. The Mines Experiment Station has run a number of concentration tests on the nonferrous minerals and is, in fact, working closely with the Minnesota Geological Survey and several interested mining companies in an effort to develop these less important mineral reserves.

The staff of the Mines Experiment Station has submitted progress reports to industry covering all phases of its studies, has published the *Mining Directory of Minnesota*, which over the years has become a handbook for Minnesota's iron ore mining industry, and has published a wide variety of papers in the technical journals.

(g) *Minnesota School Mathematics and Science Center*—The Minnesota School Mathematics and Science Center has as its primary mission educational research and development in mathematics and science. The work of the Center was significantly facilitated with the provision by the University in January 1966 of new quarters located at 720 Washington Avenue Southeast. Three projects are in active operation within the Center.

1. *Minnesota Mathematics and Science Training (MINNEMAST) Project*

The mission of the MINNEMAST Project is to develop a coordinated mathematics-science curriculum for the elementary schools, grades kindergarten through six. The principal activity of the Project is to produce teaching materials based on accurate and significant scientific or mathematical ideas, developed in a form consistent with the best-known pedagogical practice and with the knowledge, skills, and interests of the children for whom the materials are prepared.

To this time, first trial drafts of mathematics materials for grades kindergarten through three and first trial drafts of science materials for

grades kindergarten and one have been produced. Careful experimentation in the schools with these materials will provide the basis for revision and incorporation into the coordinated mathematics-science program.

The Project has been supported by the National Science Foundation at an annual rate of approximately \$1.3 million.

2. *Geometry Course for Prospective High School Teachers*

This project is devoted to the development of several college geometry courses for the preservice training of high school teachers. Particular emphasis is put on exploration of the use of various media, particularly animated films and programmed instruction.

To this time, nine independent units of study materials have been written, tested, and revised, and three units are still under development. Three films and one filmstrip have been completed, and five films are in late stages of development.

The project has been supported by the National Science Foundation at an annual rate of approximately \$260,000.

3. *Secondary School Course in Applied Mathematics*

The major objective of this project is to demonstrate to secondary school students and teachers how mathematics can be applied to the solution of real problems in the natural and social sciences. Strong emphasis is placed on numerical analysis and the use of modern techniques.

The project is supported by the National Science Foundation at an annual rate of approximately \$39,000 and is jointly sponsored by the University, the Univac Division of Sperry-Rand Corporation, and Twin City area school systems.

(h) *St. Anthony Falls Hydraulic Laboratory*—This laboratory, during the biennium, has been engaged in fulfilling approximately thirty-five research contracts or grants. Five of these are described briefly here. (1) In the control of pollution of lakes and streams it is important to be able to predict the degree of mixing and the stratification of water of different densities. The National Institutes of Health of the Department of Health, Education, and Welfare has made a three-year grant to the Laboratory for a study of this problem. (2) Criteria available are inadequate for the design of roadside drainage channels for certain types of soils, particularly in arid climates. Also involved in the proper design are considerations of highway safety. The St. Anthony Falls Hydraulic Laboratory has received a grant for a two-year study of this problem from the National Cooperative Highway Research Program of the National Academy of Sciences. (3) A grant has been received from the National Science Foundation for the construction of a water tunnel specifically designed for use in studies relating to fundamental problems in the area of hydraulic structures. This facility will be available for graduate student thesis research in such areas as cavitation in hydraulic structures and will make opportunities available for research in areas where facilities have heretofore been quite limited. (4) Northern States Power Company is constructing a thermal power plant on Lake St. Croix near Bayport, Minnesota. Studies are being made at the Laboratory of the design of the outlet channel for discharge of the warmer water from the condenser system into the cooler water of the river channel, with the objective of changing the river water temperature as little as possible. (5) The Metropolitan Water District of Southern California will receive large quantities of water from northern California under the California Water Plan. The Foothill Feeder Project is a series of structures designed to receive and control this water. The structures, some of them of unprecedented size, are under study in model form at the St. Anthony Falls Hydraulic Laboratory.

Administration—Dean Spilhaus submitted his resignation as Dean to the Regents of the University effective at the end of the year 1965-66. He will continue as a professor in the Institute of Technology.

During his 17 years as Dean of I.T., the program of the Institute of Technology underwent major and significant changes. The undergraduate program in engineering was modified from one with an excessive emphasis on production, testing, and construction to one which provides an integrated balance between engineering science and engineering practice. During these years, also, the graduate program in engineering developed from one which was virtually nonexistent to one which ranks among the top twenty in the United States, currently producing 50 to 60 Ph.D.'s and 125 to 150 master's degrees annually. The level and character of research in I.T. has also undergone major changes. In amount, research has grown from virtually no outside support in 1949 to over ten million dollars annually in 1965-66. For engineering, it has been changed from an emphasis on engineering testing to a research program, fully integrated with the graduate studies of the departments.

In these years, also, there has been developed a close cooperation between the basic sciences and engineering; in fact, during this period mathematics and all the basic physical sciences have moved to the Institute of Technology to provide for close interaction of these disciplines. Mathematics and the sciences have now achieved a national distinction to enhance the healthy growth which they experienced during the 1920's and the 1930's.

The faculty of I.T. during Dean Spilhaus's years experienced a steady growth in quality and distinction. It is a pleasure to note that a recent report of the American Council on Education analyzing the major areas of graduate study in the United States listed every Ph.D. graduate program reviewed in the Institute of Technology as "Strong" or "Distinguished."

UNIVERSITY COLLEGE

ALFRED L. VAUGHAN, *Chairman, University College Committee*

The ramified concerns and enormous size of the great American universities lead to charges that they are indifferent to the welfare of their undergraduates. Student protests on various campuses have been attracting national attention. Newspapers report that faculties are sternly resolving to give new attention to effective classroom teaching and to the student as a person apart from the mass.

University College of the University of Minnesota takes on new interest when it is viewed in the light of these national concerns. Ever since 1930, this College has been one of the agencies developed here to combat the impersonal rigidity of the "multiversity" by meeting students at the level of individual need. The College is an administrative unit with neither a budget nor a curriculum of its own, but it offers an opportunity for persons who have demonstrated sound scholarship to obtain consideration for programs of study that go beyond the boundaries of a single college or other academic unit of the University.

Typical was the case of a young lady who had to prepare herself to operate the ranch on which she was reared, but who, at the same time, was eager to become acquainted with art, literature, music, and philosophy. The baccalaureate program which she devised and which the University College Committee accepted required work not only in the Institute of Agriculture, but in the College of Liberal Arts as well. And the examples could be multiplied.

New types of programs occasionally appear at the University of Minnesota as a result of a University College student and faculty deliberation. Within the last three years, a few students have been requesting permission of the University College Committee to put together a program that would lead in the direction of "urban planning." Recently an all-University committee has recommended the establishment of a center and a master's degree program in urban planning.

Working with students such as these has special fascination because, as might be expected, they tend to have independence of spirit and an original cast of mind. Frequently they prove willing to exceed minimum credit hour

requirements. Quarter by quarter enrollments are never very large, but the University most certainly would be the poorer if it failed to attempt to serve this special segment of its student body.

About one out of eight University College students takes the baccalaureate degree with honors. Plans are under way to inaugurate an honors program designed specifically for University College students. This will take into account the fact that their programs are wider in scope than is usually true of those students seeking departmental honors.

The University College depends entirely on the other departments of the University for its instruction. However, the need to counsel with students and to supervise their progress as they seek further advice on their programs becomes the duty of the chairman of the University College Committee, who usually has full-time responsibilities elsewhere. These University College duties of the chairman are stimulating and rewarding, but very time-consuming. The chairman needs the assistance, on a part-time basis, of a senior faculty member in discharging these duties. Such an arrangement would be of inestimable value to the student who frequently finds it possible to confer with the Director of the College only after considerable delay because of the Director's other commitments.

Over the years, 1,065 students have earned degrees through University College. In the process of planning their programs, these students were not permitted, they were required, to draw upon the rich and diverse reservoir of talent that is the University faculty. The faculty serving these students, in turn, were given an opportunity to jump conventional academic fences and deal imaginatively with unconventional proposals. Together, these young people and their teachers are demonstrating how a distinguished institution can be large yet personal, conventional yet innovative, established yet flexible.

UNIVERSITY PRESS

JOHN ERVIN, JR., *Director*

Several noteworthy publishing projects were undertaken by the University of Minnesota Press during the 1964-66 biennium, and the overall activities of the Press during the period resulted in both an increased number of new publications issued and an increased volume of sales, as compared with figures for the preceding biennium.

The number of new publications issued in the 1964-66 biennium was 60, consisting of 38 books, 20 pamphlets, 1 test, and 1 map. For the preceding biennium, the total was 49, made up of 29 books, 19 pamphlets, and 1 test. The fiscal year 1965-66 showed an increase in number of new publications over those issued in the preceding fiscal year: 1965-66, 34 publications (23 books, 9 pamphlets, 1 test, and 1 map); 1964-65, 26 publications (15 books and 11 pamphlets).

The total sales income for the 1964-66 biennium was approximately \$614,000; for 1962-64 it was \$507,568.65.

The Press announced plans, in the fall of 1965, for publication of a ten-volume series of historical studies to be called *The Age of European Expansion*. The series will result from a comprehensive nine-year research project in history undertaken by the University under the sponsorship of the Department of History and the James Ford Bell Collection of the Library. It is expected that the first volumes in the series will be published in the late 1960's, and other volumes will be published at intervals thereafter. Herbert Heaton, Professor Emeritus of History at the University, will be director and editor of the project during the first two years. Grants have been made by the Louis W. and Maud Hill Foundation and the James Ford Bell Foundation to aid the project.

The Press, in association with the Minnesota Theatre Company, has established the Minnesota Drama Editions, a series of play publications edited by Sir Tyrone Guthrie. This is a directors' series, as distinguished from other play editions which reflect primarily a literary viewpoint. Emphasis is on publication of translations and adaptations of translations of European plays

of all periods. The first volume in the series, *The Cherry Orchard* by Anton Chekhov, translated by Tyrone Guthrie and Leonid Kipnis, was published in June 1965.

The first volume in the Minnesota Monographs in the Humanities, another new series, was published in March 1966. This was the volume *Prose Styles: Five Primary Types* by Huntington Brown, Professor Emeritus of English at the University. Gerhard H. Weiss, Associate Professor of German at the University, is the series editor. The Advisory Council in the Arts and Letters initiated the monograph series as a means of publishing work by members of the University's graduate faculty in the arts and humanities.

The first book emanating from a joint publishing arrangement between the University of Minnesota Press and the Norwegian-American Historical Association, *Klondike Saga* by Carl L. Lokke, was published in May 1965.

Among the new publications issued by the Press during the biennium, several may be mentioned for particular reasons. *Pioneers and Caretakers: A Study of Nine American Women Novelists* by Louis Auchincloss, published in June 1965, has enjoyed unusually large sales and has been widely and favorably reviewed. Twenty new pamphlets were added to the series of University of Minnesota Pamphlets on American Writers during the biennium, bringing the total number of titles in the series to fifty-seven. Arrangements were made for the publication of many of the pamphlets in foreign-language editions. A hardbound book, *Seven Modern American Novelists: An Introduction*, edited by William Van O'Connor, which brings together the material from seven of the pamphlets, was published in July 1964, and has had exceptionally good sales.

During the biennium, arrangements were made with other publishing houses, on a royalty basis, for the paperback reprint publication of some of the Press titles, as, for example, the Auchincloss book, which will be issued later this year in paperback form by the Dell Publishing Company.

A number of Press publications were cited for honors during the biennium. Among these were, in 1965 and 1966, graphic arts awards of the Chicago Book Clinic and the annual Midwestern Books Competitions. The American Association for State and Local History cited *Minnesota: A History of the State* by Theodore C. Blegen for an Award of Merit in 1965. Honorable mention in the American Personnel and Guidance Association's 1965-66 Research Award competition was given to *The Outcomes of Counseling and Psychotherapy* by Theodore Volsky, Jr., Thomas M. Magoon, Warren T. Norman, and Donald P. Hoyt.

COLLEGE OF VETERINARY MEDICINE

W. T. S. THORP, *Dean*

There has been continued development in the College of Veterinary Medicine during the past biennium, and at a better rate than in the previous biennium, with the completion of facilities appropriated by the 1961-63 Legislature. The additional facilities, as well as funds made available to the University for faculty salary improvement, have made it possible for us to retain many key faculty members, although some have left for other institutions. The real critical problem is the lack of funds appropriated to the University for supplies and expenses. In some instances, this has had an adverse effect on faculty morale and the retention of faculty personnel. Some new positions have been made available to the College of Veterinary Medicine and have had a most beneficial effect. If this development can be continued, along with facilities as outlined in the ten-year building program, the College will be able to retain and continue to develop an outstanding faculty in veterinary medicine.

The demand for entrance into the veterinary profession by residents of Minnesota as well as North and South Dakota and Wisconsin continues to increase. The freshman class was recently increased from 50-55 to 60-62. As facilities develop we hope to be able to increase the class further. Such increases help to meet the demand in Minnesota as well as in the nation. This

College, together with the other seventeen veterinary colleges, helps provide the health manpower for veterinary medicine's part in the whole health effort directly related to animals and indirectly to human welfare. Since the College was started in 1947, the first class graduating in 1951, there have been, through June 1966, 671 graduates.

Undergraduate Veterinary Medical Education—A faculty committee was appointed early in the biennium to study the veterinary curriculum and also to give attention to the preveterinary curriculum, particularly the animal science courses. As a result these courses have been revised by the animal science areas, and it is possible for the veterinary student to meet these requirements while in the veterinary College rather than in the preveterinary curriculum. This will permit students to acquire their preveterinary work in other institutions or branches in the University in order to complete the admissions requirements for the College of Veterinary Medicine. This may be accomplished without having to transfer to the Twin City campuses in order to meet the animal science requirements. The veterinary curriculum is continually being studied for revisions and improvements. If funds were available, much progress could be made by the provision of additional visual aids such as some closed-circuit type of television in certain areas of the teaching program, thus expanding and extending the influence of an outstanding teaching faculty.

As part of the Graduate School of the University of Minnesota, the College of Veterinary Medicine has continued to develop its program. As far as facilities and faculty will permit, there are about the same number of doctors of veterinary medicine appearing on graduate work in each of the six categories in which these candidates can proceed to the Ph.D. degree. Recently these categories have been expanded to include surgery and radiology and obstetrics and gynecology. That we have been able to obtain training grant funds from the National Institutes of Health has made it possible to continue an expansion of the graduate program. Important is the physical location of the College to the medical center in the medical school of the Twin City campuses. This is important in obtaining outstanding graduate students, since in the pursuit of their graduate work they can participate in courses in the basic science departments of the medical school. Graduate School faculty members from the school of medicine may be members of the Students Degree Committee, and in many areas this has been advantageous and beneficial to the graduate student and to the faculty relative to the concurrent research program.

Research—This College has continued to develop and expand its biological sciences research activities, represented by some 55 or 60 research projects, in addition to collaborating on projects with the Institute of Agriculture and the medical school. As an example, a research project has been developed in relation to certain toxins produced by molds. Feeding of these moldy grains may produce symptoms in swine and cattle, particularly in swine, throughout the state. This project has been supported by outside funds from the Army Chemical Corps and USDA and is a cooperative effort between faculty in the College of Veterinary Medicine (Veterinary Diagnostic Laboratory) and the Department of Plant Pathology, Institute of Agriculture. This is an important project since these toxins cause large economic loss, particularly in wet seasons, which are followed by a high spoilage of grain feeds. It is also an important project because some of these toxins in high dilutions in certain strains of laboratory animals will produce neoplastic conditions, which may or may not have a bearing on man and animals.

The study of lymphatic leukemia with regard to its occurrence and the expansion of this work into studies of transmission, particularly between species, are important not only to the livestock industry but should result in basic information relative to the development of this leukemic condition. The projects on brucellosis, respiratory diseases in cattle, and, particularly, work aimed at the control of airsacculitis in turkeys, have continued and have been expanded where possible. The work on the disease conditions in turkeys is not only supported by the Department of Agriculture but by the turkey industry itself in the form of grants for research.

It will be essential to the continued development of the College of Veterinary Medicine that progress be made in regard to the facilities and the additional faculty necessary to maintain the full accreditation which was given the College this last year of the biennium. The evaluation committee of the Council on Education saw fit to give full accreditation to the College of Veterinary Medicine at Minnesota for the first time in its existence.

There are, moreover, critical needs in the way of facilities which are being requested in the ten-year program. A need for research facilities is pointed out by the request directed to the 1967 Legislature for two floors of research space to expand and develop essential research programs. It is important that the continued progress that has been made in the past go forward as planned, not only in relation to the accreditation, but, more important, in relation to maintaining the teaching, research, and service programs of the College as related to the needs of the State of Minnesota.

Divisions of Business Administration

BUSINESS OFFICE

CLINTON T. JOHNSON, *Assistant Vice-President*

Probably the best-known functions of the Business Office are those of budget control, payroll, invoice payment, and accounting. The Bursar's Office, the Inventory Department, the Treasurer's Office, and the Research Contracts and Grants Division are important units also performing services in the Business Office. The Purchasing Department and the General and Chemical Storehouses perform related functions within this administration.

All expenditures of University funds are made in accordance with the policies established by the Board of Regents, after taking into consideration the intent of the Legislature on state-appropriated funds and the regulations of the various agencies of the federal government which provide support for research contracts and grants. The interpretation and application of the rules and regulations which are drafted to reflect these policies is a function of the Business Office.

During the past biennium, several changes have been made in internal procedures to provide for more efficiency in processing entries through the accounting records. These changes were made possible by more intensive use of the Data Center by the Business Office. Much of the paper work involved in paying invoices, issuing student loans, and making scholarship payments has been eliminated by automatic processing through the computer.

The Inventory Department is in the process of converting all of its records from a manual system to one utilizing the storage of information on tape and is also modernizing related procedures for the recording of additions and deductions from the inventory records. The General and Chemical Storehouse procedures are also being converted to utilize the computer in billing, stock control, and perpetual inventory. A new Mechanics Payroll system using a computer application was instituted during the period of this report.

Below are described the research responsibilities and the endowments and investments activity as selected aspects of the 1964-66 biennium.

Research—The range of research at the University is vast, and its contribution is to the state, the faculty, and the students. It is a necessary part of a complete educational program. Research and scholarship are essential to teaching and fundamental to the training of graduate students. The scope of research has increased greatly during the last decade with increased support from the federal government, the state government, business, and foundations. The University spent \$28,895,995 for organized and sponsored research in the 1965-66 fiscal year compared to only \$7,411,114 just ten years ago. The accompanying schedule shows the growth by years of research expenditures. This schedule also shows the source of funds for this research. For the year 1965-66, the source of these funds and the percentage of the total were as follows:

Source of Funds	Amount	Percent of Total
The Federal Government	\$24,036,037	83.6
The State	2,058,518	6.7
Gifts	2,583,800	9.0
Income from Endowments	217,640	0.7
Total	\$28,895,995	100.0

A further explanation of what is included in each of these four categories is as follows:

From the Federal Government—This total includes direct federal appropriations (Bankhead-Jones, Consolidated Hatch Fund, and others); income

from federal agencies for defense contracts research (Departments of the Air Force, Army, and Navy; Atomic Energy Commission; and others); grants from other federal agencies (National Science Foundation; Department of Health, Education, and Welfare; Department of Agriculture; and others); and subcontracts for federal prime contracts. A further breakdown of federal funds for research is as follows:

Federal Appropriations—Agricultural Research	\$ 1,178,078
Federal Agencies	22,857,959
Total	\$24,036,037

From State Funds—This figure includes special state appropriations for research such as medical research, soil survey, beneficiation of manganiferous ores, and agricultural research. It also includes grants from state agencies such as the Iron Range Resources and Rehabilitation Commission, the Highway Department, and the Department of Conservation. A breakdown of these two main sources of state funds for research is as follows:

Special State Appropriations	\$1,892,348
State Agencies	166,170
Total	\$2,058,518

From Gifts—This total includes gifts and grants from business and industries, foundations, associations, individuals, and others. These funds are expendable for specific research. Examples are as follows:

Business and Industries:

Honeywell and National Dairy Council

Foundations:

Louis W. and Maud Hill Family Foundation, Ford Foundation, and Sloan Foundation

Associations:

Minnesota Division of American Cancer Society and American Heart Association

A further breakdown of the source of these funds is as follows:

Business and Industry	\$ 690,817
Foundations and Associations	1,360,009
Individual and Other	532,974
Total	\$2,583,800

Income from Endowment—This category includes for the most part income from various endowment funds such as the American Legion Memorial Heart Research Professorship and the Silas McClure Medical Research Fund. Some gifts are given to the credit of an endowment fund, and part of these gifts may be expendable and may not be invested. The total amount of funds expended for research from income from the endowment in 1965-66 was \$217,640.

Endowment and Investments—The endowment of the University contributes substantial amounts annually both to the general maintenance of the University and to numerous scholarships, professorships, and research projects which have been specified by many donors. On June 30, 1966, the total endowments of the University had a book value of \$74,850,108. The main component of the University endowment is the Permanent University Fund, which had a book value of \$47,676,794 on June 30, 1966. This fund was initiated by the Land-Grant Act of 1862 and has accumulated primarily through the occupation tax and royalties on iron ore mined in the state. The income from this fund is credited to the General Operations and Maintenance Fund of the University and reduces the amount required from the state's general revenue fund. In addition to the Permanent University Fund, the Board of Regents manages the investments on funds totaling \$26,271,217. An additional \$902,097 is held in

trust for the University. The numerous gifts which constitute the endowment of the University have been unpredictable in nature and have varied widely in amount but have all contributed to many worthwhile projects and phases of a University endeavor.

Because of the large number of individual gifts, the University has formed an investment pool for the management of these funds. This pool, called the Group Investment Fund, is operated on a market value basis. New funds entering the Group Investment Fund or additions to old funds are assigned units of participation which are determined by dividing the amount received by the unit market value which is computed at the end of each quarter. The unit valuation at the inception of the Group Investment Fund on June 30, 1954, was \$10.00. The value of each of the 1,464,150 participating units as of June 30, 1966, was \$17.95. Benefits from the appreciation of the investment portfolio accrue to the participating funds. Although most funds are invested in perpetuity, if any fund is withdrawn in part or in total, a proportionate amount of appreciation is credited to the fund.

During the recent two-year period, the endowment gifts and bequests included the following:

Helen J. Atkinson Memorial Fund—\$1,391,999.

This bequest from the estate of Grace M. Atkinson is for the purpose of improving the health of children under 15 years of age by medical research or otherwise.

J. Frank and Alice B. Fraser Fund—\$49,317.

This annuity fund, a gift from Alice Bean Fraser, will be used eventually in support of studies of medical history.

E. A. Van Steenwek Memorial Fund—\$94,000.

This fund, established by a fund-raising program sponsored by the Blue Cross Association in Chicago and more recently by the Health Service Foundation of Chicago, will be used to finance a program in Hospital Administration of an annual presentation of a three credit-hours course for one academic quarter on "Social and Economic Aspects of Medical Care."

Maude C. McMahon Trust—Masonic Memorial Cancer Hospital Fund—\$50,000.

Both principal and interest of this bequest from the estate of Maude C. McMahon may be used to support the activity of the Masonic Memorial Cancer Hospital.

Thomas D. McMahon Estate—Masonic Memorial Cancer Hospital Fund—\$50,000.

This bequest from the estate of Thomas D. McMahon is to be used to support various activities of the Masonic Memorial Cancer Hospital.

The Marshall and Margaret Alworth Endowment Fund—\$30,000.

The eventual sale of the properties which are subject to a reserve life estate will be applied to the construction of a planetarium on the Duluth Campus.

Carolyn McKnight Christian Endowment Fund—\$83,000.

A bequest in the amount of \$249,000 from the estate of Carolyn McKnight Christian was divided three ways with one-third each to the Department of Surgery, the Department of Medicine, and the Medical School. The one-third to the Surgery Department was used to establish this endowment, the income of which will be used for general needs of the Department of Surgery.

Roy C. Jones Fund Endowment—\$28,367.

The bequest from the estate of Roy C. Jones is to be used in furtherance of architectural education and training.

Ophthalmology Service Fund—\$62,000.

This fund is for the purchase of equipment or services for research, teaching service, and administrative enterprises or for other purposes within general University regulations of the Department of Ophthalmology.

Polk Fund for Medical History—\$382,192.

This bequest from the Estate of Grace E. Polk is to be invested with the income used to support a professorship in Medical History.

In addition, numerous other gifts were received for various University purposes. The income from the Permanent University Fund for the year ending June 30, 1966, amounted to \$1,709,972. The income from the other funds administered by the Board of Regents approximated \$1,161,000. The following summary details the changes in the University of Minnesota portfolios during the last two years.

BIENNIAL REPORT

ENDOWMENT FUND SECURITIES

SUMMARY

JUNE 30, 1966

Managed by the Board of Regents	Book Value June 30, 1965	Book Value June 30, 1966
I. Permanent University Fund	\$46,798,977.92	\$47,676,794.32
II. Group Investment Fund	20,225,995.24	22,671,836.44
III. Endowments Individually Invested	2,846,512.10	3,599,380.40
Total Funds Managed by Board of Regents	\$69,871,485.26	\$73,948,011.16
Funds Held in Trust	888,281.24	902,096.92
Total Endowment Funds	\$70,759,766.50	\$74,850,108.08

Endowment Funds Managed by the Board of Regents (Book Value)

	June 30, 1965 Amount	%	June 30, 1966 Amount	%
I. Permanent University Fund				
Bonds:				
U. S. Government	\$19,972,482.72	42.7	\$16,779,556.66	35.2
Public Utility	13,571,000.00	29.0	13,576,000.00	28.5
Industrial	3,539,000.00	7.6	5,815,000.00	12.2
Railroads (Including Equipment Trust Certificates)	2,966,395.53	6.3	4,202,117.75	8.8
Finance	3,112,695.20	6.7	1,650,000.00	3.5
Bonds and Loans, Minnesota Municipalities	211,595.00	0.5	182,000.00	0.4
Canadian Securities	600,000.00	1.3	4,712,695.20	9.9
Total Bonds	\$43,973,168.45	94.1	\$46,917,369.61	98.5
Unamortized Premium	117,781.45	0.3	118,651.64	0.2
Unamortized Discounts	-438,576.05	-0.9	-503,547.22	-1.1
Net Book Value of Bonds	\$43,652,373.85	93.5	\$46,532,474.03	97.6
Land Contracts	3,920.77		5,018.90	
Common Stock			210,321.35	0.4
Commercial Paper	2,514,628.31	5.2	109,819.34	0.2
Mutual Funds			650,000.00	1.4
Cash	628,054.99	1.3	169,160.70	0.4
Total Assets	\$46,798,977.92	100.0	\$47,676,794.32	100.0
II. Group Investment Fund				
	June 30, 1965 Amount	%	June 30, 1966 Amount	%
Cash	\$ 589,225.55	2.9	\$ 299,289.24	1.3
Bonds:				
U. S. Government and Agencies	4,126,893.60	20.4	4,426,910.34	19.5
Public Utility	3,312,409.30	16.4	3,754,826.82	16.6
Industrial	2,275,881.25	11.2	3,099,881.25	13.7
Railroads (Including Equipment Trust Certificates)	626,643.59	3.1	784,281.52	3.5
Finance	2,599,960.54	12.9	1,495,525.64	6.6
Canadian Securities			1,875,340.00	8.3
Unamortized Premiums	42,614.74	0.2	47,105.74	0.2
Mortgages	709,647.72	3.5	823,008.59	3.6
Preferred Stocks	416,986.93	2.1	32,582.48	0.1
Common Stocks	5,325,944.52	26.3	4,646,651.12	20.5
Commercial Paper	199,787.50	1.0	1,136,433.70	5.0
Mutual Funds			250,000.00	1.1
Total Assets	\$20,225,995.24	100.0	\$22,671,836.44	100.0

III. Endowment Individually Invested

Cash	\$ 69,262.10	2.4	\$ 82,050.87	2.3
Bonds:				
U. S. Government and Agencies	1,135,593.09	39.9	1,355,862.53	37.7
Public Utility	98,987.50	3.5	107,987.50	3.0
Industrial	60,000.00	2.1	70,000.00	1.9
Railroads (Including Equipment Trust Certificates)	64,859.05	2.3	64,859.05	1.8
Canadian Securities			25,000.00	0.7
Other			1.00	
Unamortized Premiums	875.00		900.00	
Mortgages	10,299.09	0.4	9,599.48	0.3
Preferred Stocks	26,585.42	0.9	31,841.86	0.9
Common Stocks	999,827.05	35.1	1,445,469.77	40.1
Real Estate	354,546.00	12.5	376,821.00	10.5
Other	25,877.80	0.9	28,987.34	0.8
Total Assets	\$ 2,846,512.10	100.0	\$ 3,599,380.40	100.0
Total Endowment Funds Managed				
By the Board of Regents	\$69,871,485.26		\$73,948,011.16	

CASH GIFTS

SUMMARY OF GIFTS 1964-65, 1965-66

(Exclusive of Federal and State)

	1964-65	1965-66
Expendable		
For Education and Research	\$2,738,145.86	\$ 2,838,429.77
For Student Aid	1,383,131.12	1,318,605.35
For Other Purposes	2,961,725.22	2,484,807.23
Total Expendable	\$7,083,002.20	\$ 6,641,842.35
Capital		
Endowment		
For Education and Research	\$ 72,800.76	\$ 540,968.54
For Student Aid	52,077.86	446,621.98
Subject to Annuity and Residual Trust Agreement	54,692.71	5,505.00
For Other Purposes	1,489,815.75	55,652.44
Operating Temporarily as an Endowment	32,973.59	57,693.04
Loan Funds	73,936.36	30,393.66
Plant Funds	632,443.53	2,544,426.13
Total Capital	\$2,408,740.56	\$ 3,681,260.79
Grand Total	\$9,491,742.76	\$10,323,103.14

SUMMARY OF RESEARCH EXPENDITURES FROM ENDOWMENT INCOME,
GIFTS, GRANTS, AND SPECIAL APPROPRIATIONS FROM THE STATE AND FEDERAL GOVERNMENTS

1946-47 to 1965-66

Year	Total			Governmental Sources						Non-Governmental Sources									
	No.	Amount	% Inc. Over Prev. Year	State ¹			Federal ²			Gifts			Endowments						
	No.	Amount	% Inc. Over Prev. Year	No.	Amount	% Inc. Over Prev. Year	No.	Amount	% Inc. Over Prev. Year	No.	Amount	% Inc. Over Prev. Year	No.	Amount	% Inc. Over Prev. Year				
1965-66	1,629	\$ 28,895,995.33	14.3	1,070	\$ 26,094,555.25	15.5	35	\$ 2,058,517.87	25.7	1,035	\$ 24,036,037.38	14.7	532	\$ 2,583,799.97	3.4	27	\$ 217,640.11	10.0	
1964-65	1,540	25,286,287.24	10.8	984	22,588,834.97	11.9	36	1,637,064.96	4.1	948	20,951,770.01	12.6	530	2,499,623.80	2.2	26	197,828.47	3.7	
1963-64	1,510	22,820,963.99	16.1	973	20,183,739.14	19.8	31	1,571,869.26	11.2	942	18,611,869.88	20.5	508	2,446,408.54	7.1	29	190,816.31	8.7	
1962-63	1,404	19,661,370.61	13.6	915	16,853,271.69	19.0	30	1,413,749.81	4.1	885	15,439,521.88	20.6	462	2,632,608.01	5.4	27	175,490.91	51.1	
1961-62	1,289	17,304,403.30	13.6	800	14,160,646.61	16.3	29	1,357,443.09	4.2	772	12,803,203.52	16.7	460	2,781,710.71	1.7	29	362,045.98	13.0	
1960-61	1,216	15,230,176.63	10.7	709	12,173,406.87	12.1	26	1,303,289.22	7.2	683	10,870,117.65	12.7	475	2,736,419.68	6.1	32	320,350.08	1.2	
1959-60	1,139	13,762,411.84	18.1	659	10,860,273.21	23.0	26	1,215,406.19	0.8	633	9,644,867.02	26.5	453	2,578,060.38	2.9	27	324,078.25	2.4	
1958-59	995	11,652,151.91	13.1	530	8,830,376.35	15.4	29	1,205,163.57	9.8	501	7,625,212.78	16.3	439	2,505,343.69	5.5	26	316,431.87	15.5	
1957-58	929	10,303,713.84	23.1	465	7,654,218.77	22.5	30	1,097,510.26	19.1	435	6,556,708.51	23.1	443	2,375,477.08	28.6	21	274,017.99	0.5	
1956-57	837	8,369,377.76	12.9	411	6,249,255.14	12.6	21	921,622.33	2.2	390	5,327,632.81	14.6	401	1,847,471.60	14.8	25	272,651.02	7.6	
1955-56	748	7,411,114.04	3.5	357	5,549,000.49	0.1	21	902,076.59	5.3	336	4,646,923.90	1.1	363	1,608,640.78	18.4	28	253,472.77	1.6	
1954-55	721	7,161,320.64	6.2	339	5,553,604.68	6.9	21	856,276.63	9.4	318	4,697,328.05	6.5	356	1,358,218.30	3.6	26	249,497.66	4.6	
1953-54	640	6,742,752.94	8.4	310	5,192,970.05	4.3	26	782,668.69	3.1	284	4,410,301.36	4.5	308	1,311,335.51	23.6	22	238,447.38	33.9	
1952-53	556	6,217,782.70	14.9	280	4,978,656.62	16.9	26	759,426.26	4.4	254	4,219,230.36	19.5	256	1,061,103.63	7.8	20	178,022.45	5.8	
1951-52	549	5,411,886.92	33.3	257	4,259,556.27	38.5	27	727,744.96	32.6	230	3,531,811.31	39.8	274	984,127.92	21.5	18	168,202.73	3.3	
1950-51	463	4,058,614.66	20.5	202	3,074,612.59	27.5	18	549,006.33	0.4	184	2,525,606.26	35.9	246	810,077.45	0.7	15	173,924.62	19.1	
1949-50	426	3,367,130.06	8.1	165	2,405,242.21	6.8	21	546,825.40	18.8	144	1,858,416.81	3.8	246	815,810.40	7.6	15	146,077.45	38.1	
1948-49	386	3,114,927.24	18.8	133	2,251,224.44	27.5	18	460,436.53	4.1	115	1,790,787.91	35.5	243	757,937.73	0.2	10	105,765.07	6.5	
1947-48	336	2,622,534.71	65.8	108	1,763,837.46	92.2	19	442,101.12	86.3	89	1,321,736.34	94.3	219	759,399.26	33.8	9	99,297.99	2.8	
1946-47	294	1,581,594.22	40.7	74	917,510.17	29.2	12	237,323.20	8.2	62	680,186.97	50.6	213	567,522.42	80.2	7	96,561.63	2.3	
Total Expenditures 1946-47 to 1965-66					\$220,976,510.58			\$181,594,792.98			\$20,045,522.27			\$161,549,270.71			\$35,021,096.86		\$4,360,620.74

¹ State sources include State Appropriations and Contracts.

² Federal sources include Federal Appropriations, Contracts, and Grants.

Notes: A. Figures do not include expenditures for nonresearch fellowships.

B. No research expenditures on the Support Fund have been included in these totals.

Source: Financial Reports

DEPARTMENT OF CIVIL SERVICE PERSONNEL

FRANK PIEPER, *Director*

For the Department of Civil Service Personnel, the 1964-66 biennium was characterized by several types of unusual demands on its services:

1. Extraordinary growth in the number of Civil Service employees and a substantially increased turnover of employees compelled departments throughout the University to request stepped-up personnel services of many kinds, but especially for classification and reclassification of positions, for recruiting and screening of applicants, and for speedy processing of personnel documents;
2. Major personnel policy change proposals by both the University and several groups of employees required extended negotiations before they could be resolved;
3. Insistent requests from University departments for supervisory and other types of training programs called for special efforts from the Training Division; and
4. Substantial increases in the number of students looking for part-time work in order to attend the University made it necessary to reorganize the Student Employment Service and to mount a drive to find greatly increased numbers of student jobs.

It would probably have been impossible for the Department of Civil Service Personnel to meet the demands and problems of the 1964-66 biennium without the reorganization of the Department that had taken place in the previous biennium. That reorganization of the Department into seven co-operating divisions, described in the 1962-64 biennial report, proved to work well, although the demands of the new biennium required several refinements:

1. In order to supply funds to bolster several other divisions, it was necessary to retrench the operations of the Management Services Division as a unit that served all University departments, to rename it, and to restrict its activities to the development and administration of a statistical information system for the Department of Civil Service Personnel and to the improvement of personnel forms and procedures. The position of Management Analyst was abolished, and its funds were used to help hire part-time clerical and recruiting staff in other divisions. The Management Services Division was renamed the Personnel Research Division with only one Systems Analyst position remaining assigned to it.
2. In order to make it possible to provide balanced editorial services to several divisions of the Department, the Editor and her part-time artist, formerly attached to the Training Division to write and illustrate training texts, were removed from that division and made directly responsible to the Director. The resulting Editorial Services Division has been given responsibility for evaluating the image being created in the minds of applicants, employees, students, and faculty by the printed and duplicated communication materials of the Department of Civil Service Personnel; and for improving that image by gradually designing new or revised materials for the applicant recruiting efforts of the Screening Division and the Personnel Services Division, for the employee orientation and training efforts of the Training Division, and for the job-finding and student communication efforts of the Student Employment Service.
3. In order to provide adequate supervision and coordination of the work of the ten Personnel Services Representatives in the Personnel Services Division, two of the ten positions were given supervisory responsibilities and reclassified to Senior Personnel Representative.

4. In order to assure continuity and control of the work of the entire Department, the Assistant Director was given complete authority and responsibility for acting as the Director when the ongoing operations of the Department require it, and his position was reclassified to Associate Director to reflect the change.
5. In order to provide the push necessary to find large numbers of additional student jobs and to improve the service given by the Student Employment Service both to students and to employers, a Senior Personnel Representative was put in charge of this division and additional clerical help was assigned.
6. In order to bring about greater efficiency and cooperation in the clerical operations of the Department (which, of course, are crucially important to the successful operation of a personnel department), the staffs of the Personnel Records Division and the Offices Services Division were integrated in one room, with interspersed desk locations related to the flow of work.

In addition to these organizational refinements, additional improvements were made in the physical facilities of the Department during the biennium:

1. Four ceiling-height electromechanical rotary files were installed for applicant and employee records in order to save floor space.
2. The testing room was moved and redesigned in order to provide eight typewriter booths instead of five and to give twenty-two instead of ten paper and pencil testing seats.
3. A room in the basement of Morrill Hall was remodeled to make a conference room, badly needed for negotiations and staff meetings; but by the end of the biennium the pressure for space required that it not only be used as a conference room by the entire staff, but also as an office for the Director and the Systems Analyst.
4. The Student Employment Service space in the basement of Wulling Hall was remodeled, some new equipment was secured, and an improved office layout was developed, to make it possible to interview greater numbers of students at the counter and in privacy when necessary.
5. The staff work-break room in the basement of Morrill Hall, a dull and dingy room used by several other departments as well as by the staff of the Personnel Department, was repainted and refurbished, and a small women's lavatory was installed adjacent to it.

Position Classification—The position classification plan now includes 673 different classes of work covering approximately 11,000 full- and part-time Civil Service positions. The administration of this plan involved the following activities during the biennium:

1. New positions created increased 38% over the previous biennium. Of the 2,234 new positions established by departments, 2,092 were classified as requested, 72 to a lower level, 31 to a higher level, and 39 into a different class at the same salary level as requested.
2. Requests for reclassification of positions increased 21% over last biennium. A total of 589 requests for reclassification were submitted. Of this number, 405, or approximately 70% of them, were approved as requested.
3. Vacancies increased 20% over last biennium. A total of 4,382 requests to fill vacant positions were submitted, of which 37 were reclassified to a lower level, 19 to a different class at the same pay level, and 35 to a higher class than requested. The total includes 1,325 student positions requiring classification study (the simple student jobs are not studied), an increase of about 36% over the last biennium.

4. One hundred twenty-eight new classes were established, and 18 obsolete classes were eliminated. One hundred twenty positions were studied in connection with classification surveys of complete series of classes. Of these, 12 were assigned to a higher class, 1 to a lower class, and 1 to a different class at the same salary level.

Salary Plan—The July 1, 1964, merit and longevity increases were fully financed by the legislature. However, no cost-of-living increases were provided for the coming biennium. On January 1, 1965, merit increases were available for full-time employees who were hired or promoted between January 16, 1964, and June 30, 1964. Students and those working less than 75% time were not eligible for the merit increase. Longevity increases were not available.

Funds were provided by the legislature for a reassignment of most classes of work to a higher pay range on July 1, 1965. In general, most classes moved one step. These range changes had been recommended to the legislature as a result of a comprehensive wage survey conducted by the University Personnel Department and the State Department of Civil Service. The changes made University and State Civil Service wages comparable to wages paid in industry for similar work. The legislature prohibited the granting of merit and longevity merit increases on July 1, 1965, and did not find it possible to include University employees in legislation providing life, hospital, and medical insurance for the State of Minnesota employees to be effective July 1, 1966.

Since the legislature had specifically prohibited the granting of merit and longevity merit increases for the 1965-66 fiscal year, none were available on January 1, 1965, a highly undesirable policy from the point of view of retention of good employees. Without the increases, new employees can work for eighteen months without a merit increase.

On July 1, 1966, there were no cost-of-living or general salary adjustments. However, the legislature did allot a part of the funds needed in order to grant merit and longevity merit increases. The additional funds needed to finance the increases are to be provided from step savings and by leaving vacant positions open one month before refilling them, when possible, during the entire 1966-67 fiscal year. Students and other employees working less than 75% time could be recommended for merit increases if they had worked 1,040 hours by July 1, 1966, in the same or in a related class of work since their last salary increase.

Administrative approval has been granted allowing the recommendation of merit increases on January 1, 1967, for those employees hired or promoted after January 17, 1966, and before July 1, 1966.

Applicant Recruiting and Screening—The first year of the biennium was a relatively normal one from the point of view of attracting applicants to University Civil Service employment, although qualified people were in short supply for such occupations as secretarial work, food service work, and scientific work.

By the second year of the biennium, however, when the unemployment rates had dropped to an unprecedented low point both nationally and locally, recruitment of many types of applicants had become extremely difficult. At one point, during April of the second year, approximately ten percent of all positions in the three basic clerical series of classes were vacant. The turnover rate for all types of employees had increased approximately 50% (from 2% per month to just under 3% per month) in the four years from the beginning of the last biennium to the end of the present biennium.

This drastic change in the labor market made it necessary to take unusual steps in order to fill vacancies:

1. Advertising of many kinds—newspaper, radio, direct mail, distribution of brochures—was stepped up substantially. Over \$53,000 was spent on advertising during the biennium, an increase of approximately 60% over the \$33,000 spent on similar efforts during the previous biennium. Several attractive new brochures were designed and written by the new Editorial Division of the Personnel Department for use in the advertising campaigns.

2. Recruiters were employed to visit schools, employment offices, newspapers, radio stations, and other agencies throughout the five-state area to publicize the University's need for applicants.
3. Almost the entire technical staff of the Civil Service Personnel Department followed up the recruiters' visits to schools with interview appointments with graduating students.
4. A clerical "overload" service to provide University departments with temporary office help when vacancies could not be filled was initiated in February of 1966. As of the close of the biennium, this service, named "Supplementary Office Service," or "SOS," had approximately sixty temporary typists, stenographers, and clerks working in University departments.
5. A recommendation was made to University administration to make summer office hours (7:45 to 4:30 with 45 minutes for lunch) standard the year around, instead of going back to 8-to-5 hours during the academic year with an hour off for lunch. The recommendation was necessary in order to make University office hours attractive to applicants, since 8-to-4:30 hours have been standard in downtown offices for many years. The recommendation was adopted on a trial basis for the 1966-67 school year.

The crash recruiting efforts reported above resulted in a greater number of applicants, which brought a heavy load of testing and interviewing. Eighteen percent more applicants were tested during the biennium than during the previous biennium (12,641 versus 10,699).

Personnel Records—The growth of the University and the increasing turnover of staff caused a 24% increase in personnel documents processed during the 1964-66 biennium as compared with the 1962-64 biennium (69,218 documents were processed this biennium, 55,769 last biennium).

In addition to the increased volume of documents, the frequency of use of personnel documents by the personnel technicians has increased as they have attempted to find and keep track of promotable employees, as they have worked on an increasing volume of employee requests for reclassification, and as they have attempted to check files of terminating employees to uncover and eliminate unnecessary turnover.

A streamlined medical examination process was devised and implemented during the second year of the biennium. The old policy of giving every new employee a complete physical examination had bogged down to the point where new employees would be on the payroll for more than a year before having their medical examination. This policy was abandoned in favor of tuberculin checks for all new employees on their first day of work and complete physical examinations within their first two weeks of work for employees in selected occupations (food service, laboring, mechanical, and other strenuous types of work) and for all those over thirty-five years of age. The new policy is both more useful and more economical.

Employee Training—The Training Division continued to expand and improve its employee development programs and other departmental services in the 1964-66 biennium despite the shortage of one full-time trainer. Nearly 1,300 employees attended classroom sessions.

Central Programs

Orientation—The "Get Acquainted with the University" meetings for new employees were discontinued July 1, 1965, because of the difficulty of reaching a reasonable percentage of new employees. Replacing the meetings is an orientation packet which contains a newly published manual entitled "Welcome to the Staff of the University of Minnesota," plus a copy of the Civil Service Rules, a Recreation and Entertainment

Guide, and many other informational items. Every new employee receives this packet on his first day of work.

Business Procedures—This course for new secretaries and supervisors, now in its 15th year, was attended by 260 employees this biennium. The "Manual of Business Procedures" was again annually revised. A complete reorganization and restyling of the manual is in process in order to make it a more useful reference for departments.

Office Practices—This course for inexperienced office workers was attended by 150 employees during the biennium. In addition, a number of special sessions were presented in individual departments requesting them.

English Refresher—This course was presented semiannually instead of annually this biennium because of the increased demand from departments. There were 45 employees enrolled.

Supervision—A series of 10 workshop sessions was conducted for eight groups of supervisors this biennium, and special sessions were held for some departments. The long waiting list for supervisory training indicates that this program needs to be greatly expanded.

Laboratory Animal Care—Both the basic course and a newly developed advanced course were presented annually to a total of 133 laboratory animal technicians. By action of the Civil Service Committee, the courses are now mandatory for employees seeking advancement in these classes.

Medical Terminology—A highly popular programmed course in medical terminology was presented four times to 115 employees and will be scheduled three times annually hereafter. This appears to be the solution to the problem of developing trained medical secretaries.

Short Courses—A clinic on postal regulations was presented twice on the Minneapolis and once on the St. Paul campus for 150 office employees. A four-session short course on research contracts and grants was held on the Minneapolis campus with nearly 100 staff members attending. Both of these programs will be repeated in the future.

Departmental Training Programs

The Training Division encourages and helps departments plan and present training programs tailored to their specific needs. Services include developing orientation programs and seminars; work analysis; work simplification; developing work standards; and producing work methods manuals. Recently published manuals include "Work Methods for Hospital Housekeeping," "Medical Center Maintenance and Operation Manual," and "Nurses Orientation Workbook." In process is a "Head Nurse Manual."

Individual Self-Development Programs

Regents' Scholarship Program—This popular fringe benefit program was revised during the second year of the biennium to make the number of scholarships available each quarter equal to 2% of the full-time Civil Service employee population. In addition, many employees take courses on their own by paying their fees and making up lost work time. The Training Division provides vocational counseling for employees who request help in planning a self-improvement program.

Trainee Programs—The problem of recruiting skilled workers has resulted in an increased use of trainee programs. The Training Division works with the Personnel Services Division and the hiring department

in working out a program which will give the trainee the skills and knowledge needed to meet the requirements of his job.

Unemployment Compensation—During the two calendar years 1964 and 1965, the fourth two-year period of unemployment compensation coverage, 621 new claims were filed by terminated Civil Service employees. This compares with 637 for the previous two calendar years. The drop was probably due to the abundance of available jobs.

The University's total cost for unemployment compensation dropped from \$198,102.84 during the last biennium to \$178,196.58 during this biennium, a decline of \$19,906.26. A total of 911 individual claims were paid during the last two years compared with 938 during the previous two years.

The University protested 242 claims during the two-year period, resulting in 145 claimants being disqualified for from three to seven weeks or until after returning to work. One additional claim was disqualified later because of the claimant's refusal to accept the job offered. Of the five disqualified claims that were appealed, three were decided in favor of the University by the appeal tribunal.

Civil Service Committee—The following staff members served on the Civil Service Committee during the biennium:

Ray F. Archer, Director of Insurance and Retirement (1964-65)

Clarence L. Cole, Professor and Chairman, Dairy Husbandry (1964-66)

C. Luverne Carlson, Director of University Services (1965-66)

Neal L. Gault, Assistant Dean, Medical Sciences (1964-66)

Richard C. Jordan, Professor and Head, Mechanical Engineering (1964-65)

Allan H. McCoid, Professor, Law School (Committee Chairman, 1964-66)

Alfred O. C. Nier, Professor, Physics (1965-66)

The Committee held 38 meetings during the biennium and considered 240 different agenda items. Its major actions were recommendations to the Board of Regents to establish 128 new work classifications; abolish 18 old work classifications; change salary range assignments for 93 work classifications; and increase the number of Regents' Scholarships from a fixed number of 310 to 2% of the full-time Civil Service employee population per academic quarter, but to reduce the number of hours that can be taken off work to attend class from six to three hours per week.

During the biennium, the Committee awarded 313 day school Regents' Scholarships and 174 evening school Regents' Scholarships.

The Committee also heard the following grievance appeals during the two years of the biennium: 1 appeal of a disciplinary action (denied); 3 appeals of position classification action (one granted, two denied); 1 appeal of salary range assignment (granted); 2 appeals of the effective date of position classification or salary range assignment (both granted); and 1 appeal of loss of pay for vacation accumulation (denied).

The Committee also held hearings during the second year of the biennium on the extensive revisions of the Civil Service Rules proposed by the Department of Civil Service Personnel as the result of recommendations made by several union groups, by many individual employees, by supervisors and department heads, and by the staff of the Department of Civil Service Personnel. Nine two-hour hearings were held by the Committee on these proposals: four in Minneapolis, one in St. Paul, one in Duluth, one in Austin, and one in Waseca. As the biennium closed, the Committee was studying the comments made at those hearings.

Employee and Labor Relations—Employee groups reacted to the failure of the legislature to provide merit increase funds for one of the two years of the biennium and to the fact that it did not include University employees in the state plan for life, hospital, and medical insurance, but agreed to work with the University for improvements in the next legislative session.

Negotiations were carried on throughout the biennium with several large employee union groups concerning their proposals for improvements in the

Civil Service Rules. A Duluth local had proposed a set of "work rules" for employees to be included in a possible collective bargaining unit at that location but later agreed to request that most of its work rules proposals be considered as possible revisions of or additions to the Civil Service Rules. Extended negotiations were carried on with the officers and business representatives of that local. These and other union and employee discussions resulted in an extensive set of Rules changes being proposed to the Civil Service Committee during the second year of the biennium.

Negotiations were also carried to completion with the unions representing the construction trades concerning exclusion from the State Employees Retirement System. Agreement was reached with Minneapolis, St. Paul, and Duluth building trades locals that employees hired after July 1, 1965, under master or uniform contracts described by Civil Service Rule 6.12 will not become members of the State Employees Retirement Association. Direct payments to any retirement funds established under the master contracts were, instead, started by the University on that date. The net result of this agreement is the full implementation of the intent of Civil Service Rule 6.12, that is, to employ building trades workers under the same conditions as do private contractors.

During the first year of the biennium, the Director served as a member of the Governor's Study Committee on Public Employee Labor Legislation and as chairman of a subcommittee of that group which drafted a bill to amend the Minnesota Public Employees Labor Relations Act. The bill passed the legislature and was signed into law with only one change. It incorporates a number of improvements that are significant from a labor relations point of view to both management and employees of the University.

Student Employment—As the biennium began, the number of students on the Minneapolis campus was increasing rapidly. The number of part-time jobs available to students, however, was increasing only very slowly. For instance, in 1963-64, the second year of the previous biennium, the number of students looking for work increased by 24%, but the number of vacancies increased by only 4% over the year before. With the prospective continued increase in the number of students, drastic action was needed to increase the number of student jobs.

The small staff of the Student Employment Service at the beginning of the biennium was unable to develop a program for increasing the number of student jobs during the first year. At the beginning of the second year of the biennium, therefore, a Manager position was created to develop and administer a more effective Student Employment Service. Through his efforts, with help from the new Editorial Division in designing a job-promotion campaign, the number of student jobs available was increased by 53.7% over the first year of the biennium (the increase in jobs for the two years of the biennium taken together over the two years of the previous biennium was 41%, while the increase in the number of students looking for work was 29%).

The methods used to increase the number of student jobs included a direct mail promotion campaign utilizing six advertising flyers sent to 6,000 Twin City employers, a telephone call system to employers, advertisements for applicants in newspaper "Help Wanted" columns, and special letters from the President of the University to selected business leaders.

For the first time in the history of the Student Employment Service, systems were developed to code student application-for-work cards by college major, job interests, and job qualifications, and to notify students by postcard and in the *Minnesota Daily* about job opportunities available to them.

During the last months of the biennium, the Student Employment Service office space was remodeled to provide additional counter interviewing space, two offices for semiprivate interviewing of special cases, and a staff room.

The Reserved Work Program placed 252 high ability freshmen in jobs identified for them, as compared to 187 in the previous biennium.

During the 1965-66 fiscal year, the first full year of the program, the Student Employment Service cooperated with the Coordinator of the Work-

Study Program in the Dean of Student's Office to place 704 students on "extra" student jobs made available by this federal project.

A summary comparison of key activity statistics for the Student Employment Service for this biennium and the previous one shows:

	Applicants	Vacancies	On-Campus Placements	Off-Campus Placements	Total Placements
1962-64	21,997	19,286	11,733	4,706	16,439
1964-66	27,545	27,193	14,571	7,280	21,851
% increase	29.1	41.0	24.0	52.5	32.9

OFFICE OF THE FIELD AUDITOR

DON FAHEY, *Field Auditor*

During the 1964-66 biennium, the Office of the Field Auditor continued to review and examine the financial operations and procedures of the various departments of the University. In addition, we attempted to instruct new employees whenever possible in regard to established University regulations on cash handling and record keeping.

The phasing out of the North Central School of Agriculture at Grand Rapids was completed and the records for that part of the operation closed. A new Credentials Examination Fee was established during the biennium, with this Office and the Admissions and Records Office working closely together in designing the operating procedures and financial controls. Working with Chemical Storehouse and Data Processing personnel in setting up procedures for maintaining the inventory records and producing the storehouse billings by computer effective July 1, 1966, was another exciting project.

DEPARTMENT OF INSURANCE AND RETIREMENT

RAY F. ARCHER, *Director*

The following changes were made in programs administered by the Department of Insurance and Retirement:

Faculty Retirement Plan—

- a. A radical change in this plan was made, effective October 1, 1963, in that the University's annual contribution for each eligible staff member was made equal to 2½% of the first \$5,000 of annual salary plus 7½% of the amount in excess of \$5,000; effective October 1, 1965, this was increased to 2½% and 9%, and, effective October 1, 1966, this was further increased to 2½% and 10%.
- b. Effective July 1, 1966, certain retired staff members and certain widows of retired staff members were given an increase in their total retirement allowances.
- c. Effective October 1, 1964, each staff member was given the option of diverting the total annual contributions by the University and himself from a 100% Fixed Dollar retirement annuity to a 50% Fixed Dollar annuity and a 50% Variable annuity.

Group Insurance—

Effective July 1, 1966, the Group Life Insurance (without cost to the staff member) was increased from \$12,000 to \$20,000.

PATENTS

G. WILLARD FORNELL, *Patent Adviser**Assignment of Patent Applications, 1964-1965*

Assignment of Application for Canadian Patent, Serial No. 904,811, Strathmore R. B. Cooke et al., Ore Treating Process.

Assignment of Application for Patent, Serial No. 376,338, James E. Lawver, Iron Ore Beneficiation Process.

Assignment of Application for Patent, Serial No. 390,555, William G. Kubicek et al., Impedance Plethysmograph.

Assignment of Application for Patent, Serial No. 404,860, Anatolia B. Cruz et al., Prosthetic Heart Valve.

Assignment of Application for Patent, Serial No. 432,395, Iwao Iwasaki, Method of Treating Starches for Flotation.

Patents Received, 1964-1965

Original United States Patent No. 3,138,025, Leroy M. Fingerson, High Temperature Probe.

Original West German Patent No. 1,164,022, Fred Smith et al., Preservation of Animal Material.

Original United States Patent No. 3,159,249, B. J. Lazan, Damping Means.

Original British Patent No. 970,190, Fred Smith et al., Preservation of Animal Material.

Original New Zealand Patent No. 129,283, Fred Smith et al., Preservation of Animal Material.

Original Australian Patent No. 253,252, Fred Smith et al., Preservation of Animal Material.

Assignment of Patent Applications, 1965-1966

Assignment of Application for Patent, Serial No. 446,311, Kenneth T. Whitby, Particle Counter System.

Assignment of Canadian Application for Patent, Serial No. 404,860, Anatolia B. Cruz et al., Prosthetic Heart Valve.

Assignment of United States Patent No. 2,760,769, Nordahl I. Onstad, Method and Apparatus for Automatically Controlling Certain Operations in a Production Plant by Sensing by Electromagnetic Induction the Density, Velocity, and Rate of Flow of Flowing Magnetic Material.

Assignment of Application for Patent, Serial No. 512,923, Ahmad A. Nakib, Toroidal Heart Valve.

Assignment of Application for Patent, Serial No. 523,869, Robert W. Erickson, Wood Treating Method.

Patents Received, 1965-1966

Original Japanese Patent No. 448,644, Fred Smith et al., Preservation of Animal Material.

Original United States Patent No. 3,185,623, Fred Smith et al., Preservation of Animal Material.

Original South African Patent No. 64/2492, S. R. B. Cooke et al., Ore Treating Process.

Original United States Patent No. 3,197,963, Harold D. Fredericksen, Wave Attenuator.

Original Indian Patent No. 83,333, Walter J. Runge, Light Shield Producing Material.

Original Bolivian Patent No. B 2251, S. R. B. Cooke et al., Ore Treating Process.

Original United States Patent No. 3,205,413, Donald E. Anderson, Thin Film Superconducting Solenoids.

Original United States Patent No. 3,205,461, Donald E. Anderson, Thin Film Magnetic Energy Accumulator.

Original British Patent No. 998,152, Walter J. Runge, A Cosmetic Material for Shielding the Skin from Light to Protect It from the Effects of Electromagnetic Radiation.

Original United States Patent No. 3,236,240, William E. Bradley, Implantable Bladder Stimulator.

Original United States Patent No. 3,237,414, Lorenz G. Straub et al., Wave Attenuating Device and Method of Attenuating Waves.

Original Australian Patent No. 260,132, Walter J. Runge, Light Shield Producing Material and Method.

PLANT SERVICES DEPARTMENTS

ROY V. LUND, *Director*

Land

During the biennium, additions were made to the Twin Cities Campus, East Bank, as follows:

In Block 5, Mill Company's Addition, bounded by 5th Street S.E., 6th Street S.E., 10th Avenue S.E., and 11th Avenue S.E., Lot 10, 3 Parcels	10,990 sq. ft.
In Block 6, Mower's Addition, bounded by 6th and 7th Streets S.E., and by 16th and 17th Avenues S.E., 6 Parcels	24,650 sq. ft.
In Block 10, University Addition, bounded by 7th and 8th Streets S.E., and by 15th and 16th Avenues S.E., 7 Parcels	23,518 sq. ft.
In Block 11, University Addition, bounded by 6th and 7th Streets S.E., and by 15th and 16th Avenues S.E., 3 Parcels	12,590 sq. ft.
In Block G, Tuttle's Addition, in the northeasterly half of the block between 17th and 18th Avenues S.E., 3 Parcels	11,659 sq. ft.
In Block H, Tuttle's Addition, in the northeasterly half of the block between 18th and 19th Avenues S.E., 2 Parcels	4,028 sq. ft.
In Block 21, Regents' Addition, Lots 1, 2, and 3, Jones' Rearrangement of Lot 1 and the rear 36 ft. of the front 144 ft. of Lots 2 and 3, 1 Parcel	6,699 sq. ft.
In Block 18, St. Anthony City, on the west side of Walnut Street S.E., north of Washington Avenue S.E., the south 55 ft. of the east 80 ft. of Lot 1, 1 Parcel	1,600 sq. ft.
In Blocks 26, 38, and 39, St. Anthony City, part of Lot 10 Block 26, part of Lot 10 Block 38, part of Lots 1, 2, 3, 4, and 5 Block 39, and parts of Delaware, Essex, Pleasant, and Prospect Streets (vacated) all lying north and east of River Road East, 1 Parcel	29,200 sq. ft.
In Block 48, St. Anthony City, bounded by Fulton and Oak Streets and River Road East, the south one-fourth of Lots 1 and 2, 1 Parcel	5,445 sq. ft.
In Block 12, Baker's Addition, east of Ontario Street S.E. between Essex and Fulton Streets S.E., the south 45 ft. of the west 108 ft. of Lot 3, 1 Parcel	4,860 sq. ft.
In Lot 14, Auditor's Subdivision 44, lying to the south and west of the northeasterly line of Lot 14 and the west right-of-way line of Interstate 35W, 1 Parcel	67,650 sq. ft.

For the development of the West Bank, the following parcels were acquired:

In Block 4, Hancock and Rice's Addition, bounded by Washington Avenue S., 2nd Street S., 19th Avenue S., and 20th Avenue S., the north 55 ft. and the south 19 ft. of Lot 12, 2 Parcels	4,070 sq. ft.
In Block 8, Hancock and Rice's Addition, bounded by Washington Avenue S., 2nd Street S., 20th Avenue S., and 21st Avenue S., Lots 3, 4, 5, 6, 7, and 8, 1 Parcel	37,703 sq. ft.
In Block 9, Hancock and Rice's Addition, bounded by Washington Avenue S., 2nd Street S., 21st Avenue S., and 1st Avenue S., Lots 2, 5, and 6, 2 Parcels	14,995 sq. ft.
In Block 168, Town of Minneapolis, on the north side of Highway 12 between Cedar Avenue and 19th Avenue S., part of Lots 7, 8, 9, and 10, 5 parcels	32,460 sq. ft.
In Block 169, Town of Minneapolis, bounded by 3rd Street S., Highway 12, Cedar Avenue, and 19th Avenue S., part of Lots 1, 6, 7, 8, 9, and 10, 8 Parcels	43,650 sq. ft.
In Block 176, Town of Minneapolis, bounded by 3rd Street S., 4th Street S., 20th Avenue S., and 21st Avenue S., part of Lots 1 and 5, all of Lots 4, 6, 7, 8, 9, and 10, 6 Parcels	73,822 sq. ft.
In Block 177, Town of Minneapolis, bounded by 3rd Avenue S., 4th Avenue S., 19th Avenue S., and 20th Avenue S., part of Lots 5 and 8, 2 Parcels	12,288 sq. ft.
In Block 180, Town of Minneapolis, bounded by Riverside Avenue, 4th Street S., 19th Avenue S., and 20th Avenue S., part of Lots 1, 2, 3, 8, and 9, 6 Parcels	13,493 sq. ft.
In Block 181, Town of Minneapolis, bounded by 4th Street S., 5th Street S., 20th Avenue S., and 21st Avenue S., part of Lots 4, 9, and 10, 3 Parcels	12,672 sq. ft.
In Block 182, Town of Minneapolis, bounded by 4th Street S., 5th Street S., 21st Avenue S., and 22nd Avenue S., Lots 8 and 9 and part of Lot 10, 5 Parcels	25,410 sq. ft.
In Block 184, Town of Minneapolis, bounded by Riverside Avenue, 5th Street S., 21st Avenue S., and 22nd Avenue S., part of Lots 1, 2, and 8 and Lot 4 rearrangement of Lots 9 and 10, 5 Parcels	15,396 sq. ft.
In Block 185, Town of Minneapolis, bounded by Riverside Avenue, 5th Street S., and 21st Avenue S., part of Lot 2 and Lots 1, 2, and 3, Carlson's Subdivision of Lot 1, 3 Parcels	11,528 sq. ft.
Atwater's 3rd Addition, Lots 10, 11, 12, 13, 14, 15, and 16, and the south 10 ft. of Lot 17, 4 Parcels	31,650 sq. ft.
West Bank street vacations: 3rd Street S. from 19th Avenue S. to 132 ft. east of 21st Street S. and 4th Street S. between 21st and 22nd Avenue S.	78,800 sq. ft.

Additions were made to the Como Service and Research Area as follows:

Part of the N½ of the NE¼ of the NE¼ of Section 19, T29 N, R23 W, 1 Parcel	147,600 sq. ft. or 3.39 Acres
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Deductions were made from the Como Service and Research Area:

In Blocks 2 and 9, Cole and Week's Addition, the east 60 ft. of Blocks 2 and 9 lying along 27th Avenue S.E. between Como Avenue and Weeks Avenue	45,163 sq. ft.
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Additions were made to the St. Paul Campus as follows:

Two parcels lying on the NW¼ of the NE¼ of Section 21, T29 N, R23 W, 4th P.M.	331,650 sq. ft. or 7.61 Acres
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Additions were made to the Duluth Campus as follows:

Lots 1 through 8, Block 1; Lots 1 through 16, Block 2; Lots 1, 9, 10, 14, 15, and 16, Block 3; Lots 9 through 16, Block 6; and Lots 7 through 10, Block 7; all in Motor Line Park Division, 1 Parcel	65,146 sq. ft.
Lots 6 through 9, Block 15, Motor Line Division of Duluth, 1 Parcel	9,375 sq. ft.
Lots 10, 11, and 12, Block 30, Oakland Park Addition, 1 Parcel	7,852 sq. ft.

Deductions were made from the Morris Campus as follows:

A parcel of land bounded by Minnesota Highway No. 9, 11th Street (vacated), right-of-way of Northern Pacific Railroad "wye," and right-of-way of Minnesota Highway Nos. 28 and 59, lying in the W $\frac{1}{2}$ of Section 35, T125 N, R42 W	7.6 Acres
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Additional land was acquired at the Northwest School and Experiment Station, Crookston, as follows:

The S $\frac{1}{2}$ of Section 12, T150 N, R47 W, 5th P.M., Polk County	320 Acres
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Additional land was acquired at the University of Minnesota Arboretum, Excelsior, as follows:

The S $\frac{1}{2}$ of the NE $\frac{1}{4}$ of the NE $\frac{1}{4}$ of Section 18, T116 N, R23 W, Carver County	20 Acres
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Additional land was acquired at the North Central School and Experiment Station, Grand Rapids, as follows:

Lots 3 and 4 and part of the NW $\frac{1}{4}$ of the SE $\frac{1}{4}$ of Section 11, T55N, R25 W, Itasca County	110.3 Acres
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Additional land was acquired at Cedar Creek Natural History Area as follows:

The NW $\frac{1}{4}$ of the NW $\frac{1}{4}$, SW $\frac{1}{4}$ of the NW $\frac{1}{4}$, SE $\frac{1}{4}$ of the NW $\frac{1}{4}$, NE $\frac{1}{4}$ of the SW $\frac{1}{4}$, and Lots 3 and 4, Section 26, T34 N, R23 W, Anoka County	157 Acres
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Two Parcels of land lying east of Cedar Creek in the W $\frac{1}{2}$ of Section 33, T34 N, R23 W	3.5 Acres
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The NW $\frac{1}{4}$ of the NW $\frac{1}{4}$, lying east of the County Road, in Section 22, T34 N, R23 W, Isanti County	36 Acres
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Deductions were made from the Cedar Creek Natural History Area as follows:

Two Parcels of land lying west of Cedar Creek in the W $\frac{1}{2}$ of Section 33, T34 N, R23 W, Anoka County	6 Acres
The SE $\frac{1}{4}$ of the SE $\frac{1}{4}$ of Section 15, T34 N, R23 W, Isanti County	40 Acres

Deductions were made from the Earle Brown Farm as follows:

All University property lying within Sections 35 and 36, T119 N, R21 W, and Section 2, T118 N, R21 W, Village of Brooklyn Center	561.2 Acres
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Construction

Minneapolis—A second- and third-level link between Electrical and Main Engineering has been constructed. The link, made of structural steel frame with curtain wall exterior, will provide 4,240 square feet of office and laboratory space for the Department of Electrical Engineering.

Total cost of this work	\$128,000.00
Source of funds	State Appropriation

An addition to the Museum of Natural History has recently been completed. Built to provide additional office and display space and to allow the centralization of all vertebrate zoology collections, this structure was built with a reinforced concrete frame and a structural stone exterior and adds 25,253 usable square feet. The first and second floors were left unfinished.

Total cost of this work	\$503,526.00
Source of funds	State Appropriation, NSF Grant, Gifts, Matching Funds

A third- and fourth-floor addition to the Masonic Memorial Hospital will soon be completed. The reinforced concrete frame addition will match the

existing structure and will provide space for more beds and for a research center.

Total cost of this work \$1,100,000.00
 Source of funds Minnesota Memorial Hospital Fund

Construction of a nine-floor addition to Sanford Hall is nearing completion. The addition, made of reinforced concrete frame with masonry exterior, will approximate the appearance of the existing structure. The 55,832 usable square feet of space will house 268 women.

Total cost of this work \$1,494,334.00
 Source of funds University Services Reserve and Loan

Construction has begun for the new West Bank library. This building will be of reinforced concrete and structural frame with masonry and stone exterior and will have underground connections to all surrounding buildings. The 279,034 usable square feet of library space will provide much-needed book storage space and student study areas.

Total cost of this project \$10,142,000.00
 Source of funds State Appropriations, Grants from Higher Educational Facilities Act of 1963

The pedestrian level of the new Washington Avenue bridge will be enclosed by fall 1966. The enclosure consists of a lightweight concrete roof, structural steel frames, and a glass enclosure.

Total cost of this work \$386,000.00
 Source of funds Gifts, University funds

Construction of a five-level parking ramp south of Coffman Union is in progress. This reinforced concrete ramp will provide space for 1,720 automobiles, with a pedestrian bridge connected to Coffman Memorial Union. The top deck is being built to accommodate possible future landscaping.

Total cost of this work \$3,205,500.00
 Source of funds Bank Loan, Parking Garages Reserve Fund

Storm and sanitary sewer tunnels are presently being constructed behind the Mechanical and Architectural Engineering Buildings. These will serve the Space Science Center, construction of which is scheduled to begin later this year.

Total cost of this work \$40,489.30
 Source of funds National Aeronautics and Space Administration Grant

Construction is presently under way of a shaft, drill hole, and sanitary sewer in a deep tunnel from Millard Hall to the Twin City Sewage Interceptor, located under Harvard Street S.E.

Total cost of this work \$74,000.00
 Source of funds State Appropriation

An addition to the Tandem Van de Graaff Laboratory will soon be completed. This construction will provide additional laboratory and office space and will match the existing building.

Total cost of this project \$134,822.00
 Source of funds University Funds, Balance available from State Appropriation

BIENNIAL REPORT

An addition, to house the Economics and Statistics Research Laboratory, has been constructed at the north end of the Science Classroom Building. The addition, with 4,767 usable square feet of space, is of reinforced concrete and matches the original building.

Total cost of this work	\$177,080.00
Source of funds	Grant from National Science Foundation, Matching Funds, Plant Services Funds

Pillsbury Court, a four-building, 48-unit staff housing complex, has been completed on the former site of the President's Residence. Each building is constructed of wooden structural frames with partial masonry exterior and contains 12 two-bedroom units.

Total cost of this work	\$809,953.00
Source of funds	University Services Improvement Reserve Loan

A nonsectarian meditation chapel has been built in the southeast court of University Hospitals. The building is of reinforced concrete with masonry exterior, has stained glass windows, and is entered from the main lobby of Mayo Hospital.

Total cost of this work	\$173,316.00
Source of funds	Gifts

An air-conditioned addition to the west side of Eddy Hall, to house KUOM, will be completed by August 1966. The addition is a one-story steel building with basement.

Total cost of this work	\$125,000.00
Source of funds	University Funds

West River Road was rerouted to connect with 4th Street S. so that 3rd Street S., between 19th and 21st Avenues S., could be vacated for the construction of the West Bank library.

Total cost of this work	\$126,500.00
Source of funds	State Appropriation

St. Paul—An addition to Snyder Hall containing 60,212 square feet of usable space will be completed by October 1966. This will provide much-needed additional space for the College of Biological Sciences. The addition will match the existing building.

Total cost of this work	\$2,414,204.00
Source of funds	State Appropriation, National Institutes of Health Grant, University Sources

The basement area of the Veterinary Basic Science Building, left unfinished during the original construction, has been completed. The area contains several animal rooms, a student laboratory, and a preparation room.

Total cost of this work	\$75,000.00
Source of funds	State Appropriation

The addition of a third- and fourth-floor level to the Veterinary Basic Science Building will soon be completed. As part of the same project, an animal facilities building will also be built. The addition is of reinforced concrete with a masonry exterior matching the original building.

Total cost of this project	\$944,521.00
Source of funds	State Appropriation, Grant from National Institutes of Health

Duluth—Phase II of the Library addition has been completed. Constructed of reinforced concrete frame with masonry and stone-trim exterior, this addition has three floors and connects with the present building. The space will be used for readers' space and shelving.

Total cost of this work \$958,000.00
 Source of funds State Appropriation

Phase III of the Library addition is presently under construction. The completion of this phase will provide a three-level wing matching the original building. There will be 29,713 square feet of usable space.

Total cost of this project \$1,406,604.00
 Source of funds State Appropriation,
 Higher Education Facilities Grant

Another addition to the student dormitory is under construction. The addition, made of reinforced concrete frame with masonry exterior, consists of two three-floor wings containing 36,420 square feet of usable space.

Total cost of this work \$1,020,000.00
 Source of funds State Appropriation, University Funds,
 Loan from Federal Housing and Home Finance Agency,
 Duluth Services Improvement Reserve

A planetarium will soon be completed. This structure is of reinforced concrete frame with masonry exterior. At a later date an observatory wing will be added.

Total cost of planetarium \$194,440.00
 Source of funds Gift, Campus Funds

Morris—A dormitory with 26,232 usable square feet of space has been completed. Constructed of reinforced concrete structural frame with precast concrete panel and masonry exterior, this building provides three floors of dormitory space to house 120 students and one floor to house the Health Service Center.

Total cost of this work \$480,000.00
 Source of funds Housing and Home Finance
 Administration Loan

Another four-floor dormitory similar to the above, to house 144 students, is under construction. All four floors will be used as dormitory space.

Total cost of this work \$605,000.00
 Source of funds Housing and Home Finance
 Administration Loan,
 University Funds

A science building containing 20,224 square feet of usable space is under construction. The building, made of reinforced concrete frame with precast concrete panel and masonry exterior, will house classrooms and preparation laboratories.

Total cost of this work \$959,000.00
 Source of funds State Appropriation,
 Matching Funds

Rehabilitation

Minneapolis—Phase I of the new primary electrical system is presently under way. This phase will replace four feeders, two of which are presently carrying loads above their installed cable ratings, and two that are loaded

BIENNIAL REPORT

to their maximum cable rating. The new feeders will have cable suitable for future 13.8 KV distribution as compared with the present 4.16 KV.

Total cost of this work	\$410,525.00
Source of funds	State Appropriation, Accumulated Funds

Rehabilitation and remodeling of Stations 58 and 59 of the University Hospitals will soon be completed. The project will convert these stations into a nursery and a maternity area.

Total cost of this work	\$249,442.00
Source of funds	Hospital Funds

The southwest court of University Hospitals is being rehabilitated. The court was covered with a roof to provide additional space for the Department of Laboratory Medicine and for the Business Office.

Total cost of this work	\$1,177,401.00
Source of funds	Hospital Improvement Funds, Gifts, Income from Gift Shop, Hill-Burton Federal Grant

The Todd Section of University Hospitals has been rehabilitated to provide an improved environment in the Hospitals. The project consists of the modernization of three floors.

Total cost of this work	\$617,329.00
Source of funds	State Appropriation, Hospital Funds, Residue of Funds from Mayo's Construction Project, Gifts, Interest on Investments

Owre Hall is being rehabilitated. This project will superimpose a floor over the Dental Clinic Area. A structural steel system will support the additional floor.

Total cost of this work	\$532,000.00
Source of funds	National Institutes of Health Grant, Bank Loan, University Funds, Dental Clinic Income

The third floor of Lyon Laboratories is being rehabilitated to accommodate a research project for NASA.

Total cost of this work	\$393,947.00
Source of funds	National Institutes of Health Grant, National Science Foundation Grant, National Aeronautics and Space Administration Grant, George Chase Christian Fund

The Heating Plant's boiler number three has been modified to adapt the overall plant design necessitated by the addition of boilers four and five.

Total cost of this work	\$45,593.00
Source of funds	State Appropriation

Rehabilitation and remodeling of the interior of the Naegele Building on the West Bank for the Art Department will be completed by August 1966. A number of classrooms will be provided.

Total cost of this work	\$93,000.00
Source of funds	State Appropriation

St. Paul—Suitable modifications to meet the educational and research needs in the program of Forest Biology have been made to Green Hall. The project includes the replacement of the old greenhouse.

Total cost of this work	\$162,812.00
Source of funds	State Appropriation, NSF Grant

Duluth—Replacement of the temporary steam line with permanent piping and the construction of a tunnel to shelter the piping will soon be completed. The tunnel will also serve as a concourse for students' use between the Physical Education Building and the Humanities Building. The tunnel is built of reinforced concrete frame with some exterior masonry.

Total cost of this project \$95,000.00
 Source of funds State Appropriations,
 University Funds

Itasca—A modern sewage collection system has been installed, and the existing service lines have been repaired. The new system connects to the Itasca Park sewage disposal system.

Total cost of this work \$54,223.15
 Source of funds State Appropriation,
 Maintenance Funds

Crookston—The first floors of Kiehle and Selvig Halls are being rehabilitated. Selvig Hall will be converted from a dormitory to an administration building for the new Technical Institute. Kiehle Hall, which was a library, administration, and auditorium building, will house a larger library, an auditorium, and fireproof stairways.

Total cost of this work \$300,000.00
 Source of funds State Appropriation

Morris—The heating tunnel from the Heating Plant to Spooner Hall has been replaced. The tunnel contains steam and return piping, water piping for the buildings, telephone cables, and the heat control systems.

Total cost of this work \$69,800.00
 Source of funds State Appropriation

Grand Rapids—A sanitary sewer and a sewage lift station have been constructed to connect the campus to the sewage disposal system of the City of Grand Rapids.

Total cost of this work \$55,000.00
 Source of funds State Appropriation

Austin—Rehabilitation, installation of special hoods, and construction of the Mass Spectrometer space at the Hormel Research Institute have been completed.

Total cost of this work \$56,905.00
 Source of funds National Institutes of Health Grant,
 National Dairy Council Funds,
 Hormel Institute Funds

Major Improvements and Alterations

Minneapolis Campus—*The following electrical work has been done:*

Improvement of interior lighting and general electrical rehabilitation has been accomplished in the following buildings: Sanford Hall, Mechanical and Aeronautical Engineering, Millard Hall, Physics, and Pillsbury Hall.

Two primary electric feeders, numbers 3001 and 3006, have been replaced with more adequate feeders.

A new transformer vault and a primary switchgear were installed in Northrop Auditorium.

The primary electrical service to the Chemical Engineering Building is being revised.

A new electric panel and feeder has been installed in the Botany Building.

Following is a list of the major mechanical rehabilitations:

An automatic remote supervisory center has been installed in Mayo to provide centralized, round-the-clock supervision of the ventilating, heating, and air-conditioning systems of eight buildings.

New steam and return piping have been installed on several locations on the campus.

Two-zone hot water heating systems have been installed in the University Press Building and in the Armory.

Rehabilitation of the ventilation and fresh-air supply systems was performed in the following buildings: Lyon Laboratories, Owre-Jackson, Room 42-5 in Physics, Auditorium Classroom in Zoology, third floor in Chemistry, and Rooms 111 and 113 in Owre.

Two fan units were installed on the exhaust system in the basement study room of Coffman Memorial Union. The necessary electrical work is under way.

The skylight of Experimental Engineering was removed, and the ceiling over the computer area was insulated to improve the heating and air-conditioning systems.

There has been extensive remodeling to provide laboratories and offices. Millard, Pattee, and Pillsbury Halls, and the Chemistry, Zoology, and Botany Buildings have received thorough renovation of many of their rooms.

The following spaces on the campus have been remodeled:

The ground floor of Nicholson Hall has been completely renovated, including the construction of a basement area.

The neuropharmacology laboratory housed in the Lyon Laboratories Building has been modernized.

The third floor of the Chemical Engineering Building has been remodeled to provide much-needed laboratory and office space.

The elevator in Wulling Hall was rehabilitated.

Room 237 of Electrical Engineering and Room 12, Mines Experimental Station, have been converted into research spaces.

The Heat Transfer Laboratory, a division of Mechanical Engineering, is presently being extended and renovated.

The first, second, and third floors of the Main Engineering Building are being rehabilitated to provide 35 offices for the Mathematics Department.

A "Clean Room" to insure bacteria-free assembly of space equipment is being constructed in the Physics Building through a grant from the National Aeronautics and Space Administration.

A TV Control Room has been built in the Aeronautical Engineering Building.

Morrill Hall has been completely rehabilitated, major improvements being made in the basement conference room, the ground floor, and the whole of the third floor.

Basement space of Johnston Hall was remodeled to provide much-needed expansion space for the duplicating and addressograph section of the Printing Department. A belt-conveyor was also installed to serve the basement area.

A portion of the Field House has been remodeled to provide a toilet, shower room, and some additional locker space.

Pitch and gravel roofs have been installed on the Institute of Child Development Center, the west end of the Electrical Engineering Building, the Art Building, and part of the Mechanical-Aeronautical Engineering Building.

Remodeling of the second-floor offices in Coffman Memorial Union will soon be completed.

The fourth floor of Folwell Hall has been remodeled to provide additional space for the Speech and Theatre Arts Department.

A new stairway and storage room have been constructed on the east end of Folwell Hall.

The second floor of the Temporary, South of Folwell, building has been rehabilitated to accommodate language laboratories.

A retaining wall adjoining Appleby Hall has been constructed to conform to the relocated River Road.

Four rooms in the Institute of Child Development Center have been remodeled to meet some of the Institute's current needs.

Room 70 of Lyon Laboratories has been converted into a solvent storage room.

St. Paul Campus—The lighting was improved with the installation of modern fluorescent fixtures in the corridors and several rooms of Snyder Hall and in the first floor corridors and basement area of Haecker Hall.

The panelboards, lighting, circuits, and feeders of the Agricultural Engineering Building were rehabilitated.

Main service feeders and panels were installed in the Horticulture Building to provide power for equipment.

The ductwork and fume hoods were rehabilitated and four new fans installed in Snyder Hall.

The high pressure steam line and heating mains of Haecker Hall were replaced.

An elevator rehabilitation, including a new car, hoisting machinery, and controls, has been completed in Snyder Hall.

Peters Hall laboratory facilities have been remodeled, and some new laboratories have been built and equipped.

The roofs of the Agricultural Engineering shops were replaced.

The space at the west end of the basement of the Veterinary Science Building has been rehabilitated into a toilet room and a locker room.

All greenhouses and buildings affected by hail damage were repaired, all broken glass being replaced and damaged roofs being repaired.

Construction of the North Road from Cleveland Avenue was completed.

An animal utility building has been built to accommodate sheep.

Rosemount—Buildings 223-A and 223-B were reroofed.

Waseca—Various sections of roofs were replaced in the School Building, with enough insulation being added to make the roofs slope.

Zumbra Heights—Buildings have been added to the Excelsior Arboretum to house machinery.

Morris—An addition to the service building at the Heating Plant was constructed.

Two new sections of the storm sewer system have been installed from the north and the south with outlet on the east side of the campus.

Duluth—A parking lot, north of Lot D, is being constructed.

The Educational Classroom Building was connected to the primary electrical line that runs through the campus.

Northeast Experiment Station—Main station roads around the center part of the station were resurfaced.

Crookston—Owen Hall is being rehabilitated to provide an office for the Physical Plant supervisor and to provide classrooms for business courses.

The Hill Building has been remodeled and modified to provide one chemistry laboratory.

POLICE DEPARTMENT

C. B. HANSCOM, *Director*

The following points and statistics summarize the work of the Department of Police during the past biennium.

Offense Reports—During this biennium, 8,311 offenses were reported to this Department. This represents an increase of 21.8% over the last biennium. Of these reported offenses, 65.9% of them were successfully closed.

Not all of the reports received involved University property or equipment. They do, however, have a relationship with the University because of the involvement of University staff and students. These reports also reflect that the value of property stolen during the biennium amounted to \$222,934.80, and the value of property recovered by our Department amounted to \$63,571.30.

Polygraph Examinations—The Department of Police continued its program of serving other law enforcement agencies by conducting polygraph examinations for them. Because of our increased work load, we did, however, limit these polygraph examinations during this biennium. A total of 335 subjects were examined for 57 separate law enforcement agencies. As a result of this service, many thousands of investigative man-hours were saved by these referring agencies.

Security—The Department of Police is the University of Minnesota security office for classified government research contracts being performed by University staff members for the Department of Defense. Questionnaires in connection with personnel security are processed by this office.

In connection with performing classified government research, University staff members are required to abide by the regulations set forth in the *Industrial Security Manual*. The Department of Police has the responsibility of periodically inspecting departments engaged in classified research work to insure compliance with the regulations set forth in the *Industrial Security Manual*.

Services—In addition to the normal police functions, the Department of Police performs a variety of other services.

1. Protection and transportation to the Bursar's Office of all monies received by University departments other than the Business Office. A conservative estimate by the Bursar reveals that the monies transported average several millions of dollars per month.
2. Transportation of sick and injured University of Minnesota staff members and students. During the past biennium, we had 1,292 personal emergency calls. It was necessary to use the Department's ambulance on 220 of these calls.
3. Operation of University Lost and Found Department.
4. Supervision and control of all University building keys.
5. Assistance to strangers in finding various buildings and University personnel.
6. Fingerprinting and notarial services for the public.
7. Supervision of alcohol storage and procedures.
8. Service on state, county, and municipal boards of selection and promotion of police officers.
9. Maintenance of a uniformed patrol at the University of Minnesota Rosemount Research Center, the University of Minnesota at Duluth, and the University of Minnesota at Morris.
10. Maintenance of records of safe combinations and periodical changing of safe combinations for all University departments.

Parking—The Department of Police is responsible for the operation and maintenance of the University parking facilities. As of June 30, 1966, we have 8,411 parking spaces, of which 5,429 are transient spaces and 2,982 are contract spaces. This represents an increase of 739 spaces over the past biennium.

Parking was provided for 5,774,512 cars during this biennium. This is an increase of 718,402 over last biennium.

Near the end of this biennium, plans were being formulated for the beginning of paid parking on the St. Paul Campus. Parking facilities on this campus were being prepared for an additional 2,214 cars.

The Department of Police continues its policy of using students in the operation of the parking facilities. In the last biennium, 190 students were employed, with a total student payroll of \$357,579.62.

Public Relations—Members of the Department of Police continue to receive numerous requests for speaking engagements at international, national, civic, educational, and church organizations.

UNIVERSITY SERVICES

C. L. CARLSON, *Director*

Departments of the University coordinated under the direction of the Office of University Services administration are listed in the table of Comparative Earnings contained in this report. Approximately 400 full-time employees, 150 part-time nonstudent employees, and 1,200 part-time student employees serve these departments. Directors and managers of these departments participated in a management seminar program, inaugurated in the past year and to be continued on an ongoing basis, for the development of good managerial practices toward a goal of good service to the University community. Seminar topics included "Philosophy of Communication," "Functions of Management," and "Administrative Behavior."

University Housing—The predicted waiting lists for single student housing materialized early in the biennium as a result of increased enrollments, desire of students to live on or near the campus, and limited housing available through private investors. It was an unpredicted fact that normal vacancies did not occur in Winter and Spring Quarters, and occupancy percentages were the highest in years. The opening of the 264-bed Sanford Hall addition scheduled for Fall Quarter 1966 will afford some relief. This tower presents a new concept in residence hall design for the University, with eight floors of student rooms on outside walls, a facilities core in the center, and a lounge area on each floor. In conjunction with the enlargement of Sanford Hall, the planned renovation of the existing building was continued, providing in the dining area a new service counter, final preparation kitchen, and dishwashing station to render this operation more modern, efficient, and attractive. Completion of this renovation phase, to increase dining room capacity from 300 to 500 and to relocate the residence offices, is planned for the coming year. Further rehabilitation may be postponed until new construction has relieved the present critical shortage of housing accommodations.

The West Campus Housing Complex master design, providing a plan for total living including food service, recreational, and social facilities for 2,892 single students in four high-rise towers, resulted from approximately three years of study by research committees composed of residence halls administrators, Dean of Students Office staff, and student representatives. The towers are designed for four groups of sixteen students on each floor, with each group sharing common facilities and each floor sharing a common lounge and study facilities. Additional commons facilities are located on the lower level, and a two-level dining and commons building features combinations of private and mass dining rooms. Final drawings are scheduled for August 1966, and construction of the first phase of one tower and a portion of the dining center will begin after financing arrangements are completed.

North Hall on the St. Paul Campus was converted into general office space and Dexter Hall into a men's dormitory. The St. Paul dormitories provide the challenge of keeping old buildings usable, attractive, and homelike for students who choose to live in smaller groups.

In conformity with the administrative program proposed for the West Campus Complex, major revision in the administrative organization of existing halls was planned, consolidating the directorships of the four Minneapolis Campus men's halls into one, entitled Director of Residence Halls Complex.

After approval was granted by the Minneapolis City Council for the establishment of the Superblock in the men's quadrangle, street blockades were erected to eliminate the traffic in the area.

In addition to long-range facilities planning, operational efficiency research and review have been major concerns. Rising costs, without compensating rate increases, imposed a strict economy program, and purchases of equipment, maintenance of facilities, and improvements were curtailed. An economy campaign conducted through student governments reduced unnecessary operating costs. Following a preliminary survey, a firm of management engineers was employed to design and install a short-interval scheduling system for food service and housekeeping areas in two residence halls to effect, through labor engineering techniques, elimination of lost time. A rate increase for the coming year received administrative approval, so that progress may be resumed in improving study environments by providing, without unnecessary costs, a quiet, friendly, pleasant atmosphere.

Scholastic achievement, a prime objective of the counseling program, surpassed previous residence halls performance; student government was extremely cooperative and active in initiating plans for cost reduction; social and athletic programs received successful participation; and incidence of student misbehavior was at a minimum.

The Conference Committee remained active in considering the financing of basic services provided for conference groups. Nolte Center Residence, which had served numerous institute groups, was reduced to accommodate expanded General Extension Division activities, leaving twelve double rooms primarily for administrative needs.

An adequate number of married student housing units and single student accommodations is a vital concern. It is estimated that there will be need by 1970 for 800 new married student apartments. Plans for the first phase of this proposed construction are expected to be under consideration by the building committee by January 1967. The Grove East temporary housing units were eliminated early in the biennium, and the Como Avenue site will be discontinued for residence after the next academic year. High maintenance standards are observed at Thatcher Hall and Commonwealth Terrace, and the activation of the Commonwealth Terrace Council, with the Manager of Married Student Housing as the recognized advisor, provides an excellent communication link with the residents. In conjunction with the Recreational Leadership Department, nine small blacktop areas were established and equipped for children under six.

The Pillsbury Court Apartments, which were built to meet the growing need for adequate, convenient, and reasonable housing for new faculty at the level of instructor and above, were completed in September 1965. Forty-eight two-bedroom air-conditioned "town houses" of three floors each, with walk-out living room leading to a private patio, are contained in eight buildings situated on attractive grounds. Demand has exceeded availability of these apartments since their opening.

The extension of the University Grove area has resulted in the addition of new homes and in plans for further street and utility improvements. At the close of the biennium, the Regents increased the maximum limit of expenditures for new construction and home improvement projects to \$40,000. In the past year a commons area was landscaped and developed, and a Grove Association was formed, providing an avenue of communication between residents and administration.

The Staff Housing Bureau handled an increase in activity as the percentage of single students housed in residence halls fell below the recognized minimum of 12%. Due to an acute shortage of student housing in the immediate campus area, staff families have had to compete with students for housing in outlying areas.

Campus Rentals activity was somewhat lessened in the past year with a decrease in property purchases and elimination of some rental accounts for property vacated, razed, or sold. The future of this operation is related to the projected building needs of the University, and as enrollment stabilizes and construction is completed, rental accounts will be virtually eliminated. In the meantime, these rentals, instituted to defray some of the costs of property pro-

curement for University expansion, are operated by the University to provide pleasant, efficient, low-cost housing for University faculty, staff, and students.

Food Services—A two-day Food Service Seminar was sponsored by University Services at Nolte Center in December 1965 for dietitians and food service managers from all campuses of the University of Minnesota. Topics presented and discussed included food service sanitation, advantages and problems of the Food Stores Manager, new convenience foods, dairy expectations, Food and House Committee responsibilities in a residence hall, cyclical menus, personnel problems, and electronic data processing as an aid to menu planning.

The Food Service conducted a survey in Coffman Union Cafeteria to obtain evaluations of layout efficiency, atmosphere, service, and prices in an effort to determine how best to serve the University community.

Auxiliary Enterprises Serving University Departments—The Audio-Visual Education Service Materials and Equipment Advisor's staff has been increasingly active in serving faculty and staff through consultation on needs and planning of service. The Materials Advisor has familiarized himself with new equipment and techniques through attending professional meetings, visiting materials showings, arranging for demonstrations, and following printed materials. Use of the laboratory seminar by faculty and staff for demonstration and production of materials and for training in use of equipment will be facilitated by the addition of two new Audio-Visual Materials and Equipment Advisors. The booking division has instituted a training program for student personnel, in an effort to provide better service to departments.

Services of the engineering division included installation of new public address equipment in the control room at Coffman Union, provision of large-screen projection at Northrop Memorial Auditorium, and establishment of a new 250-booth language laboratory in Temporary, South of Folwell.

Consultation and advice on visual presentations in reports, brochures, and classroom materials; demonstrations and ideas for special interests such as map making and fair exhibits; and production of posters, graphs, and displays are services provided by the Artist Service.

The production division completed "Gophers on the Go," which is used currently by the Athletic Department throughout the state, and eight 10-to-15-minute sound color films in cartridge form. Someday students will be able to obtain cartridge films from a library as they do reference books today. Cinemicrography, the filming of microscopic living parasites, is now offered by the St. Paul Campus.

Evaluation of goals and objectives of the Audio-Visual Education Service is an ongoing process. Space needs have been met by the decentralization of some functions. Growth in quantity and quality of service, upgrading of equipment and facilities, expansion into new areas of communication and research, and provision of service on other campuses of the University appear to be immediate needs.

Upon recommendation by the Committee on University Photographic Facilities, responsibility for the ordering and storing of all University photographic supplies was assigned to the Photographic Laboratory. This allows customer departments to share in the savings of quantity buying. Dry and cold storage areas have been enlarged to accommodate the increased volume. The first stage of automation, installation of an automatic film processing machine, has been completed. A new studio portrait camera for portable or stationary use was obtained to facilitate group portrait photography. The results of the photographic aerial survey have been added to the general print file which is available for use by any University department, and the print filing system has been improved. An expanded equipment rental service saves unnecessary duplication of photographic equipment.

The Photographic Laboratory Manager became a member of the University Photographers' Association, an organization of college and university photography personnel, which considers photographic problems related to education and science.

The Printing Coordinator assisted University staff in planning printing jobs; in determining the most economical means of producing a job, the most

effective method of preparing composition, and the best combination of type faces, paper stock, and color; and in preparing specifications for jobs sent out for bids. The size of a University bulletin was changed to permit efficient use of equipment at a reduced cost. The new position of Director of Printing and Graphic Arts replaced the Coordinator position. The Director is responsible for operations of the Central Duplicating and Addressograph Service, the St. Paul Duplicating Service and Bulletins, the University Bindery, and the Print Shop.

An engineering firm was employed by the Printing Department to review present work methods, efficiency, and performance. Daily report charts showing down-time and nonchargeable idle time facilitated investigation of the causes of idle time. But changes in technology and in the needs of the University render present physical facilities inadequate. The printing plant has been in the same location since 1924, with no room for expansion despite growth of operations.

At the close of the biennium, funds were allotted for a centralized system for inserting, sealing, sorting, and mailing University materials.

To supplement the fast, short-run duplicating equipment in B15 Johnston Hall, mimeograph and offset equipment was installed in 33 Social Sciences Building. Remodeling of the St. Paul Duplicating Services and Bulletins Office provided temporary relief from overcrowding. Improvement of production space in the Bindery and shipment of appropriate work to commercial plants have increased the efficiency of this operation.

Adequate space and labor-saving equipment in the modern Laundry plant have alleviated the problems in employee recruitment.

Other Auxiliary Enterprises—University-owned facilities operated by the Vending Service have replaced the privately owned truck sales stops on the Minneapolis Campus. Health standards have been maintained in a custom body and truck unit which contains electrically heated and refrigerated areas for storing and selling hot and cold foods. Consolidation of shop, storage, and office areas into a single building on the edge of the campus is necessary to coordinate the activities of departmental personnel.

Other Services—The need of Scientific Apparatus Services for increased space and staff has been considered by two committees: an ad hoc committee appointed to study this department and its services, and the standing Advisory Committee on Machine Shop Facilities. On the recommendation of the ad hoc committee, a Principal Engineering Assistant was added to the staff to prepare working drawings and to provide liaison between machinists and customers. Through conference attendance, the Manager gained helpful knowledge of materials, equipment, and timesaving innovations which will be used to raise production efficiency to as high a level as possible.

In October 1964, a survey on problems, service, quality, and delivery schedule was conducted in all departments that use the services of the Glassblowing Shop. Establishment of the production glassware section has reduced volume glassware problems, and, since the survey was taken, the delivery schedule has been improved. Enlarged quarters and additional qualified personnel are the continuing primary needs for better service.

A new Senior Glassblower training program has been instituted, providing for advancement of a journeyman through eight organized phases of training to the position of Senior Glassblower. Each trainee determines his own rate of progress through the program, which normally takes from 48 to 56 months. The formalized program requires educational coursework, laboratory test projects, written papers, preparation and conduction of seminars, and written and oral examinations.

An exhibit prepared by the Glassblowing Shop for Legislators', Editors', and Broadcasters' Day, 1964, included a glassblowing demonstration; pamphlets for distribution; wall displays describing Shop services and the glassblower training course and technical books; photographs of the present crowded conditions of the Shop; and a model showing proposed Shop improvements.

In connection with plans for eventual van service, Campus Mail designated a single delivery point in each of the buildings along its routes. The van serv-

ice would promote efficiency since mail would be sorted enroute by an employee in the truck.

The Truck Service Department received a National Fleet Owner Maintenance Efficiency Award for excellence in shop repair work and record-keeping processes. Conferral of the award is based on review of extensive statistical information and inspection of the shop and office. In order to operate an efficient, modern shop, the shop foreman has initiated a program for continual training of auto mechanics. The program includes films and talks on new tools, equipment, and methods. Thirty-five professional driver applicants were tested in the past year, as compared with twenty-five in the previous year. Results of the hour-long test are discussed with the applicant, and a written report, submitted to both the department considering the applicant and the Personnel Department, indicates whether or not the applicant would be an acceptable addition to the University professional driver group. The Transportation Pool now consists of sixty-three vehicles, twenty-five of which are assigned on a full-time basis to departments. The provision of adequate facilities in a new Transportation Service Garage would allow the main advantage of pool own-

Comparative Earnings, University Services Departments

	1964-65	1965-66
Centennial Hall	\$ 686,935.40	\$ 658,903.57
Pioneer Hall	552,418.55	572,501.53
Territorial Hall	472,596.24	451,433.46
Frontier Hall	471,891.09	474,509.75
Sanford Hall	261,366.89	265,174.92
Comstock Hall	552,055.76	551,653.60
Bailey Hall	81,052.32	113,091.34
St. Paul Campus Dormitories	56,798.77	92,691.04
Como Avenue Housing Project	59,834.90	27,751.27
Commonwealth Terrace	332,511.47	332,119.18
Thatcher Hall	34,039.29	33 769.51
Pillsbury Court		47,118.74
University Grove Rentals	6,968.42	7,735.47
Center for Continuation Study Hall	44,273.31	17,589.64
Coffman Union Food Service	708,385.64	756,136.26
Shevlin Cafeteria	99,357.91	107,091.72
St. Paul Dining Center	395,517.03	410,290.85
St. Paul Student Center Snack Bar	98,281.91	110,893.82
Milk and Cream	303,509.41	303,849.88
Food Stores	1,136,799.25	1,213,505.06
Stadium Stands	134,854.57	140,736.52
Vending Service	428,376.89	515,781.61
Audio-Visual Education Service	353,966.81	360,793.54
Photographic Laboratory	79,272.87	133,422.65
Printing Department	615,487.54	751,949.78
Bindery	74,832.47	101,747.88
Central Duplicating and Addressograph Service	151,554.82	196,631.01
Duplicating Services and Bulletins (St. Paul Campus)	101,409.99	95,200.78
Laundry	388,480.51	388,711.62
Post Office and Campus Mail	1,013.26	916.63
Transportation	62,638.10	77,800.68
Lockers	7,533.19	6,586.50
Como Clinic Building	650.00	600.00
Barber and Beauty Shops	6,545.06	7,120.24
Men's Residence Halls Recreation Dens	3,681.36	3,468.86
Men's Residence Halls Laundry Dens	6,020.33	5,057.74
Comstock Hall Candy Counter	6,503.22	4,328.94
Sanford Hall Candy Counter	1,769.30	1,494.46
St. Paul Campus Residence Halls Candy Counters	8,256.38	8 536.38
Inter-Campus Bus	36,019.60	42,735.51
Scientific Apparatus Services	73,896.35	82,857.91
Glassblowing Shop	35,214.34	37,313.01
Truck Service	61,285.71	68,835.28
Totals	\$8,993,856.23	\$9,580,438.14

ership of vehicles, the replacing of vehicles without the limitations imposed by individual departmental funds.

Inter-Campus Bus service has been expanded to permit transportation for anyone desiring to ride the East-West Bank Bus. Evening service has been increased on the Minneapolis-St. Paul Campus Bus, making Minneapolis events more accessible to St. Paul students. A significant change is planned for the coming school year: continuous service on the Minneapolis-St. Paul Campus line will be provided throughout the day, at no charge to passengers riding between terminals. Plans for express buses between campuses, shuttle buses to and from parking areas, and cruising buses on the Minneapolis and St. Paul campuses in areas not served at the present time are still being considered.

Divisions of Educational Relationships and Development

OFFICE OF THE VICE-PRESIDENT FOR EDUCATIONAL RELATIONSHIPS AND DEVELOPMENT

STANLEY J. WENBERG, *Vice-President*

The Office of the Vice-President, Educational Relationships and Development, was created at the University of Minnesota by action of the Board of Regents on March 16, 1962. At the same time, the Board approved President O. Meredith Wilson's recommendation to appoint Mr. Stanley J. Wenberg to the position. This new administrative function was designed to strengthen the relationships of the University beyond the campus community and to tie into a single central office concerns for student life outside of the classroom.

In March 1965, Mr. Paul H. Cashman was appointed Assistant Vice-President. Three Assistants to the Vice-President serve the Office, holding the positions of Secretary to the Coordinating Council (for Development), Executive Secretary to the Senate Committee on Institutional Relationships, and Director of the University of Minnesota Foundation.

The Office of the Vice-President, Educational Relationships and Development, has general responsibility for the following functions and departments of the University's administration: the Office of Admissions and Records, the Department of Alumni Relations, the Office of the Dean of Students, the University Health Service, the Department of Intercollegiate Athletics (including intramural athletics), the Department of Student Unions, the Department of University Relations, the University of Minnesota Coordinating Council, the University of Minnesota Foundation, and the Secretary, Senate Committee on Institutional Relationships. (This Committee performs an accreditation service for the state, covering all private high schools and junior colleges and other emerging collegiate institutions.)

The following responsibilities are included in the overall functions of this Vice-President's Office: (1) Developing and implementing a continuous, systematic program of communication and contact with members and committees of the Minnesota Legislature and the Congress of the United States, as well as with both state and national executive offices, the activities and programs of which are of interest to the University of Minnesota; (2) Strengthening relationships between the central administration and the various personal, corporate, and foundation sources of private resources for University programs; and (3) Development of an overview in sound coordination of the University's relationships with other educational institutions and organizations both within the state and throughout the country.

When the Office of the Vice-President, Educational Relationships and Development, was established in 1962, President Wilson explained, "The coordination of legislative, alumni, outside education, and general University relations with campus, students, services, and activities, in one centralized office, should contribute to strengthening our University relationships generally. A student begins to become one of the alumni body the day he is admitted to the University, and what happens to the student on the campus and what contacts are had with him after he graduates and becomes part of the larger constituency of the University should be tied together." Through the Senate Committee on Institutional Relationships, the University is formally related to the student through Minnesota precollege educational institutions, both public and private.

This office has been increasingly concerned with the impact of new federal and federal-state programs on education as the University has continued to grow and, at the same time, with the rapidly changing conceptions

about the organization of disciplines and the rapidly expanding societal demands.

The major problem of the Office of the Vice-President, Educational Relationships and Development, is one facing the entire central administration, the one generated by the rapid expansion of the University, a corresponding increase in the number and range of the problems faced in the office, and the less than equivalent increase in staff and resources available to the office. Whether or not adjustments of the structure of central administration will be needed to meet the pressures now facing the Office of the Vice-President, Educational Relationships and Development, as well as the other vice-presidential offices, is a matter of discussion.

OFFICE OF ADMISSIONS AND RECORDS

ROBERT E. SUMMERS, *Dean*

The biennium was a time of transition and rapid growth at the University, as reflected in the work and concerns of the Office of Admissions and Records. Certain trends which had prevailed since World War II changed abruptly, or were even reversed, and new emphases were apparent in the beginning of new programs and the provision of new educational opportunities. As examples, the College of Biological Sciences came into existence, the Honors Program of the College of Liberal Arts gained new stature, and the importance of broad general education was brought to the attention of students by action of the University Senate on a liberal education policy applicable to all bachelor's degree programs.

Even in activities supporting the educational programs, there were marked changes. The component of student-veterans in the student body had been declining gradually for a number of years, until by 1965 comparatively few students at the University were receiving veterans' educational benefits. Advent of the new "Cold War" G. I. Bill, effective June 1, 1966, completely reversed this trend and brought with it open-ended arrangements for the continuation of veterans in higher education.

This Office itself responded to the changes in both educational direction and procedure. Emphasis on mechanization of work was continued, with the primary purpose being that of responsiveness to rapid institutional growth and to employment of staff on a more individual basis in serving students in subjective and judgmental ways.

Mechanization of data-keeping, which was well advanced in this office at an early time, had languished in some particulars because of a lack of additional equipment and management personnel with adequate time to drive forward in the development. The data-keeping of admissions work was rather fully mechanized, however, to the advantage of advisers and academic units, and the earlier admission of new students was promoted. An institution of the size and complexity of the University of Minnesota, growing rapidly, needs the best possible data-processing equipment and working methods. A committee was set up in the spring of 1966 to make a comprehensive re-study of the data-handling procedures and equipment necessary in this Office and in the Business Office, which share in the use of the Data Processing Center.

As the need for building space became increasingly acute, the Room Scheduling Office was called on to make special surveys of classroom assignment and utilization and to plan the maximum possible use of facilities. The Senate reviewed the class schedule plan, and as the result of its recommendations, the class-hour schedule for the 1966-67 year was made uniform throughout the Twin Cities Campuses on a basic 45-15 minute cycle, with first hour classes starting at 8:15 a.m.

During 1964-65, the University established a policy of controlled growth designed to retard the acceleration of total enrollment to within manageable limits. Specific goals for Fall Quarter of 1965 were a student attendance of approximately 42,000 with approximately 14,000 and 4,000 students in the College of Liberal Arts and the General College, respectively (the two col-

leges under the greatest enrollment pressure). The basic change resulting from this policy was some elevation of admission requirements for the College of Liberal Arts and the development of a system for random acceptance of General College applicants, should numerical control prove necessary there. Personnel of the Office were much involved with this new control procedure.

The Admissions Office has sought to improve high school-University and college-University articulation by participating in the following types of activities: a TV series on planning for college; a radio program on admissions; coordination of University participation in high school College Days; development of published materials to assist high school students in planning for University work; provision of data to high schools and colleges regarding their former students; dissemination of information to high schools and colleges regarding planned changes in admission and transfer practices and requirements; and work with several specific committees and organizations concerned with the transition from high schools and colleges to this University.

In the spring of 1966 the University accepted the facilities of the MacPhail College of Music, to be known as the MacPhail Center for the Performing Arts, General Extension Division, University of Minnesota. Policies were established to make it possible for those enrolled as MacPhail degree candidates during 1965-66 to continue in similar University degree programs. Academic records for former students of the College will be maintained in the Office of Admissions and Records.

A new two-year Technical Institute emphasizing programs in agriculture and business was planned to utilize the facilities of the Northwest School of Agriculture at Crookston. The new unit accepted students beginning in the fall of 1966.

The Regents approved increases in nonresident tuition rates for 1964-65 and increases in tuition rates for residents and in the incidental fee for both residents and nonresidents for 1965-66. Also, a ten-dollar credentials examination fee became effective for students applying for admission in the fall term 1966.

Long-time University Recorder True Edward Pettengill passed away in February 1966 after a brief illness. Named as successor, beginning July 1, 1966, was W. Donald Beatty, Professor and Associate Head of the Department of History.

The Office of Admissions and Records continued to provide the Selective Service System with information and certification pertaining to student attendance. Reports were made for nearly 18,000 students during 1965-66, about 1,000 more than in 1964-65.

During 1965-66, reports to the Veterans Administration, in accordance with Ch. 31 of Title 38, U.S. Code (Veterans Administration Rehabilitation), were made for 18 students, compared with 20 during 1964-65. In accordance with Ch. 35 (War Orphans), reports were made to the Veterans Administration for 207 students in 1965-66 and for 191 in 1964-65. Furthermore, in each year of the biennium, approximately 2,000 certifications were made for students whose parents are receiving pension benefits from the federal government. Not the least of the services provided is that of checking, processing, and certifying those students whose parents are receiving social security. Seven hundred seventy-nine students applied for retroactive benefits for 1964-65; in 1965-66, 2,182 students were certified.

Korean veterans still receiving educational benefits under Ch. 33 totaled approximately 50 students in 1964-65, up until the expiration of the Korean educational benefits on January 31, 1965.

Degrees Conferred—The number of degrees conferred by the University increased during the biennium to a total of 6,964 in 1964-65 and 7,493 in 1965-66, compared with 5,955 in 1962-63 and 6,634 in 1963-64 (Table VIIA).

Annual Enrollment—Record-breaking numbers of persons again received instruction from the University during the biennium. The number of different individuals instructed by the University at all educational levels was 122,405 in 1964-65 and 134,525 in 1965-66, compared with 106,894 in the last year of the preceding biennium (Table V). Regular day-college enrollment for the

academic year and summer session climbed sharply to a total of 51,744 in 1964-65 and 55,757 in 1965-66. This compared with 47,236 in the last year of the preceding biennium (Table I).

Other enrollments, including extension, correspondence courses, and instruction at the Nolte Center for Continuing Education, all recorded increases during the period. Added to the day-college enrollment, collegiate level instruction reached a total of 109,320 students in 1965-66, a gain of 22,094 over 1963-64 (Table V). Enrollments below the college grade rose to a total of 25,205 in 1965-66, a gain of 5,537 over 1963-64 (Table V).

Enrollment in Day Colleges—Day-college enrollment during the regular academic year, exclusive of summer sessions, rose to 44,423 in 1964-65 and 48,199 in 1965-66, after reaching 40,529 in the last year of the preceding biennium (Table I). (Fall term attendance was 38,403 in 1964 and 42,178 in 1965.) In 1965-66, the Duluth Campus accounted for 4,850 students and the Morris Campus for 1,060 students (Table I). Major enrollment gains were in Graduate School, College of Liberal Arts, Duluth, and Morris.

Men and Women—The percentage of men students included in the day-college enrollment during the regular academic year was 67.6 in the first year and 66.6 in the second year. At the close of the previous biennium the proportion of men in the total student body was 68.5 percent (Table I).

Out-of-State Enrollment—The out-of-state segment in the total student body was 12 percent during 1964-65 and 12.3 percent in 1965-66. The Graduate School continued to have the largest proportion of students from outside Minnesota—45 percent during both years of the biennium. The number of foreign students enrolled totaled 1,356 in 1964-65 and 1,463 in 1965-66, about three percent of the student body, as in the preceding biennium (Tables XA, XB).

New Students—There were 14,587 new students in 1964-65 and 15,289 in the second year of the biennium, compared with 12,498 in 1963-64. The 1964-65 total included 10,208 new freshmen and 4,379 students with advanced standing; the 1965-66 totals were 10,611 and 4,678, respectively. In 1963-64, there were 8,180 freshmen and 4,318 students with advanced standing (Tables VIIIA, VIIIB, IXA, IXB).

Source of New Students—During this biennium nearly 95 percent of entering freshmen were from Minnesota. In 1965-66, approximately 15 percent of the Minnesota freshmen came from the Minneapolis public schools, seven percent from the St. Paul public schools, 64 percent from other Minnesota high schools, and 14 percent from the state's private schools (Table VIIIB).

The proportion of new undergraduate advanced standing students (those new advanced standing students enrolling in all colleges except the five professional schools and the Graduate School) who entered from Minnesota colleges was 63 percent in 1964-65 and 64 percent in 1965-66 (Tables IXA, IXB).

Summer Session—Enrollment in the summer of 1964 totaled 16,240; and in the summer of 1965, 17,178. These were increases from the summer of 1963 when the total was 14,572. Second term enrollments were 68 percent and 70 percent of the first term enrollments in the summers of 1964 and 1965, respectively (Table I).

Extension Division—Evening class enrollment climbed to 23,868 in 1964-65 and 24,603 in 1965-66, both increases from the total in 1963-64 of 21,693. Extension short course enrollment was 3,586 in 1964-65 and 6,468 in 1965-66, compared with 2,430 in 1963-64. Attendance at the Nolte Center for Continuing Education was 10,308 in 1964-65 and 11,167 in 1965-66, both figures higher than the 1963-64 total of 10,179 (Table IVE). Correspondence study reached a total enrollment of 11,011 in 1964-65 and 11,325 in 1965-66, also increases from the 1963-64 total of 10,644 (Table IVA).

Subcollegiate Programs—Subcollegiate programs rose to an enrollment of 27,336 in 1964-65 and 25,205 in 1965-66 (Table III).

Tables—Enrollment data and trends are indicated in the following tables. Special attention is directed to Table V, which summarizes the number of different students instructed at every level each year of the biennium.

TABLE I COLLEGIATE ENROLLMENT BY COLLEGES AND SCHOOLS 1964-66

College or School	Year 1964-65			Year 1965-66			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Agriculture, Forestry, and Home Economics								
Senior	238	162	400	265	150	415	15	
Junior	239	120	359	290	166	456	97	
Sophomore	499	254	753	507	292	799	46	
Freshman	450	220	670	449	298	747	77	
Adult Special	88	76	164	104	77	181	17	
Total	1,514	832	2,346	1,615	983	2,598	252	
Business Administration								
Senior	436	13	449	474	13	487	38	
Junior	444	13	457	439	24	463	6	
Adult Special	76	9	85	74	3	77		8
Total	956	35	991	987	40	1,027	36	
Veterinary Medicine								
Senior	40	3	43	39	2	41		2
Junior	41	2	43	48	1	49	6	
Sophomore	47	1	48	54	2	56	8	
Freshman	55	3	58	58	1	59	1	
Adult Special	2	1	3	1		1		2
Total	185	10	195	200	6	206	11	
Dentistry								
Senior	95		95	93		93		2
Junior	95	1	96	97	1	98	2	
Sophomore	100	1	101	92	1	93		8
Freshman	109	1	110	105	1	106		4
Adult Special	1		1	3		3	2	
Total	400	3	403	390	3	393		10
Dental Hygiene								
2nd year		39	39		39	39		3
1st year		50	50		47	47		3
Total		89	89		86	86		3
Education								
Senior	425	982	1,407	393	930	1,323		84
Junior	330	737	1,067	291	684	975		92
Sophomore	97	289	386	100	328	428	42	
Freshman	102	116	218	92	118	210		8
Adult Special	239	294	533	255	277	532		1
Total	1,193	2,418	3,611	1,131	2,337	3,468		143
Institute of Technology								
5th year	421		421					421
4th year	547	13	560	792	11	803	243	
3rd year	532	9	541	579	14	593	52	
2nd year	1,067	32	1,099	954	24	978		121
1st year	881	20	901	1,000	27	1,027	126	
Adult Special	117	4	121	113	5	118		3
Total	3,565	78	3,643	3,438	81	3,519		124
Graduate School								
Minneapolis, St. Paul, and Duluth	5,847	1,442	7,289	6,253	1,671	7,924	635	
Mayo	558	25	583	616	21	637	54	
Total	6,405	1,467	7,872	6,869	1,692	8,561	689	

BIENNIAL REPORT

TABLE I (Continued)

College or School	Year 1964-65			Year 1965-66			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Law School								
Senior	143	7	150	177	5	182	32	..
Sophomore	177	3	180	172	4	176	.....	4
Freshman	219	10	229	210	7	217	.....	12
Adult Special	9	1	10	4	1	5	.....	5
Total	548	21	569	563	17	580	11	.....
Medical School								
Senior	141	10	151	128	10	138	.....	13
Junior	131	10	141	146	15	161	20	.....
Sophomore	139	14	153	138	11	149	.....	4
Freshman	145	11	156	146	7	153	.....	3
Adult Special	4	3	7	10	2	12	5	.....
Total	560	48	608	568	45	613	5	.....
Medical Technology								
Senior	2	58	60	4	52	56	.....	4
Junior	4	54	58	6	53	59	1	.....
Adult Special	4	18	22	2	16	18	.....	4
Total	10	130	140	12	121	133	.....	7
Nursing								
3rd year .....	.....	81	81	.....	61	61	.....	20
2nd year .....	.....	69	69	.....	206	206	137	.....
1st year .....	.....	172	172	.....	51	51	.....	121
Adult Special .....	.....	9	9	1	6	7	.....	2
Total .....	.....	331	331	1	324	325	.....	6
Pharmacy								
Senior	70	4	74	65	6	71	.....	3
Junior	60	7	67	29	14	43	.....	24
Sophomore	41	13	54	60	9	69	15	.....
Freshman	40	7	47	37	16	53	6	.....
Adult Special	10	.....	10	12	1	13	3	.....
Total	221	31	252	203	46	249	.....	3
Liberal Arts								
Senior	1,310	792	2,102	1,418	833	2,251	149	.....
Junior	1,609	876	2,485	1,392	874	2,266	.....	219
Sophomore	2,366	1,757	4,123	2,803	2,172	4,975	852	.....
Freshman	2,665	2,576	5,241	2,841	2,668	5,509	268	.....
Adult Special	314	268	582	268	293	561	.....	21
Total	8,264	6,269	14,533	8,722	6,840	15,562	1,029	.....
University College								
Senior	13	25	38	23	16	39	1	.....
Junior	11	11	22	17	6	23	1	.....
Sophomore .....	.....	.....	.....	2	.....	2	2	.....
Adult Special	2	2	4	1	2	3	.....	1
Total	26	38	64	43	24	67	3	.....
General College								
2nd year	1,300	351	1,651	1,425	387	1,812	161	.....
1st year	2,176	673	2,849	1,916	711	2,627	.....	222
Adult Special	123	35	158	151	36	187	29	.....
Total	3,599	1,059	4,658	3,492	1,134	4,626	.....	32
Public Health								
Senior	86	22	108	90	18	108	.....	.....
Junior .....	.....	.....	.....	.....	.....	.....	.....	.....
Adult Special	49	33	82	47	20	67	.....	15
Total	135	55	190	137	38	175	.....	15

TABLE I (Continued)

College or School	Year 1964-65			Year 1965-66			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Physical Therapy								
Senior	2	22	24	3	21	24	.....	.....
Junior	3	22	25	5	23	28	3	.....
Total	5	44	49	8	44	52	3	.....
Occupational Therapy								
Senior	1	24	25	.....	22	22	.....	3
Junior .....	.....	24	24	.....	25	25	1	.....
Adult Special .....	.....	.....	.....	.....	2	2	2	.....
Total	1	48	49	.....	49	49	.....	.....
Duluth								
Senior	502	201	703	533	248	781	78	.....
Junior	555	279	834	576	288	864	30	.....
Sophomore	613	344	957	778	421	1,199	242	.....
Freshman	986	574	1,560	1,087	710	1,797	237	.....
Adult Special	115	93	208	106	103	209	1	.....
Total	2,771	1,491	4,262	3,080	1,770	4,850	588	.....
Morris								
Senior	56	61	117	73	61	134	17	.....
Junior	74	52	126	107	61	168	42	.....
Sophomore	152	85	237	175	96	271	34	.....
Freshman	284	144	428	283	172	455	27	.....
Adult Special	18	12	30	18	14	32	2	.....
Total	584	354	938	656	404	1,060	122	.....
Total Academic								
Year	30,942	14,851	45,793	32,115	16,084	48,199	2,406	.....
*Less Dups.	930	440	1,370	.....	.....	.....	.....	.....
Net Total Academic	30,012	14,411	44,423	32,115	16,084	48,199	3,776	.....
Summer Session								
First Term	7,570	5,559	13,129	7,958	6,031	13,989	860	.....
Second Term	5,736	3,209	8,945	6,074	3,740	9,814	869	.....
Total	13,306	8,768	22,074	14,032	9,771	23,803	1,729	.....
Less Dups.	4,162	2,243	6,405	4,488	2,580	7,068	663	.....
Net Total Summer Session	9,144	6,525	15,669	9,544	7,191	16,735	1,066	.....
Mayo Graduates	553	18	571	424	19	443	.....	128
Net Total Summer Session (including Mayo)	9,697	6,543	16,240	9,968	7,210	17,178	938	.....
Grand Total	39,709	20,954	60,663	42,083	23,294	65,377	4,714	.....
Less Dups.	5,915	3,004	8,919	6,171	3,449	9,620	701	.....
NET GRAND TOTAL COLLEGIATE	33,794	17,950	51,744	35,912	19,845	55,757	4,013	.....

* Effective year 1965-1966, duplicates between colleges have not been subtracted.

TABLE IIA

COLLEGIATE ENROLLMENT BY QUARTERS

1964-65

College or School	First Term Summer Session 1964			Second Term Summer Session 1964			Fall 1964			Winter 1965			Spring 1965			Total Individual Registration		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Ag., For., and H.E.	197	306	503	126	145	271	1,292	724	2,016	1,355	709	2,064	1,125	642	1,767	1,619	1,013	2,632
Business Administration ...	352	15	367	267	11	278	873	28	901	796	24	820	728	18	746	1,071	44	1,115
Veterinary Medicine	31	4	35	27	.....	27	183	10	193	182	9	191	182	9	191	185	10	195
Dentistry	119	1	120	54	.....	54	395	2	397	394	3	397	387	2	389	400	3	403
Dental Hygiene .....	.....	26	26	.....	7	7	.....	78	78	.....	82	82	.....	82	82	.....	90	90
Education	638	1,539	2,177	484	882	1,366	947	2,099	3,046	932	1,932	2,864	907	1,868	2,775	1,734	3,461	5,195
Institute of Technology	645	25	670	464	17	481	3,102	54	3,156	3,120	62	3,182	2,805	60	2,865	3,751	101	3,852
Graduate:																		
Mpls., St. P., and Duluth	2,168	967	3,135	1,643	517	2,160	5,164	1,227	6,391	4,937	1,144	6,081	4,800	1,111	5,911	7,002	2,117	9,119
Mayo	553	18	571	553	18	571	527	18	545	515	23	538	518	23	541	592	25	617
Law School	219	6	225	214	6	220	538	20	558	529	19	548	525	20	545	576	22	598
Medicine	304	25	329	298	24	322	527	46	573	515	44	559	496	42	538	633	53	686
Medical Technology	3	18	21	1	9	10	10	118	128	7	106	113	6	105	111	10	131	141
Nursing .....	.....	150	150	1	129	130	.....	312	312	.....	311	311	.....	277	277	1	396	397
Pharmacy	39	5	44	20	3	23	209	29	238	210	27	237	205	30	235	224	33	257
Liberal Arts	1,750	1,605	3,355	1,298	1,046	2,344	7,089	5,467	12,556	6,969	5,303	12,272	6,426	5,004	11,430	9,241	7,297	16,538
University College	4	13	17	3	13	16	21	34	55	20	31	51	20	28	48	28	42	70
General College	293	95	388	209	63	272	2,817	892	3,709	2,756	876	3,632	2,519	779	3,298	3,751	1,102	4,853
Public Health	85	30	115	138	27	165	121	50	171	120	37	157	121	26	147	217	82	299
Physical Therapy .....	.....	3	3	.....	1	1	5	44	49	5	43	48	5	43	48	5	44	49
Occupational Therapy	1	32	33	1	27	28	1	48	49	1	48	49	1	46	47	1	49	50
Duluth	691	598	1,289	477	262	739	2,396	1,352	3,748	2,405	1,317	3,722	2,282	1,270	3,552	3,086	1,870	4,956
Morris	31	96	127	11	20	31	543	328	871	523	309	832	476	313	789	597	405	1,002
Totals	8,123	5,577	13,700	6,289	3,227	9,516	26,760	12,980	39,740	26,291	12,459	38,750	24,534	11,798	36,332	34,724	18,390	53,114
Less Duplicates	90	84	174	46	22	68	116	98	214	558	290	848	463	229	692	1,111	585	1,696
* NET TOTALS	8,033	5,493	13,526	6,243	3,205	9,448	26,644	12,882	39,526	25,733	12,169	37,902	24,071	11,569	35,640	33,613	17,805	51,418

* This represents a net count of individuals with duplicates deducted.

TABLE IIB

COLLEGIATE ENROLLMENT BY QUARTERS

1965-66

College or School	First Term Summer Session 1965			Second Term Summer Session 1965			Fall 1965			Winter 1966			Spring 1966			Total Individual Registration		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Ag., For., and H.E.	178	291	469	188	164	352	1,426	874	2,300	1,439	846	2,285	1,248	826	2,074	1,711	1,141	2,852
Business Administration ...	357	11	368	307	10	317	921	34	955	830	30	860	772	32	804	1,105	43	1,148
Veterinary Medicine	30	2	32	28	1	29	199	6	205	199	6	205	200	6	206	200	6	206
Dentistry	79	.....	79	46	.....	46	387	3	390	387	3	390	384	3	387	393	3	396
Dental Hygiene .....	.....	4	4	.....	8	8	.....	86	86	.....	81	81	.....	76	76	.....	86	86
Education	668	1,584	2,252	426	871	1,297	945	2,063	3,008	888	1,880	2,768	850	1,821	2,671	1,633	3,429	5,062
Institute of Technology	673	34	707	546	22	568	3,280	78	3,358	3,029	70	3,099	2,784	67	2,851	3,647	103	3,750
Graduate:																		
Mpls., St.P., and Duluth	2,316	1,045	3,361	1,698	665	2,363	5,633	1,456	7,089	5,439	1,368	6,807	5,102	1,309	6,411	7,348	2,377	9,725
Mayo	424	19	443	424	19	443	519	17	536	572	19	591	554	21	575	646	25	671
Law School	228	6	234	221	7	228	557	16	573	547	14	561	531	13	544	594	17	611
Medicine	311	36	347	280	32	312	540	45	585	531	42	573	521	39	560	644	57	701
Medical Technology	4	22	26	5	11	16	11	113	124	12	103	115	11	89	100	12	122	134
Nursing .....	.....	130	130	.....	124	124	.....	319	319	.....	302	302	1	294	295	1	373	374
Pharmacy	43	6	49	38	3	41	196	45	241	190	43	233	186	42	228	207	46	253
Liberal Arts	1,926	1,897	3,823	1,427	1,241	2,668	7,952	6,168	14,120	7,547	5,825	13,372	6,987	5,444	12,431	9,755	8,024	17,779
University College	14	15	29	12	13	25	40	22	62	39	20	59	34	18	52	44	33	77
General College	356	132	488	264	90	354	2,866	936	3,802	2,747	903	3,650	2,495	837	3,332	3,659	1,196	4,855
Public Health	71	19	90	119	22	141	124	36	160	131	31	162	126	27	153	202	54	256
Physical Therapy	1	3	4	.....	.....	.....	8	44	52	7	44	51	7	44	51	8	44	52
Occupational Therapy .....	.....	25	25	.....	24	24	.....	46	46	.....	46	46	.....	47	47	.....	52	52
Duluth	666	675	1,341	445	400	845	2,816	1,643	4,459	2,715	1,557	4,272	2,456	1,474	3,930	3,435	2,154	5,589
Morris	37	94	131	24	32	56	612	373	985	594	357	951	575	349	924	668	460	1,128
*TOTALS	8,382	6,050	14,432	6,498	3,759	10,257	29,032	14,423	43,455	27,843	13,590	41,433	25,824	12,878	38,702	35,912	19,845	55,757

* Effective year 1965-66, duplicates between colleges have not been subtracted.

TABLE III

SUBCOLLEGIATE ENROLLMENT

1964-66

School or Course	Year 1964-65			Year 1965-66			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Northwest School and Station, Crookston								
Senior	85	13	98	67	8	75	.....	23
Junior	66	7	73	80	13	93	20	.....
Sophomore	78	9	87	45	7	52	.....	35
Freshman	29	6	35	.....	.....	.....	.....	35
Unclassed	2	.....	2	1	.....	1	.....	1
Total	260	35	295	193	28	221	.....	74
North Central School and Station, Grand Rapids								
Senior	13	.....	13	.....	.....	.....	.....	13
Junior .....	.....	.....	.....	.....	.....	.....	.....	.....
Sophomore .....	.....	.....	.....	.....	.....	.....	.....	.....
Freshman .....	.....	.....	.....	.....	.....	.....	.....	.....
Unclassed .....	.....	.....	.....	.....	.....	.....	.....	.....
Total	13	.....	13	.....	.....	.....	.....	13
Southern School and Station, Waseca								
Senior	45	12	57	38	20	58	1	.....
Junior	35	21	56	49	22	71	15	.....
Sophomore	47	20	67	54	18	72	5	.....
Freshman	43	16	59	49	19	68	9	.....
Unclassed .....	.....	.....	.....	1	.....	1	1	.....
Total	170	69	239	191	79	270	31	.....
University High School, Minneapolis								
Nursery School, Minneapolis	233	226	459	231	225	456	.....	3
Kindergarten, Minneapolis	44	40	84	45	43	88	4	.....
Elementary School, Grades 5 and 6, Minneapolis	14	11	25	.....	.....	.....	.....	25
Laboratory School, Duluth	70	77	147	19	24	43	.....	104
Laboratory School, Duluth	74	101	175	76	98	174	.....	1
Totals, Schools	878	559	1,437	755	497	1,252	.....	185
Agricultural Short Courses, St. Paul								
Aerial Sprayers	84	.....	84	83	.....	83	.....	1
Agricultural Exports .....	.....	.....	.....	184	5	189	189	.....
Agricultural Inspectors .....	.....	.....	.....	132	.....	132	132	.....
Agricultural Pesticides .....	.....	.....	.....	139	.....	139	139	.....
American Farm Research	192	.....	192	.....	.....	.....	.....	192
Beef Cattle	336	10	346	298	.....	298	48	.....
Beekeepers	57	.....	57	32	5	37	.....	20
Boys State	405	.....	405	406	.....	406	1	.....
Chemical Sprayers	194	.....	194	.....	.....	.....	.....	194
Christmas Tree Growers	111	23	134	135	22	157	23	.....
Commercial Exports .....	.....	.....	.....	141	1	142	142	.....
Commercial Flower Growers	72	17	89	109	6	115	26	.....
Commercial Fruit Growers	42	2	44	45	4	49	5	.....
Dairy Herd Improvement	43	7	50	42	13	55	5	.....
Dairy Products	355	.....	355	443	1	444	89	.....
Dairy Survey .....	.....	.....	.....	25	.....	25	25	.....
Fair Management	115	50	165	124	31	155	.....	10
Farm Income Tax	480	135	615	403	145	548	.....	67
Farm Power	28	.....	28	.....	.....	.....	.....	28
Flock Selection and Pullorum Testing	64	.....	64	.....	.....	.....	.....	64
Forestry Seminar .....	.....	.....	.....	17	.....	17	17	.....
4-H Agronomy	30	5	35	.....	.....	.....	.....	35
4-H Electric	41	3	44	.....	.....	.....	.....	44
4-H Jr. Leadership	288	524	812	.....	.....	.....	.....	812
4-H Radio Speaking	11	28	39	.....	.....	.....	.....	39
Future Farmers of America	2,822	3	2,825	2,638	1	2,639	.....	186
Garden Club	41	89	130	.....	.....	.....	.....	130
Garden Store	90	3	93	139	19	158	65	.....
Governor's Conference	100	15	115	.....	.....	.....	.....	115
Graduate Veterinarians	190	1	191	156	1	157	.....	34

TABLE III (Continued)

School or Course	Year 1964-65			Year 1965-66			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Grain Grading	196		196	270		270	74	
Grocery Manufacturing of America				24		24	24	
International Farm Youth Exchange	75	35	110	71	1	72		38
Landscape Design	65	55	120	62	46	108		12
Liquefied Petroleum Gas	115		115	142		142	27	
Livestock Breeders				61		61	61	
Livestock Judging	79		79	36		36		43
Lumbermen	38		38	77		77	39	
Midwest Concrete	59	1	60					60
Milk Judging	17		17	20		20	3	
Minnesota Association Conservation Education				111	20	131	131	
Minnesota Concrete				70		70	70	
Minnesota Council on Family Life				46	64	110	110	
Minnesota Economics Association				114	7	121	121	
Minnesota Nutrition	159	1	160	172		172	12	
Minnesota State Fire School	462		462	545		545	83	
Minnesota Town and Country Arts Show	1,500	2,500	4,000	1,000	3,000	4,000		
North Central Association, Land-Grant Colleges and Universities				14		14	14	
North Central Regional Genetics	52		52					52
Omicron Nu		83	83					83
Pasteurization in Dry Milk				183		183	183	
Photography				36	1	37	37	
Poultry Disease	115		115					115
Practitioners Clinic				178	1	179	179	
Property Tax	537	34	571	750	74	824	253	
Pruning	36		36					36
Rancidity	39		39					39
School Lunch Workshop	17	82	99	8	501	509	410	
Shade Tree Maintenance	164	4	168	143	4	147		21
Soils and Fertilizer	619		619	703		703	84	
Soil and Evaluation and Judging				130		130	130	
Town and Country Churches	62	2	64					64
Turf Growers	279	1	280	464	5	469	189	
Water Short Course	73		73					73
Weed and Seed Inspectors	120		120					120
Totals	11,069	3,713	14,782	11,121	3,978	15,099	317	
North Central School and Station, Grand Rapids								
Adult Education		55	55		47	47		8
District Home Economics	1	129	130					130
4-H Club Camp	142	208	350					350
Homemakers					36	36	36	
Property Tax	47	5	52					52
Soils and Land Use				22		22	22	
Northeast School and Station, Duluth								
Arrowhead Institute	92	122	214					214
Dairyman's Day	18	3	21					21
Field Day	53	20	73					73
Kenwood Garden Club	2	8	10					10
Merritt Garden Club	2	10	12					12
Normanna Garden Club	2	13	15					15
Superior Men's Garden Club	10	6	16					16
Northwest School and Station, Crookston								
Aeronautics	12	1	13					13
Alcohol and Your Community	64	7	71					71
Beekeepers	7		7					7
Cattle Feeders	232		232	220	3	223		9
Crop Improvement				100		100	100	

BIENNIAL REPORT

TABLE III (Continued)

School or Course	Year 1964-65			Year 1965-66			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Crops and Soils	263	28	291	317	28	345	54	.....
4-H Club	234	396	630	242	447	689	59	.....
Garden Day .....	.....	.....	.....	7	150	157	157	.....
Industrial and Resource	.....	.....	.....	.....	.....	.....	.....	.....
Development .....	.....	.....	.....	60	7	67	67	.....
Insect Control .....	.....	.....	.....	61	.....	61	61	.....
Piano .....	.....	.....	.....	1	28	29	29	.....
Pinto Beans .....	.....	.....	.....	86	.....	86	86	.....
Property Tax	107	17	124	.....	.....	.....	.....	124
Public Affairs .....	.....	76	76	.....	36	36	.....	40
School Lunch .....	.....	81	81	.....	146	146	65	.....
Seed Analysis .....	.....	.....	.....	21	.....	21	21	.....
Soils and Fertilizer .....	.....	.....	.....	153	.....	153	153	.....
Sugar Beets	437	1	438	302	.....	302	.....	136
Sunflower Industry	120	.....	120	.....	.....	.....	.....	120
Town and Country Arts	.....	.....	.....	.....	.....	.....	.....	.....
Show	32	6	38	29	2	31	.....	7
Water Resources	59	9	68	.....	.....	.....	.....	68
Women's Camps .....	.....	87	87	.....	54	54	.....	33
Southern School and Station, Waseca								
Acetylene Welding .....	.....	.....	.....	12	.....	12	12	.....
Adult Home Economics	1	181	182	.....	.....	.....	.....	182
Agricultural Education	65	.....	65	73	.....	73	8	.....
Arc Welding	36	.....	36	24	.....	24	.....	12
Corn and Soybeans	311	11	322	640	18	658	336	.....
Dairy Seminar	75	1	76	.....	.....	.....	.....	76
Farm Machinery .....	.....	.....	.....	15	.....	15	15	.....
Farm Managers	104	21	125	.....	.....	.....	.....	125
National Short Course	.....	.....	.....	60	30	90	90	.....
Conference .....	.....	.....	.....	.....	.....	.....	.....	.....
Property Tax	142	4	146	.....	.....	.....	.....	146
School Lunch	18	283	301	.....	.....	.....	.....	301
Swine Feeders	188	.....	188	138	2	140	.....	48
Urban Family Night	124	124	248	105	153	258	10	.....
Visitors Day	1,128	278	1,406	1,309	516	1,825	419	.....
Vo-Agriculture Day	87	.....	87	94	3	97	10	.....
Southwest Experiment Station, Lamberton								
Minnesota Week Tour .....	.....	.....	.....	100	.....	100	100	.....
Swine Feeders	134	.....	134	15	.....	15	.....	119
Winter Crops	400	.....	400	300	.....	300	.....	100
West Central School and Station, Morris								
Beef Feeders	312	3	315	280	2	282	.....	33
Corn and Soybeans	109	.....	109	303	4	307	198	.....
Crops and Soils	462	37	499	367	20	387	.....	112
Dairyman's Day	131	11	142	148	6	154	12	.....
4-H Club	533	707	1,240	229	302	531	.....	709
Grain Elevator Operators	19	.....	19	.....	.....	.....	.....	19
Homemakers .....	.....	988	988	.....	370	370	.....	618
Horticulture	5	15	20	15	16	31	11	.....
Lamb Feeders	174	6	180	196	12	208	28	.....
Lunch Workshop .....	.....	193	193	.....	.....	.....	.....	193
Pruning and Grafting	28	8	36	.....	.....	.....	.....	36
School Lunch	9	239	248	.....	179	179	.....	69
Successful Farm Operators	10	.....	10	7	.....	7	.....	3
Swine Feeders	178	.....	178	132	3	135	.....	43
Town and Country	.....	.....	.....	.....	.....	.....	.....	.....
Institute .....	.....	.....	.....	47	4	51	51	.....
Totals, Short Courses	17,788	8,111	25,899	17,351	6,602	23,953	.....	1,946
NET TOTALS, SCHOOLS AND SHORT COURSES	18,666	8,670	27,336	18,106	7,099	25,205	.....	2,131

DIVISIONS OF EDUCATIONAL RELATIONSHIPS

323

TABLE IVA

EXTENSION ENROLLMENT

1964-66

Department or Course	Year 1964-65			Year 1965-66			Gain	Loss
	Men	Women	Total	Men	Women	Total		
General Extension	15,039	8,829	23,868	15,388	9,215	24,603	735	
Extension Short Courses								
Abnormal Psychology					18	18	18	
Aero. Basic Ground School	1		1					1
AFSCME Summer Institute				4	13	17	17	
Algebra				15		15	15	
American Economic System	23	2	25					25
American Government					19	19	19	
Anatomy and Medical Terminology	98	117	215	61	127	188		27
Architecture	62	2	64	35		35		29
Art Appreciation					14	14	14	
Arts of Reading	14		14					14
Aspects of Social Research		17	17					17
Badminton		2	2					2
Basic Science for X-Ray Technicians	12	91	103	27	145	172	69	
Better Letter Program	41		41	76	39	115	74	
Birds of Minnesota				2	11	13	13	
Bowling	3	7	10					10
Building the Local Union	15		15					15
Care, Management, Showing and Diseases of Horses	20	16	36					36
China		19	19					19
Christian Existentialism					21	21	21	
Civil Engineers	21		21					21
Classics	11	30	41					41
Clinical Nursing		8	8		1	1		7
Closed Corporation				205	2	207	207	
Collective Bargaining	23	3	26					26
Creative Dance	2	25	27		4	4		23
Decorative Papier-Mâché					15	15	15	
Decorative Stitchery					15	15	15	
Digital Systems				107		107	107	
Drawing and Painting	5	51	56					56
Economics				21		21	21	
Effective Communication	38	3	41					41
Efficient Reading	30	25	55	80	40	120	65	
Electrical Engineers	48		48	33		33		15
English for Foreign Students				20	18	38	38	
Estate Planning				168	3	171	171	
Extrasensory Perception					20	20	20	
Fall Institute				220	1	221	221	
Fencing	15	12	27					27
From Baroque to Romanticism					40	40	40	
Geometrical Optics				20		20	20	
Golf	118	90	208	53	57	110		98
History of Painting					21	21	21	
Horticulture	1	17	18		32	32	14	
Humanities in the Modern World	2	46	48					48
India and Pakistan		29	29					29
Intercultural Seminar		18	18					18
Internal Union Communications				27	3	30	30	
International Relations					12	12	12	
Labor Law and History	81	15	96	13		13		83
Legal Secretaries					273	273	273	
Literature of the Enlightenment		35	35		25	25		10
Logic				50	5	55	55	
Mechanical Engineers	73		73	19		19		54
Modern Drama					19	19	19	
Modern Literature		24	24					24
Modern Novel					42	42	42	
Modern Russia	1		1					1
Music and Arts in 18th Century					3	3	3	
National and World Issues	30	1	31	6		6		25
Natural Law and Tradition		18	18		15	15		3
New Deal	7	7	14					14

TABLE IVA (Continued)

Department or Course	Year 1964-65			Year 1965-66			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Nuclear Reactor Technology	20		20					20
Nursing Administration		50	50		3	3		47
Nursing Concerns Today		21	21		10	10		11
Oil Painting				5	45	50	50	
Origins of Religion	12	14	26					26
Painting and Drawing				15	80	95	95	
Parenthood				2	21	23	23	
Plastics				1	17	18	18	
Poetry					16	16	16	
Political Freedom					16	16	16	
Political Parties					15	15	15	
Practical Law Review				147	3	150	150	
Primary Ideas in the 20th Century	8	71	79		40	40		39
Problems of 60's				36		36	36	
Psychological Themes in Literature	1	20	21					21
Real Estate Law Forum	313	4	317	283	5	288		29
Red Cross Life Saving		11	11		1	1		10
Religions of the Orient		22	22					22
Russian History	3	4	7					7
Scuba	8		8	10	2	12	4	
Shakespeare		41	41	9	43	52	11	
Social Work	77	41	118					118
Soviet Union		14	14					14
Spanish					15	15	15	
Squash Rackets				4		4	4	
Steward Training	20		20	49	23	72	52	
Structural Design	22		22					22
Studio Painting				14	24	38	38	
Swimming	242	692	934	316	331	647		287
Tennis	38	48	86		6	6		80
Theatre of the Avant-Garde	32	59	91					91
Time and Motion Study	10		10					10
Uniform Commercial Code				2,306	26	2,332	2,332	
Union Administration	41	13	54	54	6	60	6	
Union Leadership	41	1	42	42	4	46	4	
Urban Clergy Seminar				41	1	42	42	
Water Safety		1	1					1
Weaving					25	25	25	
Welfare State	7	7	14					14
Woman's Guide to Economics		19	19					19
Your Role in the Great Society	10	3	13					13
Total, Short Courses	1,700	1,886	3,586	4,596	1,872	6,468	2,882	
Correspondence Study	6,085	4,926	11,011	6,331	4,994	11,325	314	
Grand Total, Extension	22,824	15,641	38,465	26,315	16,081	42,396	3,931	
*Less Duplicates	666	369	1,035					
GRAND TOTALS	22,158	15,272	37,430	26,315	16,081	42,396	3,931	

* Effective year 1965-1966, duplicates between short courses have not been subtracted.

TABLE IVB CENTER FOR CONTINUATION STUDY ENROLLMENT 1964-66

Course	Year 1964-65			Year 1965-66			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Accident Prevention	14	20	34					34
Administrative Dietetics		32	32					32
Adoption Institute	22	61	83	29	68	97	14	
Aerodynamic Deceleration				60	1	61	61	
AFGE Leadership				32		32	32	
American Assembly	42	27	69	22	18	40		29
American Labor	47	7	54					54
Anesthesiology				22	1	23	23	

DIVISIONS OF EDUCATIONAL RELATIONSHIPS

325

TABLE IVB (Continued)

Course	Year 1964-65			Year 1965-66			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Anti-Poverty Program				65	6	71	71	
Assessment and Appraisal				36		36	36	
Assessors School	221	10	231					231
Audio-Visual	90	10	100	101	15	116	16	
Automatic Welding	79		79					79
Automation	26	29	55	10	11	21		34
Big Ten Housing	39	17	56					56
Bituminous Conference	113		113	182		182	69	
Building Officials	93		93	108		108	15	
Building Trades	20		20					20
Cardiovascular Diseases	87	3	90					90
Care of the Aged	28	48	76	28	46	74		2
Cerebrovascular Diseases				24	1	25	25	
Child-Caring Institute	69	99	168	31	21	52		116
Choral Arts	15	15	30					30
City and Village								
Engineering	118		118	111		111		7
City Managers	28		28	31		31	3	
Clergy and Disadvantaged								
Parishioner	11	1	12					12
Clergy Economics								
Education	48		48	117	1	118	70	
Clerks of District Courts	41	10	51	35	7	42		9
Clinical Dietetics		120	120		114	114		6
Collective Bargaining	20	4	24	31	7	38	14	
Communication Workers				21	5	26	26	
Communist China				65	79	144	144	
Computer Problem Solving				10	1	11	11	
Concrete Conference	210		210	160		160		50
Contemporary Music				14	10	24	24	
Contract Negotiation	47	2	49					49
County Highway								
Engineers	91		91	88		88		3
County Welfare Directors	69	16	85	92	9	101	16	
Creative Writing				8	60	68	68	
Credit Union Leaders				30	7	37	37	
Crown and Bridge	10		10	7		7		3
Curriculum and								
Supervision	64	40	104					104
Data Presentation				27		27	27	
Day Activity Centers	1	25	26					26
Dental Assistants	2	55	57		127	127	70	
Dental Hygienists		109	109		26	26		83
Dental Pharmacology	19		19					19
Dentistry	17		17	9		9		8
Depression	51	3	54					54
Dermatology	24		24					24
Disadvantaged Youth	85	33	118					118
Discussion Leadership	26	44	70	13	49	62		8
Disturbed Children	48	40	88					88
Dynamic Programming				28		28	28	
Educational and								
Professional Theatre				71	4	75	75	
Electric Cooperatives	24	2	26					26
Electrocardiography	39		39	29		29		10
Electron Mirror Microscopy				5		5	5	
Elementary Education				1	38	39	39	
Employment Security				20	5	25	25	
Endodontics	18		18	22		22	4	
Environmental Sanitation				26	1	27	27	
Family Financial								
Counseling	32	5	37					37
Family Therapy	70	58	128					128
Federal-State Programs of								
Assistance				252	12	264	264	
Finance Officers	29	3	32					32
Flight Training Clinic	28	8	36					36
Flow-Graph				15		15	15	
Funeral Service	73	7	80	82	4	86	6	
Genetics in Medicine				56	43	99	99	
Government Contracts	79		79	69		69		10
Ground-Water Resources	45		45					45
Head Nursing					133	133	133	
Health Aide Supervisors					24	24	24	
Health Education	17	24	41					41
High School Musicians				45	55	100	100	

BIENNIAL REPORT

TABLE IVB (Continued)

Course	Year 1964-65			Year 1965-66			Gain	Loss
	Men	Women	Total	Men	Women	Total		
High Speed Instrumentation	14		14	7		7		7
High Vacuum Technology				20		20	20	
Hospital Administrators	57	47	104	54	31	85		19
Hospital Dentistry				7		7	7	
Human Genetics	37	24	61					61
Human Relations	11	5	16					16
Hypnosis in Medicine				48	4	52	52	
Information Retrieval				53	92	145	145	
Infrared Spectra	108	1	109	105	9	114	5	
Inhalation Therapy				14	110	124	124	
Institutional Housekeeping	10	61	71	11	57	68		3
Internal Medicine	55	7	62					62
Junior High Education	273	9	282					282
Juvenile Court Judges	60	1	61	48	1	49		12
Juvenile Officers	85	3	88	103	3	106	18	
Labor Assembly				94	34	128	128	
Laboratory Medicine	92	94	186					186
Land Title Abstracters	48	43	91					91
Low Income Families	1	59	60					60
Magnetic Maps	11		11					11
Mass Spectrometry				7		7	7	
Maternal and Child Health Nursing		45	45					45
Mayors and Councilmen	62	5	67	61	1	62		5
Medical Technology Education				13	52	65	65	
Mental Retardation	24	14	38	32	105	137	99	
Mid-Continent Park Recreation				63	1	64	64	
Midwest Labor Press	39	4	43					43
Mining Symposium	715		715	828		828	113	
Minnesota Government and Politics	6	9	15	35	73	108	93	
Modern Control				24		24	24	
Modern Mathematics	17	185	202					202
Motor Transport Supervisors	34		34	31		31		3
Municipal Clerks	41	13	54	72	29	101	47	
Music Personnel	19	3	22					22
Neurology	86	249	335					335
Neuromuscular Diseases				15	1	16	16	
Nursing Anesthesia	3	52	55	4	51	55		
Nutrition and Inherited Diseases of Man				10	60	70	70	
Obstetrics	49		49					49
Occupational Health Nurses	3	145	148		48	48		100
Occupational Therapists	4	67	71					71
Ophthalmology	52		52	37		37		15
Oral Medicine	67		67	30		30		37
Oral Surgery	8		8	8		8		
Orthodontics	26		26					26
Orthopedic Surgery	66		66	37		37		29
Otolaryngology				18		18	18	
Parent and Family Life	44	307	351	69	431	500	149	
Patient Care	1	142	143					143
Patient-Centered Approaches to Teaching		95	95					95
Pediatrics	61	8	69	55	54	109	40	
Periodontics	20		20	193		193	173	
Pharmacology				15		15	15	
Pharmacy	51	11	62	28	3	31		31
Piano	2	56	58					58
Plant Engineering	22		22	29		29	7	
Pole Zero				20		20	20	
Police Chiefs	85		85	94		94	9	
Population Dilemma	44	33	77					77
Post-Dental Alumni Day				22		22	22	
Practical Family Budget	23	12	35					35
Practical Nurses	1	226	227	2	217	219		8
Preservation of Historic Buildings	22	26	48					48
Problem Solving				57	2	59	59	
Proctology	32		32	30		30		2
Property Tax	39	2	41					41
Prophylaxis and Therapy	2	26	28					28

DIVISIONS OF EDUCATIONAL RELATIONSHIPS

327

TABLE IVB (Continued)

Course	Year 1964-65			Year 1965-66			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Prosthetics	17		17	16		16		1
Protective Relaying				70		70	70	
Psychotherapy for Clergymen	8		8					8
Public Accountants	212		228					228
Public Health Nursing	1	67	68		54	54		14
Public School Law	148	1	149	96	1	97		52
Pulmonary Diseases				50	1	51	51	
Random Processes				16		16	16	
Reading				4	108	112	112	
Recent Developments in Use of MMPI				38	10	48	48	
Religious Education	17	21	38	133	80	213	175	
Residential Rehabilitation				150	2	152	152	
Right of Way Seminar	51		51					51
Roentgenology	8		8	379	16	395	387	
School Business Officials	34	1	35					35
School Finance				29	3	32	32	
School Readiness		48	48					48
Secondary School Principals	195	7	202	331	10	341	139	
Sewage and Water Works Operators				69		69	69	
Sewage Operators	112		112	125		125	13	
Sex Education				132	220	352	352	
Sexual Problems in Marriage				56	2	58	58	
Shorthand	5	5	10					10
Social Work	38	33	71					71
Soil Mechanics and Foundation Engineering	88		88	96		96	8	
Stapp Car Crash				235	1	236	236	
Steelworkers	46		46	70		70	24	
Student Personnel Workers	47	15	62	24	4	28		34
Summer School Program	75	4	79					79
Surgery	113	1	114	98	3	101		13
Swimming Pool Operators				103	5	108	108	
Tax Institute	107	4	111	571	29	600	489	
Touch Shorthand				3	11	14	14	
Traffic Court and Municipal Court	44	1	45	60	2	62	17	
Transistor Switching				41		41	41	
Trauma	53		53	25	3	28		25
Tumors of Childhood	141	12	153					153
Value Engineering				38		38	38	
War on Poverty	48	16	64					64
Wastes Engineering	54		54	67		67	13	
Water and Sewage Operators	62		62					62
Water Works Operators	132		132	145		145	13	
X-Ray Diffraction	3		3	11		11	8	
TOTALS	6,980	3,328	10,308	8,124	3,043	11,167	859	

TABLE V ENROLLMENT SUMMARY

1964-66

	Year 1964-65			Year 1965-66			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Collegiate Students	33,794	17,950	51,744	35,912	19,845	55,757	4,013	
Subcollegiate	18,666	8,670	27,336	13,106	7,099	20,205		2,131
Totals	52,460	26,620	79,080	54,018	26,944	80,962	1,882	
Extension	22,158	15,272	37,430	26,315	16,081	42,396	4,966	
Center for Continuation Study	6,980	3,328	10,308	8,124	3,043	11,167	859	
Grand Totals	81,598	45,220	126,818	88,457	46,068	134,525	7,707	
*Less Duplicates	2,913	1,500	4,413					
NET GRAND TOTALS	78,685	43,720	122,405	88,457	46,068	134,525	12,120	

* Effective year 1965-66, duplicates between Collegiate, Subcollegiate, and Extension Programs have not been subtracted.

TABLE VI

COMPARATIVE ENROLLMENT FIGURES

1964-66

	Year 1964-1965			Year 1965-1966			Gain		Loss	
	Men	Women	Total	Men	Women	Total	M	W	M	W
Ag., For., Home Ec., and Vet. Med. (incl. Schools of Ag. and Ag. Short Courses)	19,930	9,057	28,987	19,550	7,698	27,248	.....	.....	380	1,359
Business Administration	956	35	991	987	40	1,027	31	5	.....	.....
Dentistry (incl. Dent. Hyg.)	400	92	492	390	89	479	.....	.....	10	3
Education (incl. High School, Nursery, Kindergarten, and Elementary Grades)	1,628	2,873	4,501	1,502	2,727	4,229	.....	.....	126	146
Institute of Technology Graduate School (incl. Mayo)	3,565	78	3,643	3,438	81	3,519	.....	3	127	.....
Law School	6,405	1,467	7,872	6,869	1,692	8,561	464	225	.....	.....
Medicine (incl. Med. Tech., Nursing, Phys. and Occup. Therapy, and Public Health)	548	21	569	563	17	580	15	.....	.....	4
Pharmacy	711	656	1,367	726	621	1,347	15	.....	.....	35
Liberal Arts	221	31	252	203	46	249	.....	15	18	.....
University College	8,264	6,269	14,533	8,722	6,840	15,562	458	571	.....	.....
General College	26	38	64	43	24	67	17	.....	.....	14
Duluth	3,599	1,059	4,658	3,492	1,134	4,626	.....	.....	75	107
Morris	2,771	1,491	4,262	3,080	1,770	4,850	309	279	.....	.....
Summer Session (Net)	584	354	938	656	404	1,060	72	50	.....	.....
Total	9,697	6,543	16,240	9,968	7,210	17,178	271	667	.....	.....
*Less Duplicates	59,305	30,064	89,369	60,189	30,393	90,582	884	329	.....	.....
Net Totals	6,845	3,444	10,289	6,171	3,449	9,620	.....	5	674	.....
Extension	52,460	26,620	79,080	54,018	26,944	80,962	1,558	324	.....	.....
General Extension	15,039	8,829	23,868	15,388	9,215	24,603	349	386	.....	.....
Short Courses	1,700	1,886	3,586	4,596	1,872	6,468	2,896	.....	.....	14
Correspondence	6,085	4,926	11,011	6,331	4,994	11,325	246	68	.....	.....
Total	22,824	15,641	38,465	26,315	16,081	42,396	3,491	440	.....	.....
*Less Duplicates	666	369	1,035	.....	.....	.....	.....	.....	.....	.....
Net Totals	22,158	15,272	37,430	26,315	16,081	42,396	4,157	809	.....	.....
Center for Continuation Study	6,980	3,328	10,308	8,124	3,043	11,167	1,144	.....	.....	285
Summary:										
Total Resident Students	52,460	26,620	79,080	54,018	26,944	80,962	1,558	324	.....	.....
Total Extension Students	22,158	15,272	37,430	26,315	16,081	42,396	4,157	809	.....	.....
Total C.C.S.	6,980	3,328	10,308	8,124	3,043	11,167	1,144	.....	.....	285
Grand Totals	81,598	45,220	126,818	88,457	46,068	134,525	6,859	848	.....	.....
**Less Duplicates	2,913	1,500	4,413	.....	.....	.....	.....	.....	.....	.....
NET GRAND TOTALS	78,685	43,720	122,405	88,457	46,068	134,525	9,772	2,348	.....	.....

* Effective year 1965-66, duplicates between Extension Programs have not been subtracted.

** Effective year 1965-66, duplicates between Collegiate, Subcollegiate, and Extension Programs have not been subtracted.

TABLE VIIA

DEGREES CONFERRED

1964-66

Colleges and Degrees	Year 1964-1965			Year 1965-1966		
	Men	Women	Total	Men	Women	Total
Agriculture and Business Administration						
Bachelor of Agricultural Business Administration with high distinction	1	.....	1	.....	.....	.....
Bachelor of Agricultural Business Administration with distinction	1	.....	1	2	.....	2

DIVISIONS OF EDUCATIONAL RELATIONSHIPS

329

TABLE VIIA (Continued)

Colleges and Degrees	Year 1964-1965			Year 1965-1966		
	Men	Women	Total	Men	Women	Total
Bachelor of Agricultural Business Administration	21		21	21		21
Agriculture and Education						
B.S. with high distinction (Ag Ed)	2		2	1		1
B.S. with distinction (Ag Ed)	1		1	3		3
B.S. (Ag Ed)	16		16	28		28
B.S. with high distinction (Home Ec Ed)	2		2	4		4
B.S. with distinction (Home Ec Ed)	7		7	10		10
B.S. (Home Ec Ed)	33		33	42		42
Agriculture, Forestry, and Home Economics, College of						
B.S. with high distinction (Agriculture)	3	1	4	3		3
B.S. with distinction (Agriculture)	8		8	6		6
B.S. (Agriculture)	67		67	75	1	76
B.S. with high distinction (Forestry)				4		4
B.S. with distinction (Forestry)	8		8	4		4
B.S. (Forestry)	51		51	34		34
B.S. with high distinction (Home Economics)		1	1			
B.S. with distinction (Home Economics)		9	9		8	8
B.S. (Home Economics)		48	48		43	43
Business Administration, School of						
B.B.A.	8		8	5	1	6
B.S. in Business with high distinction	5		5	5		5
B.S. in Business with distinction	10	1	11	28		28
B.S. in Business	227	6	233	277	6	283
B.S. in Economics with distinction				3		3
B.S. in Economics	21	1	22	29	1	30
Dentistry, School of						
B.S. with high distinction	3		3	2		2
B.S. with distinction	12		12	14		14
B.S.	67	1	68	58		58
Doctor of Dental Surgery	91		91	95		95
Graduate Dental Hygienist		37	37		38	38
Education, College of						
B.S. with high distinction		22	22	2	29	31
B.S. with distinction	23	108	131	18	129	147
B.S.	205	484	689	204	509	713
Master of Education	12	25	37	15	19	34
General College						
Associate in Arts	410	119	529	470	150	620
Institute of Technology						
Bachelor of Aeronautical Engineering with high distinction				3		3
Bachelor of Aeronautical Engineering with distinction	2		2	4		4
Bachelor of Aeronautical Engineering	47		47	37		37
Bachelor of Agricultural Engineering	4		4	7		7
Bachelor of Applied Math	1		1			
Bachelor of Architecture with high distinction	1		1			
Bachelor of Architecture with distinction	3		3	5		5
Bachelor of Architecture	32		32	21		21
Bachelor of Chemical Engineering with high distinction				4		4
Bachelor of Chemical Engineering with distinction	1		1	5		5
Bachelor of Chemical Engineering	33	1	39	31		31
Bachelor of Chemistry with high distinction	2	1	3	2		2
Bachelor of Chemistry with distinction	4	1	5	1		1
Bachelor of Chemistry	16		16	13	2	15
Bachelor of Civil Engineering with high distinction	2		2	2		2
Bachelor of Civil Engineering with distinction				6		6
Bachelor of Civil Engineering	39		39	53		53
Bachelor of Electrical Engineering with high distinction	3		3	10	1	11
Bachelor of Electrical Engineering with distinction	6		6	26	1	27
Bachelor of Electrical Engineering	97		97	143		143
Bachelor of Geological Engineering	2		2	4		4
Bachelor of Geophysics with distinction	1		1			
Bachelor of Geophysics	1		1	2		2
Bachelor of Mathematics with high distinction	2		2	8		8

TABLE VIIA (Continued)

Colleges and Degrees	Year 1964-1965			Year 1965-1966		
	Men	Women	Total	Men	Women	Total
Bachelor of Mathematics with distinction	4	2	6	7		7
Bachelor of Mathematics	9		9	4	1	5
Bachelor of Mechanical Engineering with high distinction				2		2
Bachelor of Mechanical Engineering with distinction	3		3	10		10
Bachelor of Mechanical Engineering	73		73	98		98
Bachelor of Metallurgical Engineering	4		4	9		9
Bachelor of Metallurgy	2		2			
Bachelor of Mineral Engineering	2		2	3		3
Bachelor of Mining Engineering	2		2	1		1
Bachelor of Physics with high distinction	8		8	3		3
Bachelor of Physics with distinction	4		4	5		5
Bachelor of Physics	17		17	11	1	12
B.S. with high distinction	19		19	3		3
B.S. with distinction	43		43	6		6
B.S.	15		15	7		7
B.S. in Geology				1		1
Geological Engineer	1		1			
Law School						
Bachelor of Laws <i>summa cum laude</i>	2		2	1		1
Bachelor of Laws <i>magna cum laude</i>	3		3	5		5
Bachelor of Laws <i>cum laude</i>	13	3	16	18		18
Bachelor of Laws	109	2	111	141	1	142
Liberal Arts, College of						
Associate in Liberal Arts	34	35	69	24	27	51
B.A. <i>summa cum laude</i>	15	13	28	22	18	40
B.A. <i>magna cum laude</i>	19	22	41	21	23	44
B.A. <i>cum laude</i>	39	21	60	32	29	61
B.A.	721	435	1,156	832	499	1,331
Medical Sciences, College of						
B.S. with high distinction (Medical Tech)		4	4			
B.S. with distinction (Medical Tech)		5	5	1	3	4
B.S. (Medical Tech)	1	35	36	1	38	39
B.S. (Medicine)	84	2	86	77	4	81
B.S. in Nursing with high distinction		11	11		3	3
B.S. in Nursing with distinction		22	22		13	13
B.S. in Nursing		38	38		43	43
B.S. with high distinction (Occup Therapy)		1	1		1	1
B.S. with distinction (Occup Therapy)		5	5		10	10
B.S. (Occup Therapy)	1	17	18		9	9
B.S. with high distinction (Physical Therapy)		1	1	1		1
B.S. with distinction (Physical Therapy)		6	6	1	9	10
B.S. (Physical Therapy)	2	15	17	1	12	13
B.S. with distinction (Pub Health Nurs)		1	1			
B.S. (Pub Health Nurs)		3	3		1	1
Doctor of Medicine	136	8	144	127	12	139
Master of Hospital Administration	30		30	31	3	34
Master of Nursing Administration		12	12		3	3
Master of Public Health	42	12	54	30	11	41
Mortuary Science						
Associate in Mortuary Science	32		32	38	1	39
Pharmacy, College of						
B.S. in Pharmacy	60	3	63	57	7	64
University College						
B.A. <i>summa cum laude</i>					1	1
B.A. <i>magna cum laude</i>					1	1
B.A. <i>cum laude</i>				1		1
B.A.	8	7	15	3	11	14
B.S. <i>magna cum laude</i>				1		1
B.S. <i>cum laude</i>				1		1
B.S.	1	1	2	5		5
Veterinary Medicine, College of						
B.S. with high distinction	1		1	3		3
B.S. with distinction	9		9	10		10
B.S.	33		33	37	2	39
Doctor of Veterinary Medicine	41	3	44	38	3	41
Graduate School						
Master of Architecture				4		4
Master of Arts	359	190	549	373	215	588
Master of Arts in Public Administration	9		9	18	1	19
Master of Business Administration	23		23	24		24
Master of Fine Arts	7	1	8	9	3	12
Master of Forestry	1		1	4		4
Master of Science	132	40	172	194	47	241

DIVISIONS OF EDUCATIONAL RELATIONSHIPS

331

TABLE VIIA (Continued)

Colleges and Degrees	Year 1964-1965			Year 1965-1966		
	Men	Women	Total	Men	Women	Total
M.S. in Aeronautical Engineering	4		4	8		8
M.S. in Agricultural Engineering				4		4
M.S. in Anesthesiology	2		2			
M.S. in Chemical Engineering	12		12	6		6
M.S. in Civil Engineering	43		43	35		35
M.S. in Dentistry	16		16	6		6
M.S. in Dermatology	2		2	5	1	6
M.S. in Electrical Engineering	41		41	43		43
M.S. in Industrial Engineering	9		9	9		9
M.S. in Mechanical Engineering	11		11	19		19
M.S. in Medicine	18		18	13		13
M.S. in Metallurgical Engineering				1		1
M.S. in Mineral Engineering	3		3	5		5
M.S. in Neurology				3	1	4
M.S. in Neurosurgery	3		3			
M.S. in Obstetrics and Gynecology	1		1	3		3
M.S. in Ophthalmology	6		6	3		3
M.S. in Orthopedic Surgery	4		4	4		4
M.S. in Otolaryngology	2		2	5		5
M.S. in Pediatrics	2		2			
M.S. in Physical Therapy	1		1	2	1	3
M.S. in Plastic Surgery	2		2	2		2
M.S. in Proctology	1		1			
M.S. in Psychiatry	2		2	2		2
M.S. in Radiology	5		5	1		1
M.S. in Surgery	9		9	4		4
M.S. in Urology	1		1	1		1
Master of Social Work	16	31	47	26	22	49
Doctor of Philosophy	331	27	358	347	31	378
Ph.D. in Dermatology	1		1			
Ph.D. in Medicine	1		1	3		3
Ph.D. in Neurology				2		2
Ph.D. in Neurosurgery	1		1			
Ph.D. in Otolaryngology				1		1
Ph.D. in Physical Medicine and Rehabilitation	1		1			
Ph.D. in Radiology				2		2
Ph.D. in Surgery	4		4	9		9
Ph.D. in Urology				1		1
Duluth						
Associate in Arts	7	11	18	5	4	9
B.A. <i>summa cum laude</i>	5		5			
B.A. <i>magna cum laude</i>	5	2	7	6	2	8
B.A. <i>cum laude</i>	17	5	22	15	11	26
B.A.	214	25	239	184	37	221
B.S. <i>summa cum laude</i>	1		1		4	4
B.S. <i>magna cum laude</i>	1	3	4	4	2	6
B.S. <i>cum laude</i>	18	26	44	4	23	27
B.S.	136	139	275	141	124	265
Morris						
B.A. with high distinction	1	4	5	3	1	4
B.A. with distinction	12	14	26	5	8	13
B.A.	36	30	66	37	20	57
B.S. with distinction					1	1
B.S.	1	4	5		12	12
Totals	4,759	2,205	6,964	5,128	2,365	7,493
Honorary Degrees				3		3
GRAND TOTALS	4,759	2,205	6,964	5,131	2,365	7,496

TABLE VIII

CERTIFICATES CONFERRED

1964-66

School, Division, or Course	Year 1964-1965			Year 1965-1966		
	Men	Women	Total	Men	Women	Total
Agriculture, Forestry, and Home Economics						
Technical Certificate in Agriculture	10		10	10		10
Extension						
Accounting Certificate						
Junior	2		2	1		1
Senior		1	1	2		2
Business Administration Certificate						
Junior	3		3	4		4
Senior	8		8	9		9
Civil Engineering Technician Certificate	1		1			
Electrical Engineering Aide Certificate	1		1			
Electrical Engineering Technician Certificate				1		1
Engineering Certificate						
Basic Engineering Aide	2	1	3	1		1
Basic Engineering Science	27		27	15		15
Engineering Mathematics and Science Certificate	2		2			
Engineering Science Certificate	8		8	5		5
Fellow in Management of Administrative Services				1		1
General Engineering Certificate						
Junior				1		1
Senior				1		1
Industrial Engineering Certificate						
Senior	2		2			
Industrial Engineering Technician Certificate	1		1			
Industrial Relations Certificate	2		2	1		1
Interior Design Certificate	1	6	7	2	7	9
Liberal Arts Certificate	8	3	11	3	8	11
Management of Administrative Services Certificate	2		2	1		1
Public Administration Certificate	1	1	2	3	1	4
Secretarial Certificate		1	1		1	1
General College						
Certificate of Dental Assistant		27	27		25	25
Graduate						
Certificate of Specialist in Education						
Counseling				6		6
General Educational Administration	2		2			
School Administration	2		2	2		2
School Psychological Services	1	1	2	2	3	5
Special Education				2		2
Institute of Technology						
Certificate in Science	2		2			
Medical Laboratory Assistant Certificate		55	55		54	54
Nursing						
Certificate in Practical Nursing	1	42	43		42	42
North Central School of Agriculture, Grand Rapids						
Diplomas	10		10			
Agricultural Occupations Course	5		5			
Woodsmen Certificate	11		11	16		16
Northwest School of Agriculture, Crookston						
Diplomas	78	13	91	64	7	71
Southern School of Agriculture, Waseca						
Diplomas	43	12	55	39	20	59
University High School, Minneapolis						
Diplomas	38	36	74	32	31	63
Certificates	1	1	2	1	1	2
TOTALS	275	200	475	225	200	425

DIVISIONS OF EDUCATIONAL RELATIONSHIPS

333

TABLE VIII A STUDENTS ENTERED FROM HIGH SCHOOLS

1964-65

	Ag., For., & H.E.	Dental Hygiene	Education	Institute of Tech.	Nursing	Liberal Arts	General	Duluth	Morris	Total
Minneapolis Public Schools	53	1	42	110	6	901	476	13	5	1,607
St. Paul Public Schools	30	1	19	54	.....	424	236	5	5	774
Other Minnesota High Schools	401	13	110	504	12	2,365	944	1,185	362	5,896
Minnesota Private Schools	42	1	7	82	1	760	364	89	2	1,348
Minnesota Schools Total	526	16	178	750	19	4,450	2,020	1,292	374	9,625
Other States and Terr.	22	6	10	50	2	179	86	38	2	395
Foreign Countries	2	.....	.....	4	1	15	2	5	.....	29
Total	550	22	188	804	22	4,644	2,108	1,335	376	10,049
Special Students	14	1	1	7	3	57	62	8	6	159
GRAND TOTALS	564	23	189	811	25	4,701	2,170	1,343	382	10,208

TABLE VIII B STUDENTS ENTERED FROM HIGH SCHOOLS

1965-66

	Ag., For., & H.E.	Dental Hygiene	Education	Institute of Tech.	Nursing	Liberal Arts	General	Duluth	Morris	Total
Minneapolis Public Schools	77	2	53	119	5	828	439	19	11	1,553
St. Paul Public Schools	35	1	21	55	2	381	167	12	.....	674
Other Minnesota High Schools	498	18	102	551	7	2,622	885	1,372	411	6,466
Minnesota Private Schools	41	3	13	103	1	817	338	96	2	1,414
Minnesota Schools Total	651	24	189	823	15	4,648	1,829	1,499	424	10,107
Other States and Terr.	15	5	6	59	2	183	64	55	3	392
Foreign Countries	4	.....	1	8	1	11	2	16	.....	43
Total	670	29	196	895	18	4,842	1,895	1,570	427	10,542
Special Students	.....	.....	.....	4	4	22	36	3	.....	69
GRAND TOTALS	670	29	196	899	22	4,864	1,931	1,573	427	10,611

TABLE IXA

SUMMARY OF STUDENTS ENTERED WITH ADVANCED STANDING

1964-65

	Ag., For., and H.E.	Business	Veterinary Medicine	Dentistry	Dental Hygiene	Education	Institute of Technology	Graduate and Mayo	Law School	Medicine	Medical Technology	Nursing	Pharmacy	Liberal Arts	University	General	Public Health	Physical Therapy	Occupational Therapy	Duluth	Morris	Total
Institutions in Minnesota	92	51	2	26	4	194	139	157	52	38	6	30	14	586	1	54	15	6	.....	198	33	1,698
Institutions in Other States and Territories	54	31	11	9	.....	111	82	738	47	21	1	11	3	398	1	29	34	.....	.....	39	10	1,630
Institutions in Foreign Countries .....	.....	.....	.....	.....	.....	3	7	280	.....	.....	1	.....	.....	5	.....	.....	3	.....	.....	4	1	304
Total	146	82	13	35	4	308	228	1,175	99	59	8	41	17	989	2	83	52	6	.....	241	44	3,632
Special Students	98	36	1	.....	.....	180	39	63	.....	4	9	3	1	214	.....	6	29	.....	.....	61	3	747
GRAND TOTALS	244	118	14	35	4	488	267	1,238	99	63	17	44	18	1,203	2	89	81	6	.....	302	47	4,379

TABLE IXB

SUMMARY OF STUDENTS ENTERED WITH ADVANCED STANDING

1965-66

	Ag., For., and H.E.	Business	Veterinary Medicine	Dentistry	Dental Hygiene	Education	Institute of Technology	Graduate and Mayo	Law School	Medicine	Medical Technology	Nursing	Pharmacy	Liberal Arts	University	General	Public Health	Physical Therapy	Occupational Therapy	Duluth	Morris	Total
Institutions in Minnesota	105	34	6	26	5	142	145	165	48	30	5	17	21	665	1	46	4	2	1	221	41	1,730
Institutions in Other States and Territories	74	17	16	19	2	98	98	887	69	23	5	10	9	365	.....	17	36	5	1	37	12	1,800
Institutions in Foreign Countries	4	.....	1	.....	.....	6	9	294	.....	.....	.....	.....	.....	15	.....	.....	4	.....	.....	2	.....	335
Total	183	51	23	45	7	246	252	1,346	117	53	10	27	30	1,045	1	63	44	7	2	260	53	3,865
Special Students	111	23	1	4	.....	208	48	82	2	11	4	3	.....	220	.....	8	27	.....	.....	54	7	813
GRAND TOTALS	294	74	24	49	7	454	300	1,428	119	64	14	30	30	1,265	1	71	71	7	2	314	60	4,678

SUMMARY OF GEOGRAPHICAL DISTRIBUTION OF STUDENTS OF COLLEGIATE GRADE
(OTHER THAN SUMMER SESSION)

TABLE XA

1964-65

	Ag., For., and H.E.	Business	Veterinary Medicine	Dentistry	Dental Hygiene	Education	Institute of Technology	Graduate and Mayo	Law	Medicine	Medical Technology	Nursing	Pharmacy	Liberal Arts	University	General	Public Health	Physical Therapy	Occupational Therapy	Duluth	Morris	Duplicates	Total
Counties in Minnesota																							
Hennepin	580	460	23	89	37	1,667	1,352	1,780	194	198	57	109	69	7,309	31	2,791	35	14	19	161	37	569	17,012
Ramsey	287	146	14	45	15	646	523	889	99	80	23	52	42	2,805	10	1,114	11	5	14	52	15	191	6,887
Other Minnesota Counties ..	1,332	339	108	210	25	1,103	1,480	1,680	189	232	51	146	133	3,835	17	683	24	24	14	3,904	870	541	16,399
Totals	2,199	945	145	344	77	3,416	3,355	4,349	482	510	131	307	244	13,949	58	4,588	70	43	47	4,117	922	1,301	40,298
Other States and Terr.	88	37	49	59	12	180	233	2,471	86	90	7	23	7	507	1	68	90	6	2	107	16	59	4,139
Foreign Countries	59	9	1	.....	.....	15	55	1,052	1	8	2	1	1	77	5	2	30	.....	.....	38	.....	10	1,356
GRAND TOTALS	2,346	991	195	403	89	3,611	3,643	7,872	569	608	140	331	252	14,533	64	4,658	190	49	49	4,262	938	1,370	45,793

SUMMARY OF GEOGRAPHICAL DISTRIBUTION OF STUDENTS OF COLLEGIATE GRADE
(OTHER THAN SUMMER SESSION)

1965-66

TABLE XB

	Ag., For., and H.E.	Business	Veterinary Medicine	Dentistry	Dental Hygiene	Education	Institute of Technology	Graduate and Mayo	Law	Medicine	Medical Technology	Nursing	Pharmacy	Liberal Arts	University	General	Public Health	Physical Therapy	Occupational Therapy	Duluth	Morris	Total
Counties in Minnesota																						
Hennepin	672	498	29	82	31	1,636	1,277	1,941	177	209	50	107	59	7,738	33	2,877	30	9	24	199	60	17,738
Ramsey	319	156	12	43	9	677	568	927	85	87	20	55	36	3,019	13	1,077	12	8	8	74	11	7,216
Other Minnesota Counties	1,430	334	108	209	30	1,001	1,411	1,803	198	231	55	139	143	4,176	17	603	27	27	14	4,397	979	17,332
Totals	2,421	988	149	334	70	3,314	3,256	4,671	460	527	125	301	238	14,933	63	4,557	69	44	46	4,670	1,050	42,286
Other States and Terr.	97	32	54	59	16	142	205	2,744	118	79	6	24	8	563	3	67	79	8	3	133	10	4,450
Foreign Countries	80	7	3	..	..	12	58	1,146	2	7	2	..	3	66	1	2	27	..	..	47	..	1,463
*GRAND TOTALS	2,598	1,027	206	393	86	3,468	3,519	8,561	580	613	133	325	249	15,562	67	4,626	175	52	49	4,850	1,060	48,199

* Effective Year 1965-1966, duplicates between colleges have not been subtracted.

DEPARTMENT OF ALUMNI RELATIONS

EDWIN L. HAISLET, *Director*

The Minnesota Alumni Association

Officers*For 1964-65*

President	Charles Judd Ringer, '41
First Vice-President	Edwin A. Willson, '30 BEE
Second Vice-President	Waldo E. Hardell, '26 BSBus
Secretary	Dorothy Green Anderson, '30 BSEd
Treasurer	Albert H. Heimbach, '42 BBA
Past President	Franklin D. Gray, '25 BA
Executive Director	Edwin L. Haislet, '31 BSEd, '33 MA, '38 EdD

For 1965-66

President	Edwin A. Willson, '30 BEE
First Vice-President	Waldo E. Hardell, '26 BSBus
Second Vice-President	Albert H. Heimbach, '42 BBA
Secretary	Dorothy Green Anderson, '30 BSEd
Treasurer	Kenneth C. Glaser, '42 BBA
Past President	Charles Judd Ringer, '41
Executive Director	Edwin L. Haislet, '31 BSEd, '33 MA, '38 EdD

Office—The office of the Department of Alumni Relations has a staff of six full-time employees. The staff of the Minnesota Alumni Association includes two full-time employees and one part-time.

Budget—For the year 1964-65, the budget for the Department of Alumni Relations was \$78,073 and for the Minnesota Alumni Association, \$79,984, making a total of \$171,153. For the 1965-66 budget, the total was \$177,209, with \$90,475 for the Association and \$86,734 for the University.

Field Service—During the year 1964-65, fifty instate and fifteen outstate communities were visited, while in 1965-66, fifty instate and eighteen outstate chapters were visited. Alumni chapters now number ninety: fifty instate and forty outstate. Of these, two are alumnae groups and four are outside the continental limits of the United States. Six new outstate chapters have been organized: Hawaii; India; Korea; Florida; Akron, Ohio; and Boston, Massachusetts. A chapter was reorganized in Cincinnati, Ohio. The Association received forty-five requests for University speakers in 1964-65 and forty-six in 1965-66. In 1964-65, 147 service programs (films, slides, etc.) were requested by instate chapters, while in 1965-66, 170 requests were made. Of the 170, 44 were for films. For 1965-66, 48 instate chapters reported a total of 214 meetings, for an average of 4½ meetings per chapter annually. This is a slight increase over the average of the previous year, during which 50 chapters reported 210 meetings.

Special Events, Services, and Programs—*The St. Paul Quarterback Club* was sponsored by the Alumni Association for the thirteenth and fourteenth consecutive years. Elmer E. Engelbert, Sr., '20 BS, was chairman of the meetings and acted as host. Meetings were held Monday noons after each football game at the Minnesota Club in St. Paul.

The Complimentary Athletic Ticket Program, begun in 1961-62 and co-sponsored by the Minnesota Alumni Association and the Athletic Department, was continued in 1964-65 and 1965-66. The program is an effort to acquaint more alumni with the University Athletic Program through the mailing of 200 pairs of complimentary tickets for each basketball and hockey game to alumni selected at random.

The Complimentary University Theatre Ticket Program, cosponsored by the Minnesota Alumni Association and the University Theatre, was started

in the fall of 1965. One hundred pairs of tickets for each Theatre production are sent to alumni selected at random. The return has been over 8%, and many alumni who could not attend have sent letters of appreciation.

Football Meetings were again held in conjunction with the football games. In 1964-65, meetings were held in conjunction with the California game at Berkeley, the Indiana game at Bloomington, and the Wisconsin game at Madison. In 1965-66, meetings were held in Cedar Rapids for the Iowa game, in Columbus for the Ohio State game, and in West Lafayette for the Purdue game. The 1964 Homecoming was celebrated October 17, with "Silence Illinois" as the slogan. The Alumni King was Dr. Albert Boles, '15 BA, '17 MD. The 1965 Homecoming on October 23 pitted Michigan against Minnesota.

The Golden Anniversary Reunion for the Class of 1915 was held on Cap and Gown Day, May 12, 1965. The Electrical Engineering Class of 1925 celebrated their 40th reunion on June 12, 1965. On April 30, 1965, a testimonial dinner was given for Bert Baston by all former football ends. On Cap and Gown Day, May 11, 1966, the Class of 1916 held their 50th Anniversary Reunion, and on May 19 the Class of 1906 held their 60th Anniversary Reunion.

The 61st Annual Meeting of the Board was held in conjunction with the 16th Annual Honors Presentation in the Cotillion Ballroom of the Sheraton-Ritz Hotel on June 1, 1965. The 62nd Annual Meeting and the 17th Annual Honors Presentation were held in the Nicollet Hotel on June 7, 1966, with Ed Willson presiding.

Alumni Magazine—Ten regular issues of *Alumni News* were published, September through June, in both 1964-65 and 1965-66. Each issue was limited to 40 pages. The Alumni Readers' Survey was continued both years, and in 1966 an Alumni Opinion Poll was started. Special issues, a feature begun in 1965, dominated the character of the magazine in 1966.

Alumni Club—The University of Minnesota Alumni Club in the Sheraton-Ritz Hotel, which opened its doors in September 1963, had successful years in 1964-65 and 1965-66. The main object of the last two years was to put the Club on a firm business basis. The Club has now proven itself, has been well accepted by alumni, and is becoming a center of alumni activity. Mr. Robert Winrich, '59 BA, became the second full-time manager of the Club as of May 1, 1965, succeeding Mr. A. H. Calvert, who resigned.

Alumni Fund—The chairmen of the Alumni Fund Advisory Committee were Franklin D. Gray for 1964-65 and Charles Judd Ringer for 1965-66. The Alumni Fund operates on a calendar year. For the year 1964, gifts totaled \$116,442.40. This figure in 1965 was \$133,599.57, an increase of \$17,157.13 or 14.73%. The total number of gifts in 1964 was 4,844, averaging \$24.03 per gift. In 1965, 7,116 gifts represented an average of \$18.77 per gift. Participation in 1964 was 4.32%; in 1965, 6.52%.

Other accomplishments for the biennium are as follows:

1. Three new constituent groups joined the Minnesota Alumni Association program—Social Work, General College, and Dental Hygiene. There are now 17 groups.
2. A telephone membership campaign was tried in 1965 and repeated in 1966 with good results.
3. Membership increased by more than 2,000 during the biennium.
4. A first dividend of \$8,430 was received from the insurance program.
5. The tax exemption status was changed from social to educational.
6. New Articles of Incorporation and new Bylaws were adopted and filed.
7. A new depository plan was put into effect.

8. The Alumni auditing procedures were surveyed.
9. The Association's advertising agent was changed and a corresponding increase in advertising took place in 1966.

OFFICE OF THE DEAN OF STUDENTS

E. G. WILLIAMSON, *Dean*

During the 1964-66 biennium, our staff has shown continued professional improvement, and several new programs and research projects have been initiated. Six staff members earned advanced degrees, and 197 papers were published. Also, 17 staff members were elected to important offices in professional organizations. The staff participated in special institutes for 20 deans of Asian universities and in a special NDEA Summer Institute for Student Personnel Workers.

Orientation Program—During the biennium, over 21,000 new students attended the two-day Orientation-Registration Program and 1,590 attended Freshman Camps. Welcome Week again began each year with more than 2,000 parents meeting in Northrop Memorial Auditorium. There was a continued shift toward more Welcome Week activities concerned with adjustment to academic life.

Work-Study Program—This program, specially funded by federal grants, began in January 1965. During the first six months, 65 students were employed in fifteen University departments and three off-campus agencies. During 1965-66, 555 students were employed in 94 University departments and 10 off-campus agencies. Total payroll in 1965 (6 months) was \$14,500 and in 1964-65, \$340,000. In addition, 488 of these students were provided other financial assistance through various loans and grants totaling \$162,473.

Student Conduct—During the 1964-66 biennium, disciplinary offenses involving 570 students (453 males and 117 females) were reported to the Office of the Dean of Students, as compared to the 1962-64 total of 541 (394 males and 147 females). The total case-work load, including new disciplinary cases, previous cases reopened, consultation and counseling cases, and services to closed cases, decreased slightly from 1,373 in 1962-64 to 1,367 in 1964-66. The Disciplinary Counseling Office case load approximates 2% of the student enrollment of the Minneapolis-St. Paul Campus.

Judiciary boards in University residence halls, sororities, fraternities, cooperatives, and private residence halls numbered 145 in June 1966. These boards had jurisdiction over approximately 5,600 students, held 612 meetings, heard 1,372 complaints, and took 1,667 actions. About 69% of the reported complaints were violations of hours and sign-out regulations by women students.

The All-University Committee on Student Behavior, the President's committee on student discipline, heard and took action on 21 student cases in 1964-66, compared with 31 in 1962-64. The All-University Judicial Council, the central judiciary which exercises jurisdiction over student organizations, held hearings on charges of discriminatory practices by a national fraternity and submitted its decision. The fraternity appealed the Council's decision on the grounds of new evidence; thus the case has been carried over into the next academic year.

Dads Association—In the past two years, the University of Minnesota Dads Association has continued to grow in membership and in program attendance and to expand its programs.

Membership grew from 1,034 in 1963-64 to 1,391 in 1964-65, an increase of 25.8%. In 1965-66, this total increased to 1,865 members, a 34.1% increase over 1964-65, and an 80.4% increase over 1963-64.

In all programs, the Dads Association attempts to individualize and personalize the University of Minnesota in its contacts with parents. Through

the programs, the parents have an opportunity to hear and meet University staff, faculty, and students, and to learn about the University.

The Association's monthly meeting programs are varied to show the many facets of the University and to appeal to the many interests of the Dads Association members. Attendance increased 12.7% in 1964-65 and 27.5% in 1965-66. Among topics presented were Religion, The World, Vietnam, Reading, *Minnesota Daily*, Choosing a Vocation, Berkeley Riots, and Star of Bethlehem.

Orientation Coffee Hours were held for parents of students in the two-day orientation program. At these morning meetings, University staff members described the orientation program and answered questions about the University. In 1964-65, the number of programs increased 26.1% and the attendance, 228.3%. In 1965-66, there was a 6.9% increase in the number of programs and a 10.4% increase in attendance.

During the Winter Quarters of 1964-65 and 1965-66, pregame dinners were held for members receiving Dads Association complimentary tickets. An average of eleven members attended five pregame dinners in 1964-65, compared with an average of twelve members attending in 1965-66. A "chalk-talk" by a member of the Athletic Department was part of these dinner meetings.

The Dads Association continued to work with the Freshman Cabinet of MSA in sponsoring the traditional Dads Day in the fall, sponsored a reception for freshman scholarship winners and their parents, and hosted Parents Day in September.

In addition to Dads Association activities held on campus, the Association has attempted to communicate with parents—both in and out of the Twin City area—who for some reason might not have had personal contact with the University.

In September of 1964 and 1965, the Association sponsored coffee parties. These were held in the homes of Dads Association officers for parents of freshmen in the surrounding area.

The Association sponsored three community meetings in the state in 1964 and five meetings in 1965. At these meetings, a panel of University staff members talked to groups of parents about the University. This was followed by a question-and-answer period and an informal coffee hour.

In 1963, the Association sponsored 42 programs, with 1,737 attending. This increased to 46 programs, with 3,142 attending, in 1964 and to 52 programs, with 3,486 attending, in 1965. In the past two years, programs increased 23.8% and program attendance, 100.7%.

The Dads Association Emergency Loan Fund is handled through the Bureau of Loans and Scholarships and offers thirty-day, no-interest loans to students for emergency purposes. In 1964-65, \$5,804 was lent in 138 loans averaging \$42 each. There was a 96% increase in the number of dollars lent, a 67% increase in the number of loans made, and a \$7 increase in the average amount of each loan. In 1965-66, \$8,744 was lent, a 50% increase, in 239 loans, a 63% increase, with the mean amount of the loans being \$36. Part of the increased activity in 1965-66 was due to the participation of Work-Study students.

In addition to the above programs, the Dads Association keeps its members informed of University events, projects, and problems by sending out a quarterly newsletter and a monthly calendar of events.

Residence Counseling—During this biennium, the Residence Counseling Program took additional steps toward making research results the basis of policy decisions in the area of student personnel work in the residence halls. More intensive training was given to new residence counselors, and a new program was established for the continued training of returning residence counselors. The training manual, which was a major project of the Program during the past biennium, was revised and adapted to better fit the needs for which it was developed. In addition, the Residence Counseling Program continued to serve an increasing number of students in the University community.

Data Pertaining to Work Load, Staff Size, and Training Meetings

	1964-65	1965-66
Residential students assisted by residence counselors	7,200	7,300
Residence Counselors	171	171
Head Counselors and Supervisors	14	14
Residence Counseling Board Meetings	24	19
Training Meetings		
Unit-staff	311	298
General	1	1
Head Counselors and Supervisors		
Staff Meetings	19	13

The residential students assisted by residence counselors include not only those students living in residence halls, fraternities, sororities, and rooming houses, but also the members of fraternities and sororities who do not live in the respective houses but nevertheless are assisted by the residence counselor. The total number of residence counselors includes 16 house directors who supervise the counselors. The house directors are part-time University students who are either University Services or Dean of Students staff members. The Residence Counseling Board, composed of staff members of the Office of the Dean of Students, assists in giving guidance and direction to the overall Residence Counseling Program. All unit-staff meetings are planned by the head counselors and supervisors with the consultation and assistance of the Coordinator of the Residence Counseling Program.

In addition to the regular three-day preschool training conference used in past years, a new training program was instituted to further train and develop returning residence counselors. Returning residence counselors, divided into three t-groups, were trained concurrently with first-year residence counselors.

Speech and Hearing Clinic—The University Speech and Hearing Clinic is a multipurpose unit which operates programs in the areas of service, research, and training. The Clinic provides complete clinical services to University students with speech and hearing problems, and limited services of the same type to the general public. Clinic staff and facilities are involved in the academic, clinical, and research training of students in the areas of speech science, speech pathology, audiology, and education of the deaf. The Clinic operates a laboratory and research program for the study of speech and hearing.

In conjunction with the New Student Orientation Program, the Clinic provides speech and hearing screening evaluations to all new students. On the basis of these evaluations, recommendations are made for further diagnosis, therapy, or referral. During the past two years, over 12,000 students were screened in this program. Approximately 960 (8%) were seen for individual consultation regarding their speech or hearing. In both of the above screening programs, a total of over 15,500 students were examined.

In addition to the 1,135 consultations referred to above, approximately 312 students requested and received individual consultations. Consultations ranged from requests for aid with personal speech and hearing problems to requests for information concerning the effects of speech and hearing problems on academic, vocational, and social functioning. In response to requests from the public, approximately 158 persons were seen for consultations, and more than 500 telephone consultations were held.

Three years ago the Clinic initiated a special Diagnosis and Evaluation Clinic. Three staff members and twelve students participate in the Clinic each week. They devote half a day to the intensive and extensive evaluation of selected clinical cases. These cases are referred by speech pathologists, physicians, vocational rehabilitation agencies, and public schools. During the past two years, 81 persons have been seen in this Clinic and over 60 students have received part of their clinical training through participation in the Clinic.

In the past two years, 525 students received therapy services from the Clinic. Problems included articulation (57%), stuttering (26%), voice (10%),

and hearing and other organic conditions (7%). Students seen for therapy receive regularly scheduled appointments which are planned so that they will not interfere with academic schedules. More than 9,200 therapy sessions were provided for students with speech and hearing problems. The average number of sessions per student was 17.5. Approximately 25% of all therapy contacts were in group sessions. Therapy in this program was provided on both the Minneapolis and the St. Paul Campuses.

In cooperation with the Foreign Student Adviser's Office and the Graduate School, the Clinic provides a special program to help foreign graduate students develop oral communication skills in English. In the past two years, 151 of these students have participated in individual and group therapy sessions in the Clinic.

In the past two years, 202 persons received services through the Clinic's public-service program. The problems dealt with in this program included articulation (33%), stuttering (39%), voice (8%), and language delay and other problems (20%). These persons were seen for a total of 3,530 therapy sessions. The average number of sessions per person was 17.4.

For the past 10 years, the Clinic has offered an evening program for persons who stutter. In the past two years, over 63 persons have participated in this program. The Clinic has also offered intensive summer therapy programs for more than 20 years. Persons enrolled in these programs participate 5 hours per day for a 5-week period. During the past two summers, the program has provided services to 35 persons. During the biennium, more than 15 inmates of the State Prison in Stillwater received therapy provided through a grant from the Vocational Rehabilitation Administration.

Over 30 separate research investigations were conducted during the biennium. The majority of these studies have emanated from Professor Siegel's and Professor Martin's interest in the experimental modification of fluency in normals, while others have dealt with the effects of verbal punishment on stuttering and other speech behaviors.

Projects carried out in the laboratory have resulted in two doctoral dissertations and nine master's theses. More than 15 graduate students have received research training in the Speech Laboratory. Five articles based on laboratory projects have appeared in the *Journal of Speech and Hearing Research* and in *Speech Monographs*. Papers based on these projects have been presented at two national and four regional meetings.

The Speech and Hearing Clinic's staff and facilities are of central importance in providing clinical and research training for students studying speech science, speech pathology, audiology, and education of the deaf. The Clinic director serves as chairman of the Division of Speech Science, Pathology, and Audiology, which is concerned with these training programs. Seven of the nine members of the Clinic's professional staff hold academic appointments, and six are assigned to teach courses in the Division.

During the past two years, over 50 graduate students and over 60 undergraduate students have received a significant portion of their clinical training through the Clinic's facilities and programs. Other students have observed Clinic programs, and staff members have presented demonstrations to classes within the University.

St. Paul Campus Branch—The staff of the St. Paul Campus office consists of members of the Student Housing Bureau, Student Counseling Bureau, Student Activities Bureau, Office of the Foreign Student Adviser, and Students' Religious Activities Bureau.

Coordinator of Students' Religious Activities—The program of interreligious cooperation, established in 1947, continues to function effectively. The Coordinator has helped develop and supervise the Panel of World Religions; a new publication, *Religion on Campus*; and a variety of special programs, including a special institute on religious education. The Coordinator has served on a number of special committees, including the Governor's Human Rights Commission and committees on Indian affairs. Also during this biennium, the St. Paul Student Council of Religion was discontinued, and the St. Paul Campus pastors became members of the Council of Religious Advisers. Approxi-

mately 68% of the students voluntarily filled in the student religious census cards.

Foreign Student Adviser—The 1,601 foreign students at the University in 1964-65 represented 94 countries of the world. There were 1,810 students from 96 countries in 1965-66. Activities of the Office during the biennium included the following:

	1964-65	1965-66
Contacts	34,218	38,496
Interviews	4,149	3,893
English Assistance	274	203
Foreign Student Scholarship Aid	273	358

The Foreign Student Adviser's Office moved to a new location at 717 East River Road in October 1964. The location next to the Minnesota International Center, at 711 East River Road, has improved the efficiency of both offices in assisting students.

The Minneapolis Foundation provided grants of \$12,000 in 1964-65 and \$10,000 in 1965-66 to stimulate the exchange of students between the University and foreign educational institutions. Seven students represented the University of Minnesota at four foreign institutions: the Free University of Berlin, Osmania University, the University of Chile, and the University of the Republic, Uruguay.

Student Activities—An apparent need for involvement marked the efforts of student leaders during this biennium—involvement in world-wide issues, such as Vietnam and civil rights, and involvement in educational issues, including curriculum and course evaluation, student fees, and student organization policies. The incidents which took place at the University of California at Berkeley were carefully studied by student leaders to determine their local implications. Regular consultation with student leaders was continued in an effort to understand student need for involvement and to develop reasonable ways of dealing with expressed needs. The staff of the Student Activities Bureau had 98,976 contacts with students, faculty, and staff through conferences, interviews, and informal discussions.

Students participated in 16 rallies, demonstrations, picket lines, and sit-ins. With the exception of one, all were orderly and without incident. In the one exception, counter-pickets insulted some speakers. No damage to property or injury to anyone took place in any of these protests.

Through the 409 student organizations, the staff performed supervisory and advisory functions in order to organize extracurricular activities for educational purposes. Student organizations raised over \$140,000 from over 2,000 charitable projects and drives. Audiences totaling 9,347 persons heard 222 human relations programs given by 109 student groups. In addition, students made 170 appearances before 17,754 persons for the purpose of promoting interracial and interreligious understanding, for support of American Indian education, and for the civil rights movement.

Student Counseling Bureau—During the biennium, the professional contributions of the Student Counseling Bureau staff included over one hundred books, monographs, and articles which covered a broad range of topics: reading, measurement, academic prediction, vocational interests, manpower, personality structure, and counseling. Local, state, and national committee responsibilities have been especially apparent because of national meetings of major professional organizations held in our state during the past two years. These included the national meetings of the American Personnel and Guidance Association, the National Association of Women Deans and Counselors, and the North Central College and Adult Reading Association. Virtually every member of the staff holds some position of leadership in the professional groups appropriate to his specialty.

In each year of the biennium, the conference on the State-Wide Testing Program was continued. Principals, superintendents, and counselors from Minnesota schools have expressed appreciation for these annual meetings and

also for the many visits made by the Bureau's School Test Consultant. A series of small conferences for representatives from junior colleges, state colleges, and liberal arts colleges of Minnesota has been initiated for the discussion of common problems.

The Center for Interest Measurement Research has attracted funds for four important research projects: Interests of Medical Specialists, Stability of Interests, Revision of the Strong Vocational Interest Blank, and Vocational Interests of Nonprofessional Women. In 1965-66, the Center sponsored an invitational symposium on interest measurement, whose participants were 26 promising young psychologists selected from all over the nation.

During the 1965 Summer Session, the staff devoted much time and effort to seminars and practicums for the Institute on College Counseling and Student Personnel Work. During 1965-66, the Bureau was asked to serve as an internship facility for advanced graduate students in clinical psychology, and in both years of the biennium it continued its regular training relationship with the counseling psychology program.

In order to serve more students and staff without a comparable increase in personnel or a reduction in the quality of service, the Bureau has undertaken several projects during the biennium. The Reading and Study Skills Center developed packets of self-help material that were utilized by some 800 students who came to the Bureau and also by counselors in several colleges of the University. The Occupational Library has been reorganized to make its materials more readily available to students and staff. There has been a substantial increase in the use of these materials by students who have been referred by instructors, placement offices, and other agencies and individuals. In Spring Quarter 1966, a counselor was assigned one day a week to Territorial Hall for consultation with the residence counselors as an experiment with this type of expanded service.

The staff members of the Bureau have been ingenious in finding new ways to meet the ever-expanding needs and demands for counseling. By extending their influence and effectiveness through aiding in the training function, providing materials for staff and student use, and serving through conferences and consultations with those in other counseling offices, they have succeeded in leveling off the rise in the number of cases the Bureau itself must handle.

	1962-64	1964-66
Total case load	8,201	5,798
Number of interviews	17,960	15,753
Total clearances in counseling cases	12,929	12,098
Number of persons counseled	7,630	7,060
Number of tests scored	1,097,032	1,010,082
Total number of data clearances	28,198	25,631

Student Housing Bureau—The proper housing of students continues to become more difficult as the number of students increases. Each year more students live farther from the campus. The residential status of students enrolled in the Fall Quarter of each year of the biennium was as follows:

	1964-65		1965-66	
	Number	Percent	Number	Percent
Parents' Homes	13,707	41.2	15,474	42.6
Relatives' Homes	492	1.5	553	1.5
Owned or Rented Homes	2,452	7.4	2,696	7.4
Residence Halls	3,543	10.7	3,705	10.2
Married Student Housing	517	1.5	352	1.0
Fraternities and Sororities	1,212	3.6	1,311	3.6
Apartments	5,130	15.4	6,436	17.7
Rooming Houses	1,299	3.9	1,399	3.9
Other	144	.4	89	.2
Residence Not Identified	4,781	14.4	4,328	12.0
	33,287	100.0	36,343	100.0

During the 1964-65 academic year, there were 6,844 interviews with students concerning housing. In 1965-66, there were 7,011 such interviews. In 1964-65, there were 858 residence units disapproved, and 889 in 1965-66.

Bureau of Student Loans and Scholarships—Student loans, scholarships, and grants have increased for the tenth consecutive biennium. The following table describes this increase and the amount of financial aid each biennium.

Biennium	Amount
1954-56	\$ 639,000
1956-58	1,331,215
1958-60	2,499,917
1960-62	2,799,295
1962-64	3,355,133
1964-66	5,564,321

In October 1964, Congress removed the ceiling on National Defense Student Loans, after having increased the limit from \$250,000 to \$500,000 per institution in February 1964. These legislative changes permitted the marked increase of \$2,209,188 in loan resources.

Financial aid in each year of the biennium was as follows:

	Loans		Scholarships	
	Number	Amount	Number	Amount
1964-65	3,885	\$1,960,390	1,689	\$ 546,564
1965-66	4,326	2,333,251	2,485	724,116
	8,211	\$4,293,641	4,174	\$1,270,680

Well-qualified applicants for freshman scholarships continue to increase in number. In 1962-64, 3,434 applied, while in 1964-65, 4,534 applied—an increase of 1,200, or 26%. Several new financial aid programs were administered by this Bureau in 1964-66. These included Health Profession Loans, Regents' Student Aid Fund loans, and Educational Opportunity Grants.

UNIVERSITY HEALTH SERVICE

DONALD W. COWAN, *Director*

During the biennium, the health of students on campus was relatively good. There was an increased incidence of influenza-type infections during the Winter and Spring Quarters of 1966, but at no time did this reach the dimensions of an epidemic.

Again during this biennium, the number of students hospitalized for emotional illness continued to rise out of proportion to the increase in the student population.

Four deaths occurred among our student patients during the biennium: one from a malignancy; two from intracranial hemorrhage; and one from complications, including pneumonia, following abdominal surgery.

In the fall of 1964, a Health Service committee began to plan for remodeling and expanding the Health Service building. These plans are necessary because of the increased and increasing student population. At the end of the biennium, the developmental plans had been completed and the architects were developing the working drawings.

Outpatient Medical Care—Some 290,000 visits, a record number, were made to the Health Service outpatient department for medical attention during the biennium. This total includes eye refractions but does not include the thousands of services rendered by the dental department, the clinical laboratory, the X-ray department, and the pharmacy (Table IV).

Hospital Care—We were again fortunate in the low rate of hospitalization for general medical and surgical conditions during the biennium. There were 2,984 students hospitalized for an average of 4.1 days. An additional 92 psy-

chiatric cases were hospitalized in the special psychiatric section of University Hospitals or were transferred to outside psychiatric hospitals for care. This compares with 60 psychiatric admissions during the previous biennium.

Specialist Services—Consultation service in all of the medical specialties continued to grow during the biennium. Internal medicine and orthopedics were the two specialties which showed the most growth during the period.

Blue Cross-Blue Shield—The optional Blue Cross-Blue Shield supplemental insurance plan, developed for University of Minnesota students in 1958, continues to grow in popularity, with some 8,225 students electing to take the plan during the biennium. This plan covers the student for emergency care when he is away from campus during the school year, for hospitalization during the summer months when he is not eligible for Health Service care, and for surgical benefits the year around.

Mental Hygiene Outpatient Department—During 1964-66, 1,288 new patients were referred to the mental hygiene clinic for care. Together with 756 cases carried over from previous years, this made a total of 2,044 patients. There were 7,333 interview sessions, 2,005 therapy hours (group therapy and CO₂ therapy), and 1,153 analyses of the Minnesota Multiphasic Personality Inventory. All of these figures are higher than those of the previous biennium. During the period under report, there has been increased emphasis on group therapy and also on the use of a number of new forms of this type of treatment, such as coeducational group therapy and cotherapist group therapy.

Tuberculosis Control—The tuberculosis case-finding program for students and staff was continued. The chest registry, which is maintained by the public health nurse, contained the names of 538 different persons during the biennium. This represents an increase of about ten percent over the last biennium. Five persons with newly diagnosed cases of active tuberculosis were hospitalized during this period. Two of these were discovered through the routine entrance examination requirement, two were foreign students under observation by the Health Service, and the fifth, an American student, had been under surveillance for some period before a definite diagnosis could be made in the chest clinic. The follow-up of contacts and of recent Mantoux converters is an important part of the work of the public health nurse, who works in close cooperation with the chest consultant.

Special Diet Table—Students continue to benefit from taking their meals at the special diet table. This is primarily an educational tool to help students with diabetes, allergies, peptic ulcers, obesity, and other special dietary problems to learn to select the proper foods. A total of 152 patients were served 10,213 meals during the biennium. In 3,492 interviews, the dietitian counseled an additional 1,351 students who had dietary problems not requiring use of the diet table.

Health Care of Special Groups on Campus—The number of special groups on campus for which arrangements are made for Health Service care continues to grow. For the most part these are short-term groups, but the total number involved at any one time does make a significant addition to the work of the Health Service.

Health Education—One new project undertaken by the health educator during the biennium was the organization of two campaigns for blood donations among University students. Donations were made at University Hospitals' Blood Bank and credited to the Student Health account. Working through the Social Service Council, the health educator was able to find two student organizations who assisted in carrying out two separate campaigns for blood donors. As a result, not only was a deficit of 200 pints of blood erased, but at the end of the biennium there was a balance of 31 pints in the Student Health account.

Faculty Examinations—There were 529 medical examinations given to new members of the academic staff and to those promoted to positions imply-

ing tenure. This compares with 393 such examinations during the preceding biennium.

Civil Service Examinations—There was a relatively large increase in the number of persons seen by the preemployment examination department. This is explained in part by a new program in which a basic health questionnaire, a Mantoux test, and a chest X ray for positive reactors were substituted for the complete examination in certain categories of young applicants seeking sedentary positions. In effect, this change permitted the clearing of a rather large backlog of uncompleted examinations.

During the biennium, there were 2,301 complete medical preemployment examinations given to Civil Service applicants, plus 909 "medical clearance" examinations, as described above. This compares with 1,691 complete examinations (and no "medical clearances") during the preceding biennium.

St. Paul Campus—Table V summarizes the outpatient and hospital services at the St. Paul Campus Health Service. This continues to be a very convenient facility for students who have all or most of their classes on the St. Paul Campus. It is anticipated that as the student population there grows, so will the St. Paul Campus Health Service.

Environmental Health and Safety—The Health Service has a basic responsibility to advise the administration in matters related to the provision of a safe and healthful environment for students, staff, and the visiting public. The offices of the Advisory Architect, Plant Services, University Services, Purchasing, and Inventory have been particularly helpful to the Health Service in discharging this responsibility.

During this biennium, the staff has been permitted to participate more extensively in the planning of new buildings and in plans for major remodeling of existing buildings. This has been of great assistance to the Health Service.

Environmental health and safety services to the outlying campuses, stations, and facilities continue to increase, with the rapid expansion at Duluth and Morris accounting for a good share of the increase.

The routine inspection of off-campus housing continues to be an important part of the program. The generally poor quality of housing available in the West Bank area and the desire of more students to live there have caused additional work. During the biennium, about 1,200 inspections were made of dwellings providing housing for Minneapolis, St. Paul, and Duluth Campus students.

As the University grows, problems of sanitation related to water supply, sewage disposal, food, swimming pools, and insect and rodent control are being referred to the Health Service in increasing numbers. The cooperation of the departments involved has been excellent, so that the problems are corrected promptly. As a result, there are no major unsolved problems in these areas. However, the ever-mounting problems of satisfactory collection, transportation, and disposal of chemical and biological wastes with toxic, carcinogenic, flammable, and radioactive properties have not been fully solved.

The safety and occupational health engineering programs have been augmented to keep pace with the number of requests for assistance in evaluating physical, chemical, and biological health and safety hazards. Reports on employee and student accident experiences for 1963-64 and 1964-65 were distributed and were well received.

The Health Service was instrumental in securing a broad A.E.C. license for the use of radioactive materials in University research. This is of great assistance to individual investigators. The surveillance of activities associated with ionizing radiation through area and personnel monitoring continues to be an important activity.

Research—One extensive study of long duration came to an end during the biennium. It culminated in the statistical analysis and publication of data obtained, over a 30-year period, from University women in which the variations of the human menstrual cycle were observed.

A significant new research project was begun during the period under review. This project, "Developing System for Care of Low Resistance Patients," is being supported by the National Cancer Institute.

TABLE I NUMBER OF COMPLETE MEDICAL EXAMINATIONS GIVEN OR REVIEWED

Year	Entrance Performed	Entrance Reviewed*	Periodic
1956-57	8,510		4,375
1957-58	8,223		4,616
1958-59	8,680		4,940
1959-60	8,590		4,449
1960-61	9,689		4,204
1961-62	10,922		4,511
1962-63	10,893		4,824
1963-64	307	10,760	4,587
1964-65	343	15,377	4,812
1965-66	393	13,415	5,316

* Beginning in the fall of 1963, entrance physical examinations, except for foreign students, were performed by private physicians. These examinations were reviewed and processed by Health Service physicians.

TABLE II VISITS TO THE HEALTH SERVICE (MINNEAPOLIS CAMPUS) FOR MEDICAL ATTENTION

Year	Number of Visits*	Average Number of Visits per Student per Academic Year
1956-57	107,060	5.08
1957-58	113,653	5.28
1958-59	113,497	5.09
1959-60	99,021	4.53
1960-61	103,630	4.52
1961-62	114,554	4.59
1962-63	122,993	4.65
1963-64	131,723	4.78
1964-65	136,214	4.46
1965-66	149,272	4.54

* These totals do not include visits for physical examination, dentistry, hospitalization, physiotherapy, laboratory, or X-ray services.

TABLE III STUDENT HOSPITAL CARE (MINNEAPOLIS AND ST. PAUL CAMPUSES)

Year	Number of Patients			Rate per 1,000 Students (academic year)	Number of Hospital Days			Average Stay in Days
	Mpls.	St. Paul	Total		Mpls.	St. Paul	Total	
1956-57	1,434	40	1,474	69.9	4,609	117	4,726	3.2
1957-58	2,057	41	2,528	117.5	7,037	1,655	8,692	3.4
1958-59	1,561	35	1,596	71.6	5,549	91	5,640	3.5
1959-60	1,412	36	1,448	65.6	5,543	114	5,657	3.9
1960-61	1,278	26	1,304	56.8	4,843	73	4,916	3.8
1961-62	1,395	32	1,427	57.2	5,764	97	5,861	4.1
1962-63	1,419	69	1,479	55.9	5,721	189	5,910	4.0
1963-64	1,419	27	1,446	52.5	5,386	93	5,479	3.8
1964-65	1,492	41	1,533	50.2	6,060	125	6,185	4.0
1965-66	1,422	29	1,451	44.2	5,993	105	6,098	4.2

TABLE IV SELECTED SERVICES RENDERED (MINNEAPOLIS CAMPUS)

	1962-63	1963-64	1964-65	1965-66
Professional dental services	22,032	23,467	22,861	24,508
Laboratory procedures, including BMR and ECG ...	79,884	69,788	74,085	84,834
X rays, excluding dental	11,027	12,037	12,440	14,423
Prescriptions filled	40,511	40,241	43,096	51,769

TABLE V ST. PAUL CAMPUS HEALTH SERVICE: OUTPATIENT DEPARTMENT

Year	Medical Attention	Number of Hospital Patients	Number of Hospital Days	Total Services Rendered
1956-57.....	4,033	40	117	7,612
1957-58.....	5,006	471	1,655	7,757
1958-59.....	3,999	35	91	6,274
1959-60.....	2,730	36	114	4,625
1960-61.....	2,499	26	73	3,375
1961-62.....	2,696	32	97	3,888
1962-63.....	4,398	60	189	6,986
1963-64.....	2,561	27	93	5,118
1964-65.....	2,672	41	125	3,998
1965-66.....	2,446	29	105	3,836

DEPARTMENT OF INTERCOLLEGIATE ATHLETICS

MARSHALL W. RYMAN, *Director*

Although the University of Minnesota did not win any athletic team titles during the 1965-66 school year, it fielded two second-place squads and finished in the first division in all but two sports. In addition, a number of individual Gopher athletes performed outstandingly.

The football team broke numerous records while driving to a third-place tie in the Big Ten on a 5-2 record. Coach Murray Warmath's squad compiled a 5-4-1 record overall. Two Gopher players, quarterback John Hankinson and flankerback Ken Last, were responsible for most of the new records. Hankinson set new individual single-season standards for most yards gained by rushing and passing (1,583), most rushing and passing plays (310), most yards gained by passing (1,477), most passes attempted (214), and most passes completed (111). He also set a single-game record for most yards gained by passing (255 against Northwestern). Last's single-season records included most passes received (31) and most yards gained by pass receptions (450). Despite suffering a broken jaw in the second game of the year, end Aaron Brown went on to win All-American honors.

The Gopher cross-country team, hampered by an injury to its top man, Tom Heinonen, was unable to retain its Big Ten championship but did finish third in the Conference meet held at the University golf course.

Coach John Kundla's basketball team suffered its share of disappointments, including an early season injury (fractured navicular) to its outstanding player, Lou Hudson. Still, the Gophers tied for fifth place in the Big Ten on a 7-7 record and compiled a 14-10 record overall. Hudson, who won All-American recognition, performed amazing feats while playing the entire Conference season with his right wrist in a cast. Hudson also set a Minnesota record for most points scored in Conference play during a three-year career (858). Captain Archie Clark was a unanimous All-Big Ten selection at guard and broke Hudson's record for most points scored in a single season with an output of 589.

The Gopher hockey team tied for second place in the Western Collegiate Hockey Association and introduced an exciting sophomore forward combination, Gary Gambucci and Chuck Norby, who paced the squad in scoring while demonstrating dazzling speed and skating ability. Gambucci and goalie John

Lothrop were named to the All-WCHA second team. Minnesota won the Big Ten Conference championship.

Coach Wally Johnson's wrestling squad was the finest to represent Minnesota since the title days of the late fifties. Eight Gophers qualified for the finals in the Big Ten championships, and Bob Henry emerged with the crown in the 147-pound class. In dual-meet competitions, Minnesota won fourteen and lost two. It placed a strong third in the Conference.

Led by Bob Hoecherl, who narrowly missed the individual side-horse title, the gymnastics team placed fifth in the Big Ten.

Gopher swimmers, after several highly successful years, had to settle for seventh place in the Big Ten.

Roy Griak's track team turned in some outstanding performances, placing fifth in the Big Ten indoors and tying for third outdoors. Tom Stuart, who won the indoor high-jump championship, set a Minnesota record in that event with a leap of 6 feet, $8\frac{1}{4}$ inches. Joe Lane tied the Gopher shot-put record with a 58-foot effort, and the mile relay team of Phil Soltvedt, Hubie Bryant, Rich Simonsen, and Mike Gillham set a new varsity record with a 3:11.2 clocking.

The baseball team made a vigorous try for its sixth Big Ten crown since 1956 but had to settle for second place despite an impressive 11-2-1 record in Conference play. The Gophers fashioned a 27-10-2 mark for all competition. The squad set a new varsity record for stolen bases in one season with 115, and outfielder Bob Fenwick was second in the nation in number of stolen bases with 29. Both Fenwick and pitcher-outfielder Frank Brosseau were named to the All-Big Ten team. The Gophers also led the Conference in team pitching with a 0.99 combined earned-run average, paced by left-hander Mike McNair's 0.53 average.

Minnesota's young golf team placed fourth in the Big Ten tournament behind the fine play of sophomore Bill Brask and junior Jim Carlson, who placed fifth and sixth, respectively, in the individual competition.

The tennis squad finished sixth in Conference play, winning five dual meets and losing eleven.

The Department has a large and varied intercollegiate program, encompassing eleven freshman and varsity sports. There are presently 31 full-time staff members (exclusive of clerical help) who work at least 50 percent of the time in this area. Of these, 21 are primarily coaches, and the other 10 work basically in administration and promotion.

During the 1964-65 school year, 625 students received athletic coaching from members of our staff, and in 1965-66, the total was 658. The attached chart gives statistics, by sport, for the current athletic program.

Briefly, the strengths of this Department are the scope and balance of the program and the high quality of the professional staff working with each facet of intercollegiate athletics. We are proud that Minnesota belongs to the Big Ten Conference, which is noted nationally for its solidarity and leadership. The fairly recent upgrading of scholastic requirements for athletic eligibility and of student admission standards has improved the caliber of student-athletes. We are justly proud of the academic achievement shown by our freshmen and varsity squad members.

The principal weaknesses of our program are all related to finances. Our present income does not permit us to add indoor and outdoor facilities that are needed for athletics, physical education, and intramural sports. Inadequate office space is also a current problem. Financial problems are further compounded by the ever-increasing cost of the Grant-in-Aid program, which awards financial assistance to qualified student-athletes.

Current plans call for the addition of needed staff members to work in the areas of promotion, publicity, and scholastic counseling. Projected plans involve the moving of the Department of Intercollegiate Athletics to Delta Field. This move is necessitated by the development of an academic complex on our present football practice fields. By the fall of 1968, this Department will have its offices in a new location adjoining an indoor fieldhouse and outdoor multipurpose fields for varsity and freshman athletics, men's and women's intramural sports, and physical education classes.

STATISTICS ON INTERCOLLEGIATE ATHLETICS, 1965-66

SPORT and COACH	Total Number of Games or Meets	Total Number of Conference Games or Meets	Total Number of Non-conference Games or Meets	Total No. Receiving Athletic Instruction, Including Freshmen	Number of Varsity Candidates	Number of "M" Awards	Number of Freshman Candidates	Number of Freshman Numerals Awarded	Number of Games Won	Number of Games Lost	Number of Games Tied
Baseball Siebert	39	14	25	125	46	16	79	29	27	10	2
Basketball Kundla	24	11	13	47	13	9	34	12	14	10	0
Cross Country Griak	5	4	1	28	12	8	16	9	4	1	0
Football Warmath	10	7	3	121	67	39	54	37	5	4	1
Golf Bolstad	8	3	5	34	14	6	20	6	5	3	0
Gymnastics Bird	15	7	8	30	18	6	12	12	9	6	0
Hockey Mariucci	28	22	6	86	28	17	58	26	16	12	0
Swimming Mowerson	10	7	3	44	27	14	17	13	3	7	0
Tennis Walsh	16	9	7	26	10	8	16	10	5	11	0
Track Griak	12	8	4	67	36	17	31	21	8	4	0
Wrestling Johnson	16	11	5	50	21	10	29	11	14	2	0
TOTALS	183	103	80	658	292	150	366	186	110	70	3

DEPARTMENT OF STUDENT UNIONS

GORDON L. STARR, *Director*

This biennium marks the 25th year of service by Coffman Memorial Union to the University of Minnesota. The building, when it opened in the fall of 1941, was one of the largest and most modern buildings of its kind. Although there were some who called it a "white elephant" and said it would have to be supported by public funds, it has been self-sustaining through income from student fees, recreational activities charges, and auxiliary enterprises, with the exception of the Food Service. CMU is more than a building; it is an organization. The Union Board of Governors, composed of representatives of the student body, faculty, and alumni, sets policies within the framework of the University and develops programs of interest to students and of service to the University as a whole. Annually, over five hundred students serve without remuneration on the various committees that carry out the program.

During this biennium a Directorate, composed of student members of the Board, was created for the purpose of providing students the opportunity to concentrate on programming and to refer policy matters to the Board. Through the various committees, new ideas and programs were developed to meet the needs of students on campus. On many occasions the Board cooperates with other groups in producing events. Annually, the Board cosponsors over one hundred events with other departments and student organizations. Typical examples were the Minnesota Student Association's Symposium, the International Spring Festival, and the production of *Carmina Burana*. The latter event, which was held in Northrop Auditorium and cosponsored by the Department of Music, the Department of Concerts and Lectures, and Coffman Union, was a sellout. Also, there are often programs which are planned but which cannot take place because of lack of space. Many events require seating of more than a thousand, which is the capacity of the Main Ballroom. Northrop Auditorium, which seats 4,800, is often unavailable. There is a definite need for a 2,500-seat auditorium which could be used by the Union and by other departments and organizations on campus.

During this biennium, there has been a shift of the campus traffic, and CMU is truly the center of campus activity. Many factors, such as the relocation of departments in different parts of the campus, the West Bank development, and the availability of parking, have played a part in keeping the Union the most-used building on campus. There was a 22 percent average increase in the number of persons using the building during the biennium. For example, on a typical Wednesday during the Winter Quarter, over 20,000 persons entered the building, creating a serious shortage of eating, meeting, and "people" space. The new 1,700-car parking ramp south of the Union will provide parking for students and staff and for guests attending luncheons, banquets, and evening affairs at the Union. At the same time, it will undoubtedly increase the daily traffic. The Board recommended that the University provide funds for construction of a passageway over the road linking the ramp and CMU.

The Board has other projects in mind, but many have been delayed by a lack of funds. Among these projects are the rehabilitation of the first-floor-east area of the building, extension of the main lounge, completion of the Gopher Hole, and rehabilitation of the Ski-U-Mah and North Star Rooms. Numerous complaints have been received on the lack of air-conditioning in the service areas of the building. Some air ventilation ducts have been provided to improve the situation. A budget for air-conditioning has been established, including \$12,000 for the location of an equipment room in the new ramp area. Aside from the Campus Club, which is already air-conditioned, it is estimated that it would cost approximately one-half million dollars to air-condition the other public areas of the building.

Plans are under way to add music listening equipment to the Terrace Reading Room. Music will be piped through the public address system.

During the past year, there has been a noticeable improvement in the cleanliness of the building in spite of the increased traffic. The custodial staff now has three shifts, with the heavy cleaning being done during the night.

Due to the increased use of the building, a survey has been taken to determine the man-hours required to meet minimum standards for custodial maintenance. Constantly evaluating programs and service to the campus, the Board took action to close the Play Center, as the final step in the phasing out of the Village Union, and to reactivate WMMR, the wired-radio station. The students enthusiastically undertook script writing, announcing, and other phases of radio work and were hosts, through the Board, to the Upper Midwest College Radio Network.

Each quarter the Director has submitted a general informational report to the Senate Committee on Student Affairs. These reports show that during this biennium over 1,300 organized events were conducted by the Union Board, with an attendance of more than 450,000 persons. This does not include gallery viewers, bowlers, or those using the lounges, nor does it include other casual use of the building that can be measured only in terms of value or service to the individual.

St. Paul Union—With the offering of general classes, the development of the new College of Biological Sciences, and the increased enrollment on the St. Paul Campus, the St. Paul Union (Student Center) has begun to feel the pressure of people which is so evident in CMU. The Short Course Department and campus organizations have increased the demand for use of the ballroom because of the fire that gutted the auditorium in Coffey Hall. In 1963-64, non-student-group use of the building by reservation was 37 percent. It is apparent that there will be a continued increase in the number of all-University departments and groups requesting use of these facilities. Efforts were made by the St. Paul Board to have the University recognize the services given to non-student groups and to reimburse the Union for the expenses involved. With the rising costs of operation, the Board has been struggling to meet annual expenses. Without the income of approximately \$7,000 per year from the Snack Bar operations, it would undoubtedly be a deficit operation. Depreciation funds are needed, as well as capital funds, for an addition to the building which would meet the needs of the growing enrollment.

Original budgetary limitations prevented the installation of air-conditioning equipment. However, with the installed ductwork and with adequate air pumps, the estimated cost of completing the project in the present building would be \$125,000.

To complete the construction of the building, a loan of \$400,000 was made. A balance (principal and interest) of \$218,637 is needed to meet final payment by 1968. However, the terms provided for an extension of another five years if the loan could not be repaid by 1968. The St. Paul Campus Board has established an Expansion Committee which cooperates with the overall campus planning committee in considering matters of additions, new buildings, program evaluation, and methods of funding.

The program on the St. Paul Campus has covered a wide range, from family programs for children of married students to special graduate student programs. Special emphasis was placed on weekend programs because of the comparative isolation of the St. Paul Campus. The Friday-night Rouser Rumpus program provided an informal social atmosphere in the Rouser Room. All-Campus Coffee Hours and special Sanka Seminars continue to hold the interest of the campus. Selected professors participated in a Last Lecture program, speaking as if this were the last lecture they would give. A number of campus convocations were held in the ballroom. The Minneapolis Civic Orchestra, the St. Paul Campus Chorus, and the Men's Glee Club provided some of the annual music programs. Sports films, hay rides, and turkey-carving demonstrations were interesting events during this period. The "Skeewaksurs," under the direction of the Board, provided many opportunities for students interested in skiing, canoeing, and other outdoor activities. The Fine Arts and Crafts Committee has provided the campus with some outstanding art exhibits, including the annual Town and Country Art Exhibit which was programmed with the Short Course Department.

Special Programs—Over 175 programs are conducted by UBOG on a quarterly basis. Many of these are self-supporting and are adjuncts to the classroom.

Each of the Topics Area Committees presented a variety of programs. The American-Foreign Student Committee sponsored several events designed to welcome international students to the University and cosponsored a panel discussion on the Rhodesian Independence Issue. Two new series, Comparative Education System Discussions and Parliamentary-Style Debates, were initiated. The Citizens Series included two outstanding panel discussions, Forum in Defense of Free Discussion and U.S. Relations with Latin America. The Committee also initiated a new series, the Soapbox Forum, for open discussion. The Graduate Student Committee held Coffee and Conversation Hours twice each week and maintained the Graduate-Honors-Faculty Common Room. The Human Relations Committee hosted Father Grzeskowiak, Chairman of the Governor's Commission on Migrant and Farm Labor, and sponsored an open discussion on the Value of Student Participation in SCOPE. The Student-Faculty Relations Committee presented a series of six coffee hours that proved to be very successful in promoting lively out-of-class discussion between faculty and students and a series of Language Luncheons, where guests could converse with each other in a foreign language. The Committee also cosponsored the CLA Quiz Bowl. The Women's Week Committee conducted a successful symposium entitled "Being Male and Female." Mrs. Warren Knowles, wife of the Governor of Wisconsin, and Mrs. Wilma Rudolph Eldridge, former Olympic star, highlighted the series of programs. Also included in the series were provocative panel discussions. WCCO carried part of this program on "Open Mike."

The Music Area gave students an opportunity to perform on campus, gain experience, and offer worthwhile programs. These included concerts by the Minneapolis Civic Orchestra and the University bands and choruses as well as individual recitals by students. The Music Area continued the two most popular series, Koffee Konzerts and the Chamber Series. Special convocations given in cooperation with the Department of Concerts and Lectures were presented at the University and were coordinated by the Music Area. One such convocation presented the Little Angels of Korea. The Area also supplied the musical support for the Twenty-Fifth Anniversary Celebration and the Welcome Week Open House. An ethnic dance program was presented by the internationally known dance team of Goya and Mateo. An extremely worthwhile series of Christmas programs, presented in cooperation with the Department of Music, included Christmas Bonanza, *The Messiah*, the Men's Glee Club Concert and the Christmas Jazz Concert.

During the Fall Quarter, the West Bank Area of the Union Board of Governors developed an excellent foundation on which to build for the remainder of the school year. The Hi-Noon Varieties Committee for the first time presented noon programs five days a week throughout the entire quarter. The Committee also experimented with weekly programming, presenting such topics as Civil Rights, World War II, Twentieth Century Personalities, and Varieties of Comedy. The Scott Hall Music Hours were especially appreciated by the student audiences. The Forum Committee cosponsored a program entitled "Student Problems in Business" with the Business Board and sponsored Sociology Coffee Hours. The West Bank Area was active in the celebration of Coffman Memorial Union's twenty-fifth anniversary during the Fall Quarter. A panel-discussion program was presented during the celebration week, depicting the plans of the University and the Union for the next twenty-five years.

Coffman Memorial Union Gallery had eight art exhibits and five openings during fall 1965. All but two of the exhibits, Warsaw Architecture and Photographs from Germany, were the work of University of Minnesota students. The outstanding exhibit of the quarter was the Master of Fine Arts Thesis Show by Mr. Robert Shank. The Creative Society began the quarter with its most outstanding program: Louis Van Gesteron, a Dutch film director, talked about film making and showed his film "The House." Bilingual poetry-reading by Sergio Mondragon and his wife, Margret Randal, was another outstanding program. Another event featured Megan Terry, New York playwright, who performed with the Firehouse Theater Group. The Creative Society of UBOG ended the quarter with Student Day with the Designer, a

program that included local members of the American Institute of Interior Designers.

One event which brought students in contact with persons and ideas of current and national significance was the John Fitzgerald Kennedy Memorial Library Exhibit in July. The five-day exhibit served not only the University community but also other Minnesota residents and persons from outside the state. The formal opening by Governor Rolvaag, Senator McCarthy, University officials, and White House staff members was attended by some 3,000 persons. The exhibit was presented with the help of 285 student and community volunteers and approximately 85 staff members, who worked to make it a success for the more than 62,000 viewers.

For the students, an additional highlight of the Kennedy Exhibit was the Kennedy in History lecture series, sponsored by the Union Board of Governors, in which the historical significance of the Kennedy era was reviewed and analyzed. At the request of the White House, tapes of the lectures were sent to the Kennedy Library officials and will be included in the collection. A journalism class in public relations met in the Union in order to view and study the exhibit and its layout.

In the Fine Arts Area, the "For Arts Sake" Committee carried out such worthwhile programs as the Student Art Sale, the only event on campus at which a student artist can show his work. La Petit Galerie offered a display area for the student artist who has a limited amount of work to show. The Creative Society produced programs throughout the Fall Quarter, including creative dance programs and the Meet the Director and Cast Coffee Hour series. The latter series was initiated with "Sing Out, Sweet Land," followed by "Pirandello Today," with Sir Tyrone Guthrie. The Fine Arts Gallery Committee presented the Fall Quarter Art Show and was responsible for a permanent art collection and the Minnesota College Art Show.

During Fall Quarter, the Artercraft Studio provided more than 1,600 students with opportunities to develop and apply a wide range of creative interests and skills. Workshops in ceramics and photography were maintained throughout the Quarter, and Craft of the Month sessions offered training in such crafts as copper enameling and candlemaking. In addition, individual students pursued their own artcraft hobbies with or without the help of staff consultants. One of the highlights of Winter Quarter was a Faculty Hobby Show.

Typically, the University of Minnesota Homecoming Dance was the social highlight of the year. Eight bands and the Four Lads provided entertainment throughout the Union building for the Homecoming festivities. Coffman Memorial Union must limit attendance for homecoming dances and other activities because of the lack of adequate ballroom and banquet space. A study should be made on how the University can fulfill the needs of major events, banquets, and other activities which far exceed the present Union facilities.

In addition, committees of the Union Board of Governors were active in providing weekly Wednesday evening dances, ballroom dance instruction, folk dances, weekly square dances, and Friday night variety dances.

One of the most significant programs of the Winter Quarter of 1965 was "Woman, 21st Century." This program was sponsored by UBOG, the Young Women's Christian Association, the Dean of Students' Office, the Minnesota Plan for Women's Continuing Education, and the Governor's Commission on the Status of Women. The three-day program, presenting leading public figures and educators, considered the woman's role in today's and tomorrow's world. As usual, the Topics Area also illustrated current international and human relations with appropriate activities. A wide area of interests was presented by speakers ranging from Dr. Fred Swartz, Conservative, to Mr. Sidney Lens, Socialist.

The Gallery Committee also sponsored, in cooperation with the Air Force ROTC, an exhibit called "Air Force on Canvas." The Creative Society continued its Cast and Director Coffee Hours with the Theatre Department. These were highlighted by a visit from Douglas Campbell, who was then directing *Brand*. The Committee produced two one-act plays directed and written by Micky Weinblatt, a student. They also produced the medieval morality play *Everyman*. The Creative Society ended Winter Quarter by sponsoring a coffee

hour with the Firehouse Theater group and two New York playwrights, Mr. Sam Shephard and Mr. Jean Claud van Italle. They talked about the "open theater" and the New York drama scene.

University students have found a wholesome outlet for their energy through the recreational program area, which has included such activities as a ski-train trip to Canada for more than 400 University students.

Other programs included in this area are tournaments in billiards, bowling, table tennis, chess, and bridge. One of the highlights of spring 1965 was the International Collegiate Billiard Championship Tournament, held in the Main Ballroom.

Sailing classes, recently added to the summer program, have been very well attended.

Coffman Memorial Union continues to play an important part in the life of students through activities such as the Koffee Konzert, Presidents' Ball, Model United Nations, Food For Peace, and other programs of wide variety in the recreational, social, and cultural areas.

The West Bank area has developed a firm foundation on which to build programs. It has used the Classroom Building for a number of programs and the small lounge in the Business Administration Building as a focal point. Several rooms in the old Clay School have been assigned to the Department for student organizational and general use. The lack of facilities has been a definite handicap in providing the services and programs expected.

A site on the river bank has been designated for a Union in the overall plans for the West Bank area. Lack of funds has prevented the construction of the Union, which is needed today. For an enrollment of 15,000 students on the West Bank, it is estimated that a minimum of six million dollars would be needed for facilities.

On the West Bank, the Highlights Committee presented the educational program "Threshold to Space," sponsored by the Union Board of Governors with the cooperation of local industries, the U.S. Air Force, National Aeronautics and Space Administration, and various departments of the University. The purpose of this program was to acquaint the community with the contributions made to the national space effort by the University and by the local business community. The week-long program consisted of symposiums and exhibits and was highlighted by a convocation featuring Donald K. Slayton, Assistant Director for the Flight Crew Operations, NASA. The entire week was exciting and meaningful, stimulating student interest and informing the public of the University's significant role in space exploration. The West Bank Area Committee has published the *West Bank Bulletin* every Monday. This *Bulletin* provides information on programming in this growing part of the Twin Cities Campus.

The fall of 1965 marked the 25th anniversary of Coffman Memorial Union. During the 1964-65 academic year and throughout the following summer sessions, a committee headed by Dean Keith McFarland was busy preparing for this commemorative affair. The committee divided its responsibilities into two phases: the celebration, which was to be held the first week of Fall Quarter, and a seminar. The celebration was organized by Miss Robbie Engelman, UBOG member, and the seminar by Dean E. G. Williamson.

The week started in the Main Ballroom of Coffman Union with a birthday party featuring a cake and a fashion show. Music from the forties was played by Doc Evans' Dixieland Band.

A Games Tournament was conducted during the week, with individual team play for chess, bridge, table tennis, billiards, and bowling. A Speakers Series Program compared campus life twenty-five years ago with that of the present. A convocation given in cooperation with the Department of Concerts and Lectures featured Max Shulman, a noted author and humorist who was a student at the University in 1940. A capacity crowd in the Main Ballroom had the opportunity to hear and see Mr. Shulman, as well as to meet him at an informal coffee hour later that afternoon.

Two special events held during the week were an Appreciation Luncheon and an Anniversary Banquet. The luncheon was held to honor the faculty members who had served on the Union Board of Governors and the University Regents who had devoted their services to the Union.

President O. Meredith Wilson and Dr. Charles W. Mayo, Chairman of the Board of Regents, were made honorary members of UBOG. Mr. N. Lawrence Bentson, President of WLOL, expressed appreciation for the faculty members. Mr. Robert Weinhagen, UBOG President, highlighted the program with a "State of the Union" Address.

The Anniversary Banquet was preceded by a reception in the Campus Club for former UBOG members. More than two hundred persons, including former Board members from many states, attended the reunion. One former Board member, Dr. Marvin C. Rogers, came from London, England, for the banquet.

The University Men's Glee Club presented the entertainment at the banquet. Mr. Emil Behrens, Alumni Association member of the Board, served as toastmaster. Mr. Robert Blake, the first UBOG President, reminisced about the first years of Coffman Memorial Union. Mr. Harvey Stenson, one of the first two Program Consultants, paid a tribute to the late G. Ray Higgins, first Director of CMU. University Vice-President Laurence R. Lunden gave a response on behalf of the University. Mr. Minton M. Anderson, Vice-President of Alcoa and former Director of the Men's Union at the University, gave a most stimulating address entitled "Education—for What?"

On Saturday evening, to conclude this special week, the nationally known Back Porch Majority and several rock-and-roll and "smooth" bands performed for different types of dancing popular in the past 25 years.

A series of four seminars on Future Students and on the Sociology of the University Campuses of the Future was presented at the University of Minnesota during February and early March. Other cooperative programs commemorating the 25th anniversary were held throughout the year.

Needs—The Department has been plagued with problems of overused and understaffed facilities and with a lack of funds for expansion. The incidental fee, including the Union allocation, was increased for the academic year 1965-66. This has been a help, but it should be recognized that even now the fee is below the median in the Big Ten Universities. It should also be recognized that the Union does not receive any income from the Food Service as

Classified Organizational Use of Coffman Memorial Union, with Attendance Figures, for the 1964-66 Biennium

	1964-65	1965-66
Union Sponsored Events, including West Bank Lounge	261,260	361,593
Alumni Organizations	1,371	255
Class Meetings	686	298
Faculty Organizations	3,386	2,694
Fraternities and Sororities	4,200	4,019
Governing Bodies	5,092	3,555
Honorary Organizations	1,864	248
Language and Cultural	6,889	5,989
Music and Fine Arts	1,267	487
Orientation	11,279	11,217
Political Organizations	6,669	402
Professional and Department	21,832	19,586
Recreation and Hobby	10,555	23,468
Religious Organizations	15,505	13,066
Senate Committees	359	759
Social Service Organizations	4,515	455
Special Events	66,017*	14,065
Non-University Organizations	23,357	21,853
Information Desk	59,551	56,326
Recreational Games: Billiards (participants)	63,765	65,496
Bowling (lines)	144,095	154,037
Table Tennis (participants)	6,436	6,720
Game Room	62,187	61,893

* 1964 report includes John F. Kennedy Memorial Library Exhibit (62,000).

do other unions in the Big Ten and most college unions throughout the country. At the urging of the Director, the Vice-President for Educational Relationships and Development established an All-University Study Committee to consider problems and make recommendations for the next quarter of a century. The study is divided into three parts: structure and organization, finance and facilities, and program. This overall study should give depth and direction to the development of the Department in terms of service and programs for the next twenty-five years.

St. Paul Union Attendance Figures for the 1964-66 Biennium

	1964-65	1965-66
Dance—Instruction, Homecoming, parties	4,029	5,313
Discussion—Toasters, convocation	2,515	1,492
Fine Arts and Crafts—Demonstration, exhibits, films, faculty use	4,341	3,560
Graduate and Married Students—Activities, socials, tours	773	1,118
Hospitality—Building tours, coffee hours, open house, Sanka Seminars	3,931	5,352
International Students—Discussions, socials	762	748
Outings and Games—Tournaments, Co-Rec Nights, bridge instruction	2,600	3,244
Music and Shows	5,774	5,899
Special Events—Counselor orientation, leadership seminars, freshman orientation	1,973	1,114
Meetings of Clubs and Committees, and Other Programs—Non-Union sponsorship	83,443	75,512
Information Desk	88,392	99,966
Recreational Games: Billiards	38,211	29,669
Bowling	19,315	14,908
Table Tennis	5,128	3,855

DEPARTMENT OF UNIVERSITY RELATIONS

WILLIAM L. NUNN, *Director*

General—The work of the Department of University Relations is to promote public knowledge and understanding of the University's objectives and to ascertain and record its progress toward those objectives. A comprehensive flow of news about the University to its staff members and the general public is maintained through the use of radio, television, the press, and other news media. The Department assists with the publication of special brochures and pamphlets, prepares citations, assists in and cooperates with major University fund-raising projects, supervises regular and special campus functions, and participates in the formulation of University policy.

At the University of Minnesota there is a strong belief that good public relations begin with good policy, with good administration, and with good programs. It follows that good public relations do not begin with a news story, a radio report, or a television documentary (although we do all of these).

Staff members with public relations responsibilities attend meetings of the Board of Regents; they are members of the Administrative Committee, the University Senate, and a good many Senate and Presidential committees, especially those charged with matters of public interest that ought to have a high degree of public acceptability. In short, they sit where policies are determined.

In addition, these same staff members frequently prepare reports and recommendations and participate in evaluations all dealing with "what is" and with "what ought to be."

Information and News Programs—The University News Services, from the Minneapolis, St. Paul, Duluth, Morris, and Crookston campuses and from the Athletic Department and the Department of Concerts and Lectures, are charged with keeping the general public informed of the University's plans,

activities, and accomplishments. Subjects covered include academic programs, curriculum and admission changes, grants, lectures, research activities, conferences, scientific discoveries, cultural events, commencements, convocations, conventions, enrollment, student activities, building programs, legislative requests, faculty appointments, and achievements. Only the News Service of the Department of University Relations, housed on the Minneapolis Campus, handles news from the Board of Regents.

News is supplied to dailies, weeklies, wire services, and radio and television. News releases, fact sheets, and press conferences are used widely, and we have begun to experiment with the "long release" as well as with the "long fact sheet." Services of the Minnesota Newspaper Association are used for dissemination of certain releases and for press clippings. Press clippings are also received from foreign newspapers published in English. The Minnesota Poll is used, as are internal opinion groups within the University. The University of Minnesota has been heavily favored in documentaries made by others about the state. WCCO-TV has just finished a thirty-minute documentary in color dealing with cancer research at the University.

The News Service maintains a file of biographies and portraits of University staff members, photographs of University scenes and activities, and voluminous working files of newspaper and magazine clippings relating to the University, its activities, and its people. The News Service operates in close liaison with University Archives in the collection and preservation of historical material pertaining to the University.

The *Minnesotan* was published eight times per year during the biennium and served to keep staff members informed of significant events concerning the University. *Reports from Your University of Minnesota* was published four times a year and sent to the parents of all University students.

Other important publications prepared by the Department included *The Needs of the University*, a summary of the legislative request, of which approximately 129,000 copies were distributed; the *Biennial Report*, a detailed report of the University's operations; and the *President's Report*, which is an easily readable, attractive summary of the *Biennial Report* and is prepared for wider readership than is usually associated with that report. The *Student-Staff Directory* was also published each year.

Fund Raising—At the close of the 1960-62 biennium, the Greater University Fund was dissolved and its responsibilities divided among the University of Minnesota Alumni Fund, the Minnesota Foundation, and the Special Projects Program. The Department of University Relations thus assumed a large responsibility for fund raising when the Special Projects Program was established within the Department.

The Special Projects Program receives and acknowledges a great variety of gifts for the University. These gifts are deposited in appropriate funds. If, for example, a gift is restricted, it goes, according to the donor's wishes, into research, loan and scholarship, or development funds, or into existing special interest funds such as the Cedar Creek Natural History Area Fund or the Friends of the Library Fund. If a memorial gift is unrestricted, it goes into either the University of Minnesota Memorial Fund (for gifts in memory of University faculty-staff members or their spouses) or the General Memorial Fund. If a nonmemorial gift is unrestricted, it is allocated by a committee to the area of greatest need.

Through the Special Projects Program, the Department received, acknowledged, and deposited \$355,621.73 during this biennium. Each donor received a letter of thanks, an official receipt for tax purposes, and, in the case of memorial donors, a prepared memorial card in a stamped, addressed envelope which the donor was invited to mail to the family of the memorialized person. Names of faculty-staff members or their spouses who were memorialized were entered in a handsomely-bound Book of Honor, which is available for display.

In many ways, and with unique results, the University assiduously cultivates the people of Minnesota and the organizations which they have created. Illustrations abound:

1. A decade ago the Masons of Minnesota began a campaign to raise from their own members one million dollars to be used for a Masonic Memorial Hospital at the University. Then, the University believed that if it accepted this gift properly, another gift at another time would be forthcoming from this same group. Now, the Masons have completed a second campaign—raising \$1,100,000 from Minnesota Masons—and the Masonic Memorial Hospital is being doubled. Again, the acceptance of this second gift looks to a future decade.

2. The Variety Club of the Northwest (Tent #12), made up of people in show business, is responsible for the University's world-famous Variety Club Heart Hospital. Within a few months the University will dedicate a new million dollar addition, the latest gift from this great-minded group of men and women.

3. The Veterans of Foreign Wars Cancer Research Center, a \$500,000 building, is a gift to the University from the Minnesota V.F.W., a group with only thirty thousand members. This Center has become a veritable V.F.W. shrine as well as a center for cancer research.

4. The largest endowed professorship at the University of Minnesota is the American Legion Memorial Research Professorship in Heart Disease. More than \$500,000 makes up this living memorial to World War II veterans. As in the cases above, money is the least benefaction involved. Greater benefactions are understanding and opportunities for consultation. Each year, for example, the new officers and directors of the Legion are invited to come to the University to be the guests of Dr. Robert Good, the American Legion Memorial Research Professor, and of his colleagues.

The list is long: it involves scholarships, grants-in-aid, research funds, and other gifts for many purposes that come from trade unions, cooperative societies, religious bodies, corporations, and associations. The University's *system* of raising and handling memorial funds is different and effective. The University recognizes benefactors in many ways, including the special Regents' Award which is given to individuals as well as to organizations.

The Special Projects Program also aided in fund raising for such projects as the Gaylord Anderson Portrait Fund, the Tweed Gallery, the Irvine McQuarrie Memorial Fund, the Ella J. Rose Memorial Fund, and the Bach Society during this biennium. Working with the departments or persons involved, Special Projects helped plan these projects and prepared promotional pieces and mailings for them.

Functions and Special Events—The Department continued during the biennium as the operating and administrative agency for Opening Convocations, presentation of the Outstanding Achievement and Regents' Awards, Cap and Gown Day Convocations, commencements, University receptions for graduating classes, and the annual party for retiring staff members. The following are only a small sample of the Department's activities in this area.

Material for the Cap and Gown Day honors bulletin is compiled by the Department, and marked copies of the bulletin are sent to the sponsors of scholarships, fellowships, and prizes.

On the evening of each June Commencement, the Department sponsors a buffet supper in Coffman Memorial Union for the convenience of those graduates and their parents who are on campus for the evening ceremony.

The Department cooperates with the Minnesota Junior Chambers of Commerce and the Minnesota Alumni Association in sponsoring University of Minnesota Week, an event which marks the anniversary of the founding of the University. For this occasion, the Department arranges to have University staff members speak before civic, professional, and alumni groups. University Week displays, prepared by the Department, are exhibited in many business establishments in metropolitan areas.

Among the special informational programs conducted by the Department is the visit to the University, during each legislative session, by the members of the Dome Club, an organization of wives of Minnesota legislators. The Department also sponsors the annual Legislators', Editors', and Broadcasters' Day, which is held on the day of the first home football game and which

features exhibits from about 40 University departments and units, a special luncheon, and attendance at the football game.

The New Faculty Orientation Program is held annually. This program provides an opportunity for new faculty members and their families to meet one another and the President, Vice-Presidents, Deans, and other faculty members of the University. New Faculty Orientation, which is held early in the fall, includes a program of speeches and a reception. Facilities, entertainment, and refreshments are provided for young children.

Among the many events planned by the Department during this biennium were the dedications of the Tweed Gallery on the Duluth Campus, the Pillsbury Court faculty housing facilities, the John H. Williams Laboratory of Nuclear Physics, and the Nolte Center for Continuing Education. Other events included the "roof-raising" ceremony for the Masonic Memorial Hospital and the ground-breaking ceremony for an addition to the Museum of Natural History.

Tours of the Campus—Diplomats, organizations, prospective students, parents, and many other visitors from all sections of the United States and many foreign countries tour the University each year. The Department of University Relations provides tour guides who are able to show the visitor the campus as a whole, as well as the particular aspects of the University of interest to him. These guides are students, selected on the basis of responsibility, enthusiasm, and familiarity with the University. The Department tries to maintain a ratio of one guide to ten visitors.

Policy—The members of the Public Information Council meet weekly to coordinate the many informational and public relations activities of the University. An outline of items for discussion is prepared for each meeting by the Director of the Department of University Relations. The Council is composed of representatives of the Department of University Relations, the Department of Intercollegiate Athletics, the Agricultural Extension Service, the Audio-Visual Education Service, the General Extension Division, the Department of Radio and Television, the University Theatre, the Minnesota Alumni Association, the World Affairs Center, the Department of Student Unions, the University Press, the Minnesota Medical Foundation, the Department of Concerts and Lectures, and Coffman Memorial Union.

INDEX

	Page		Page
Academic Administration, Divisions of, honors	56	Education, College of, honors	81
reports	152	report	185
Academic Reorganization	1	Educational Relationships and Development, Divisions of, honors	148
Administration, honors	55	reports	311
Admissions and Records, Office of, honors	148	Endowments and Investments (table)	282
report	312	Enrollment (table)	327
Aerospace Studies, Department of, report	152	Ervin, John, Jr., report	275
Agriculture, Institute of, honors	56	Extension Enrollment (table)	323
report	152	Faculties, Changes in	5
Alumni Relations, Department of, honors	148	Honors and Distinctions	55
report	338	Fahey, Don, report	292
Alumni Service Awards	3	Field Auditor, Office of, report	292
Appointments, Faculty	13	Fornell, G. Willard, report	293
Archer, Ray F., report	292	General College, honors	93
Athletics. See Intercollegiate Athletics		report	192
Beard, William D., report	256	General Extension Division, honors	92
Berg, Sherwood O., report	152	report	194
Biological Sciences, College of, honors	1	Geographical Distribution of Students (table)	336
report	70	Graduate School, honors	94
Breckenridge, W. J., report	164	report	220
Briggs, Rodney A., report	262	Grambsch, Paul V., report	166
Business Administration, Divisions of, honors	257	Haislet, Edwin L., report	338
reports	147	Hanscom, C. B., report	303
report	279	Health Service, University, honors	150
Business Administration, School of, honors	72	report	346
report	166	Heaney, Gerald W., report	3
Business Office, report	279	Honors and Distinctions, Faculty	55
Caldecott, Richard S., report	164	Howard, Robert B., report	247
Carlson, C. L., report	305	Institutional Research, Bureau of, honors	102
Cash Gifts (table)	283	report	228
Center for Continuation Study Enrollment (table)	324	Insurance and Retirement, Department of, report	292
Certificates Conferred (table)	332	Intercollegiate Athletics, Department of, honors	151
Civil Service Personnel, Department of, report	285	report	350
Cochrane, Willard W., report	231	International Programs, Office of, honors	102
Collegiate Enrollment (tables)	315	report	231
Concerts and Lectures, Department of, honors	75	Johnson, A. I.	3
report	169	Johnson, Clinton T., report	279
Construction	296	Keller, Robert J., report	185
Cowan, Donald W., report	346	Land	294
Crawford, Bryce, Jr., report	220	Law School, honors	102
Darland, Raymond W., report	183	report	237
Dean of Students, Office of the, honors	148	Leaves of Absence, Faculty	38
report	340	Letter of Transmittal	vi
Deaths, Faculty	54	Liberal Arts, College of, honors	103
Degrees Conferred (table)	328	report	239
Dentistry, School of, honors	75	Libraries, University, honors	120
report	177	report	243
Distinctions, Honors and, Faculty	55	Lockhart, William B., report	237
Duluth, University of Minnesota, honors	76		
report	183		

	Page		Page
Lombard, James S., report	169	Students Entered from High Schools (table)	333
Lund, Roy V., report	294	Students Entered with Advanced Standing (table)	334
Major Improvements and Alterations	301	Subcollegiate Enrollment (table)	320
Marshall, J. M., report	264	Summer Session, honors report	136 268
Medical Sciences, College of, honors	121	Summers, Robert E., report	312
report	247	Suttie, James, report	152
Middlebrook, William Theophilus	3	Technology, Institute of, honors report	136 269
Military Science, Department of, report	256	Terminations, Faculty	7
Morris, University of Minnesota, honors	134	Thompson, Willard L., reports	194, 268
report	257	Thorp, W. T. S., report	276
Museum of Natural History, honors	71	Transfers, Promotions and, Faculty	27
report	262	Tuition Increase	1
Naval Science, Department of, report	264	University College, report	274
Nunn, William L., report	359	University Community Development Corporation	2
Outstanding Achievement Awards	2	University Health Service. <i>See</i> Health Service, University	
Patents	293	University Libraries. <i>See</i> Libraries, University	
Personnel, Changes in	5	University of Minnesota, Duluth. <i>See</i> Duluth, University of Minnesota	
Pharmacy, College of, honors report	135 266	University of Minnesota, Morris. <i>See</i> Morris, University of Minnesota	
Pieper, Frank, report	285	University Personnel	5
Plant Services Departments, report	294	University Press, honors	146
Police Department, report	303	report	275
Press, University. <i>See</i> University Press		University Relations, Department of, honors	151
Promotions and Transfers, Faculty	27	report	359
Regents' Awards	3	University Services, report	305
Regents, Board of	ii	Vaughan, Alfred L., reports	192, 274
Changes in	5	Veterinary Medicine, College of honors	146
Rehabilitation	299	report	276
Reorganization, Academic	1	Vice-President for Educational Relationships and Development, Office of the, report	311
Retirements, Faculty	5	Weaver, Lawrence C., report	266
Ryman, Marshall W., report	350	Wenberg, Stanley J., report	311
Schaffer, Erwin M., report	177	Willey, Malcolm Macdonald	4
Significant Events, Activities, and Actions	1	Williamson, E. G., report	340
Single Quarter Leaves, Faculty	49	Work of the University	152
Spilhaus, Athelstan, report	269	Ziebarth, E. W., report	239
Stanford, Edward B., report	243		
Starr, Gordon L., report	353		
Stecklein, John E., report	228		
Student Unions, Department of, report	353		