

MEG
R24 DUF

University of Minnesota

BIENNIAL REPORT

1960-1962



June 30, 1962

University of Minnesota

BIENNIAL REPORT

of the President and of the Board of Regents

1960 - 1962

to the

Legislature of the State of Minnesota

Approved and Adopted by the Board of Regents

June 30, 1962

THE BOARD OF REGENTS

As of June 30, 1962

The Honorable Charles W. Mayo, M.D., Rochester
First Vice President and Chairman

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

The Honorable Daniel C. Gainey, Owatonna

The Honorable Richard L. Griggs, Duluth

The Honorable Bjarne E. Grottum, Jackson

The Honorable Robert E. Hess, St. Paul

The Honorable Fred J. Hughes, St. Cloud

The Honorable A. I. Johnson, Benson

The Honorable Lester A. Malkerson, Minneapolis

The Honorable A. J. Olson, Renville

The Honorable Otto A. Silha, Minneapolis

The Honorable Herman F. Skyberg, Fisher

TABLE OF CONTENTS

	Page
Letter of Transmittal	vi
Significant Events, Activities, and Actions	1-7
Reassignment of Administrative Responsibilities	1
Academic Structure Reorganization Plan	1
Medical Examinations for Administrative Personnel	1
Awards and Citations	1
Outstanding Achievement Awards	1
Alumni Service Awards	2
Honorary Degrees Conferred	2
Regents Awards Conferred	3
Regents Special Citations Conferred	5
Deaths of Regents	6
University Personnel	8-117
Changes in Personnel	8
Board of Regents	8
Faculties	8
Retirements, 1960-61	8
Retirements, 1961-62	9
Terminations, 1960-61	9
Terminations, 1961-62	12
Appointments, 1960-61	14
Appointments, 1961-62	17
Promotions and Transfers, 1960-61	21
Promotions and Transfers, 1961-62	26
Leaves of Absence, 1960-61	32
Leaves of Absence, 1961-62	38
Deaths	44
Honors and Distinctions	46
The Work of the University	118-195
Colleges and Schools	118
College of Science, Literature, and the Arts	118
Minnesota Geological Survey	121
Institute of Technology	122
Institute of Agriculture	124
College of Veterinary Medicine	130
College of Medical Sciences	132
School of Nursing	136
School of Public Health	138
University of Minnesota Hospitals	140

TABLE OF CONTENTS

	Page
School of Dentistry	144
Law School	149
College of Pharmacy	150
College of Education	153
Department of Physical Education for Women	156
Institute of Child Development	157
School of Business Administration	157
Graduate School	159
Mayo Foundation for Medical Education and Research	166
General College	167
University College	168
University of Minnesota, Duluth	168
University of Minnesota, Morris	169
General Extension Division	172
Summer Session	182
Department of Physical Education and Athletics	183
Department of Alumni Relations	187
Greater University Fund	190
Industrial Relations Center	191
Divisions of Academic Administration	195-251
Office of the Dean of Students	195
University Libraries	198
Office of Admissions and Records	200
Bureau of Institutional Research	225
Minnesota Student Unions	226
University Health Service	230
University Press	235
Minnesota Museum of Natural History	239
Department of Military Science	241
Department of Naval Science	242
Department of Air Science	243
Department of Concerts and Lectures	243
Department of University Relations	248
Divisions of Business Administration	252-275
Plant Services Department	252
Office of Civil Service Personnel	258
University Services	264
Business Office	267
Department of Police	272
Office of the Field Auditor	273
Department of Insurance and Retirement	274
Patents	274
Cash Gifts	275
Index	277

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, 1962.

I would also like to call to your attention *The President's Report, 1961-62*. 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, 1962

BIENNIAL REPORT

1960-62

SIGNIFICANT EVENTS, ACTIVITIES, AND ACTIONS

Reassignment of Administrative Responsibilities—A reassignment of administrative responsibilities to Vice Presidents Malcolm M. Willey and Stanley J. Wenberg was put into effect in the spring of 1962. Mr. Willey's title, Vice President, Academic Administration, remains unchanged. As liaison between the Administration and the deans and faculty, his attention will be directed toward planning the many educational matters and programs which involve the central administration and link them to physical growth of the University and to the community.

Mr. Wenberg's title has been changed to Vice President, Educational Relationships and Development. He is now responsible for relationships between the University and members and committees of the state legislature; for relationships between the University and other educational institutions; for the University's various development programs; and for offices of University services such as Dean of Students, University Relations, Admissions and Records, Student Unions, and University Health Service.

These new groupings of administrative function have been designed to strengthen the fabric of the University, both within the campus community and beyond, and to contribute to its effectiveness and stability as it meets continuously increasing demands.

Academic Structure Reorganization Plan—A plan for reorganization of the academic structure of the University, which had been studied by the University Senate for the previous two years, was reported by its Committee on Education on June 4, 1962. The Senate adopted the plan which was then sent to the Regents for approval. On September 28, 1962, the Regents approved this report. In the main, however, the changes which it encompasses will not go into effect until next year. Therefore, full discussion of it is reserved for the next biennial report.

Medical Examinations for Administrative Personnel—The University Senate voted on February 1, 1962, to approve an amended report relating to medical examinations of administrative personnel that had been the subject of many discussions by the Regents, the Administrative Committee, and administrative groups since October 3, 1959. A new factor incorporated as a proposal in the amended report was the provision that the President be given authority to work out adjustment of work responsibilities, salaries and, if needed, retirement and insurance arrangements. It was further understood that the experience with this plan would be reviewed approximately a year after its initiation to determine to how many staff members it applied and to evaluate its usefulness. This report was accepted by the Regents on January 12, 1962.

Awards and Citations—The Functions Committee of the University Senate makes its report on awards, citations, and degrees granted during the biennium. (Members of this committee are William L. Nunn, chairman; Cyrus P. Barnum, Jr.; W. Donald Beatty; Frederick E. Berger; Robert J. Elliott; Wesley J. Grabow; Edwin L. Haislet; Ralph L. Kitchell; James S. Lombard; Truman R. Nodland; Paul M. Oberg; Louise A. Stedman; Stewart C. Thomson; Edmund G. Williamson; and E. W. Ziebarth.)

Outstanding Achievement Medals Conferred—Outstanding achievement medals and citations, authorized by the Regents on December 17, 1947, have been conferred on 357 individuals through June 30, 1962.

The 48 honors conferred during 1960-62 were presented at various events, dinners, luncheons, meetings, banquets and anniversaries, both on and off the campus. The names of the distinguished alumni who received these awards during the biennium and the colleges in which they studied at the University are as follows:

Floyd R. Adams, Ed.
Benjamin C. Amundson, Dent.
Charles F. Bentley, Ag.
Theodore C. Blegen, S.L.A.
George W. Bohannon, I.T.
James H. Boothe, Pharm.
John E. Burchard, S.L.A.
Manuel Carreon, Ed.
Walter Carter, Ag.
Carl D. Corse, Bus.
Edward B. Cosgrove, S.L.A.
Herman F. Davies, I.T.
Horace DeLien, Med.
Fred D. Devaney, I.T.
William G. Dow, I.T.
Austin A. Dowell, Ag.
George M. Drake, I.T.
Herman E. Drill, Med.
Joseph Edwards, Ag.
Theodore C. Engum, Ed.
Russell F. Erickson, I.T.
Harold H. Flor, Ag.
Perry O. Hanson, S.L.A.
Henry E. Hartig, I.T.

Viola Hoffman Hymes, Ed.
Elmer A. Jones, I.T.
Irvin Kerlan, Med.
Russell E. Larson, Ag.
Herman W. Leitzow, Pharm.
Thomas S. Lovering, I.T.
Roy E. Marshall, Ag.
Henry E. Michelson, Med.
James K. Michie, Ed.
Raymond O. Mithun, S.L.A.
Karl G. Neumeier, Law
Cyril P. Pesek, I.T.
William J. Quinn, Law
Carl T. Rowan, S.L.A.
Charles E. Rudolph, Dent.
James P. Shannon, S.L.A.
Sister Mary T. Doyle, S.L.A.
Ruth E. Smalley, S.L.A.
Dora V. Smith, Ed.
Charles R. Speers, Bus.
Yien Si Tsiang, Ag.
Emmet D. Williams, Ed.
Whitney M. Young, Jr., S.L.A.
Luther W. Youngdahl, Law

Alumni Service Award—This award was 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 17 individuals through June 30, 1962. Recipients during the biennium were as follows:

Russell E. Backstrom
Vincent K. Bailey
Mary W. Eberhardt
(Mary Whitcomb)
Lillian M. Fink
Edward F. Flynn

Owen K. Hallberg
Roy W. Larsen
Harvey Nelson
Arnold C. Oss
Leif R. Strand
Lewis W. Thom

Honorary Degrees Conferred—Dean Bryce L. Crawford presented Robert Rowe Gilruth to President Wilson for the honorary degree, Doctor of Science, on June 9, 1962. The text of the citation is as follows:

ROBERT ROWE GILRUTH

ALMOST three decades ago, Robert Rowe Gilruth, who was born in this state, received from the University of Minnesota his degrees as Bachelor of Science in Aeronautical Engineering and Master of Science. With this training as the foundation, he began a notable career in aeronautical and space research. He has coupled with his scientific competence a remarkable capacity as an administrator. By his direction of Project Mercury of the National Aeronautics and Space Administration, he has contributed to our eminence as a nation in the exploration of outer space. Wonderful it is that a man so down to earth could be a major influence in the flights of other men around our spinning globe and far out into the unknown space beyond.

FOR your contributions to our mastery of space; because you symbolize the pioneering spirit and determination that have enabled men always to enlarge the dimensions of the world in which they live; because you are a native son of Minnesota whose brilliant achievements have brought distinction to this University, this State, and this Nation; the Regents of the University of Minnesota, upon recommendation of the faculties, confer upon you, Robert Rowe Gilruth, the degree Doctor of Science, *honoris causa*.

Vice President Malcolm M. Willey presented Laurence McKinley Gould to President Wilson for the honorary degree, Doctor of Laws, on June 9, 1962. The text of the citation is as follows:

LAURENCE MCKINLEY GOULD

EVEN though he is an outstanding scientist, explorer and educator—entitled thereby to all the formalities and manifestations of dignity associated with prestigious achievement—no one who knows him would dream of referring to Laurence McKinley Gould as other than "Larry." Therein lies the special character of this remarkable man, for above all else he is a most human and understanding person who possesses the unique ability to induce others quite spontaneously to manifest their highest potential in character, in loyalty, and in effort. That is why he has been an exemplary teacher; why he could inspire the confidence that made him the natural leader and second in command of the First Byrd Expedition to Antarctica in 1928-1930; and why, after a brilliant career in the classroom at Carleton College, he was the unquestioned choice when a new president had to be chosen in 1945. And these are the same qualities that have carried his influence far beyond the confines of a campus, and made his name known and respected in his own country and throughout the world as well.

BECAUSE you are a scientist of distinction; because your knowledge of Antarctica has contributed fundamentally in the further exploration of the unknown in geology; because you have translated your personal devotion to scholarship into effective academic administration; and most of all because you are what you are—"Larry"—the Regents of the University of Minnesota, upon recommendation of the faculties, confer upon you, Laurence McKinley Gould, the degree Doctor of Laws, *honoris causa*.

The Honorable Charles W. Mayo, member of the Board of Regents, presented James Lewis Morrill, president emeritus, to President Wilson for the honorary degree, Doctor of Laws, on June 9, 1962. The text of the citation is as follows:

JAMES LEWIS MORRILL

JAMES Lewis Morrill laid the foundations for his distinguished educational accomplishments by studying Latin and Greek at The Ohio State University. "He was a newspaperman once himself," but after six years returned to his alma mater to start a career that thereafter never took him away from a college campus until his retirement as President of the University of Minnesota in 1960. At The Ohio State University he was a teacher and administrator; later he became President of the University of Wyoming; and then, to the good fortune of this state, he came to Minnesota. His years at the University of Minnesota were characterized by inspiring leadership, eloquent exposition of the meaning of higher education in the well-being and progress of the state and the nation; intransigent defense of the Land-Grant principles; and profound faith that through consultation the ongoing university is strengthened. His vision and aspirations, so effective on the campus, now range across the international scene, for he is Director of the Ford Foundation's overseas development program in Latin America and the Caribbean.

FOR your services to higher education; because of your loyalty and devotion to the University of Minnesota; because you symbolize the meaning and significance of the Land-Grant tradition; because of the respect and affection associated with your name on this campus; and because you are a wise and honored colleague and a good friend, the Regents of the University of Minnesota, upon recommendation of the faculties, confer upon you, James Lewis Morrill, the degree Doctor of Laws, *honoris causa*.

The Masons of Minnesota Given Regents Award—On September 17, 1960, the Regents Award of the University of Minnesota was awarded to the Masons of Minnesota by The Honorable Lester A. Malkerson, member of the Board of Regents. The text of the citation is as follows:

THE MASONS OF MINNESOTA

BUILDING AS MASONS BUILD—brick upon brick, stone upon stone—the members of the Masonic Fraternity of Minnesota have created a hospital devoted to the care of those afflicted with cancer; they have dedicated their work to God, and they have pledged their hospital to comfort and succor those who suffer now from this disease, and those who, when cancer is no longer feared, will suffer from other chronic ills; in the face of a disease which now strikes a strange and nameless fear into the hearts of men, the Masons have asserted their faith in the powers of love to cast out fear, and in the power of men's minds to discover truth; this hospital, built on a foundation of faith, is not a place of desolation; its shining corridors reflect the belief that fear cannot be without hope.

BIENNIAL REPORT

BECAUSE the Masons of Minnesota have built, because they have dedicated themselves, and because they have asserted their faith, the Regents of the University of Minnesota confer upon the Masons of Minnesota the Regents Award, in special recognition of the qualities of Benefaction, Fidelity, and Leadership.

James Ford Bell Given Regents Award—On October 15, 1960, the Regents Award of the University of Minnesota was awarded to James Ford Bell by The Honorable Ray J. Quinlivan, chairman of the Board of Regents. The text of the citation is as follows:

JAMES FORD BELL

BORN in Philadelphia to a heritage of skill and industry in the milling trade, he came while still a child to the heart of the Great Plains, to the seas of waving grain that were to feed a nation in peace and in war; he came to a state that was still a frontier, and became a graduate of its young university; he came to this rich new homeland, and he started to build, with a dedication and a purpose that even then added strength to every plan, to every idea with which he concerned himself; he adopted as his slogan the precept that excellence is attainable—now.

A BUILDER, a doer, an originator, he has manifested excellence, not only in creating and guiding a great commercial enterprise, but also in the Daedalian profusion of his interests and his skills, bibliophile, chemist, philanthropist, naturalist, sportsman, conservationist, machinist, collector—into each of his roles he has plunged deeply, moving with a sure hand and with an inherent perception of beauty; but it is in yet one more of his roles that we laud him here today.

BECAUSE he has been a loyal son of the University of Minnesota for fifty-nine years, because he has served his alma mater faithfully for twenty-one years as a Regent, because he has brought an incomparable natural history museum to her campus, because he has given to his University a magnificent collection of rare books on early trade and exploration, and has housed these treasures in the James Ford Bell Room, and because in countless other ways he has shown his love for this institution, the Regents of the University of Minnesota confer upon James Ford Bell the Regents Award, in special recognition of the qualities of Benefaction, Fidelity, and Leadership.

Alice Tweed Tuohy Given Regents Award—On October 20, 1960, the Regents Award of the University of Minnesota was awarded to Alice Tweed Tuohy. The text of the citation is as follows:

ALICE TWEED TUOHY

BORN in the North Star State, her childhood filled with the grace of lakes and trees, and her spirit imbued with the sparkle of freedom, she learned early to perceive beauty, and to pursue truth; as a devoted wife was a partner in assembling a magnificent collection of paintings; as a benefactor she has given to the people of her city of Duluth, and of her State, an incomparable legacy of art for ages yet to come.

BECAUSE she devoted herself and her substance to the University of Minnesota in so many ways—in the creation and maintenance of the George P. Tweed Memorial Art Collection as a living memorial to her late husband; in the bestowal of her own home to the University; in her contribution toward the building of the Tweed Gallery as a vital new center for the arts—and because, as a gracious lady, she continues to love truth and beauty, the Regents of the University of Minnesota confer upon Alice Tweed Tuohy the Regents Award, in special recognition of the qualities of Benefaction, Fidelity, and Leadership.

Ignatius A. O'Shaughnessy Given Regents Award—On November 21, 1961, the Regents Award of the University of Minnesota was awarded to Ignatius A. O'Shaughnessy by O. Meredith Wilson. The text of the citation is as follows:

IGNATIUS A. O'SHAUGHNESSY

SON of the North Star State, he spent his boyhood in the valley of the St. Croix; his youth in the larger horizons of the young state of Minnesota. As a young man he searched the then new frontier of Oklahoma, where in his early twenties he became a part of the oil rush. An extraordinary man even then, he was soon a visible giant among his fellows.

AN INDOMITABLE Irishman with sparkling wit, he is an honored and dedicated member of his church. His life and works disclose an almost equal faith in his fellowmen. A perceptive man, his excellence has been manifest not only in creating and guiding a great oil empire, but in sharing with so many others the fruits of his efforts.

A **GENEROUS** man, his philanthropies have endowed educational institutions and have enriched civic, social and esthetic life throughout the State and Nation.

BECAUSE his generosity has provided substantial impetus to the educational climate which is producing responsible and informed citizens, and wise and dedicated leaders; and because of his generous gifts to the University of Minnesota Medical School, especially in the building of Mayo Memorial and Diehl Hall, which includes the Bio-Medical Library and medical science laboratories; and because of the countless other ways in which he has supported this institution, the Regents of the University of Minnesota confer upon Ignatius A. O'Shaughnessy the Regents Award, in special recognition of his qualities of Benefaction, Fidelity, and Leadership.

Charles L. Ames Given Regents Award—On December 6, 1961, the Regents Award of the University of Minnesota was awarded to Charles L. Ames by The Honorable Marjorie J. Howard, member of the Board of Regents. The text of the citation is as follows:

CHARLES LESLEY AMES

A **LEADING** publisher and respected counselor, born and educated in St. Paul, a city he has served in business and civic endeavor, has provided the citizens of Minnesota and scholars everywhere with a vital treasury assembled through his own efforts, the Ames Library of South Asia. This and perseverance, is the result of fifty-four years of personal scholarship marked by an unusual degree of diligence and competence.

HE HAS amassed a body of research materials which derives its value from its usefulness and its comprehensiveness. The Ames Library is a reflection of his own philosophy of works and scholarship: the ideal that the value of books is in their content rather than their cost; that erudition is more to be prized than rarity. Intellectual awareness and a consuming desire to stimulate percipient curiosity in others are for him guiding principles.

BECAUSE he has given so generously the product of his years of painstaking study and achievement; because his visionary pursuits have enriched our State, its University, and the entire realm of academic enterprise; the Regents of the University of Minnesota confer upon Charles Lesley Ames the Regents Award in special recognition of his qualities of Benefaction, Fidelity, and Leadership.

Bernice Tweed Brickson Given Regents Special Citation—A special University of Minnesota Board of Regents Citation was presented to Bernice Tweed Brickson on September 1, 1960. The text of the citation is as follows:

IN GRATEFUL APPRECIATION

to

BERNICE TWEED BRICKSON

WHEREAS, her contribution to the University of Minnesota was of major significance in making possible the Tweed Gallery on the Duluth Campus; and

WHEREAS, her appreciation of the arts was a guiding factor in the establishment of this new center for the cultural advancement in Duluth; and

WHEREAS, her gracious efforts on behalf of the student body and staff are expressive of her regard for Minnesota's youth of today and tomorrow; now

THEREFORE BE IT RESOLVED, that the Regents, by this formal action, express to Bernice Tweed Brickson their gratitude for the service she has rendered to advance the intellectual and cultural pursuits of the youth of Minnesota.

Royal D. Alworth Given Regents Special Citation—A special University of Minnesota Board of Regents Citation was presented to Royal D. Alworth on September 1, 1960. The text of the citation is as follows:

IN GRATEFUL APPRECIATION

to

ROYAL D. ALWORTH

WHEREAS, his generous gift of his gracious home and substantial additional property represents major contributions to the University of Minnesota, and

BIENNIAL REPORT

WHEREAS, his contribution of equipment for the Kirby Student Center on the Duluth Campus has provided a significant service for students and staff, and

WHEREAS, his continuing interest in promoting the economic and intellectual well-being of Minnesota youth has been demonstrated; now

THEREFORE BE IT RESOLVED, that the Regents, by this formal action, express to Royal D. Alworth, their gratitude and high esteem for his investment in youth and his unwavering faith in the future of Minnesota.

Death of a Regent—James Ford Bell, member of the Board of Regents of the University since 1939, died May 7, 1961. The Board of Regents, in recognition of his service to the University, adopted the following resolution at a meeting on May 12, 1961.

James Ford Bell served as a Regent of the University of Minnesota from February 7, 1939, until his death on May 7, 1961. During all those years his deep wisdom, his unflinching insight, his remarkable judgment and sense of perspective, and his vast experience in business and administration had powerful impact upon the deliberations of the Board and upon the determination of policy for the University as a whole. Mr. Bell was a man at one and the same time visionary and practical. Perhaps it was the happy equilibrium between these opposite qualities as manifested in his personality that made him the effective person that he was, both on and off the campus. Mr. Bell did dream dreams, and he found ways to wake them into realities. His enthusiasm for ideas, covering a wide range of interests, was characteristic; he was a wonderful companion in discussion, and a never failing source of help in formal deliberations. Men of this unique quality of mind and purpose are rare indeed.

To the University, and through it to the people of the state and to the scholars of the world, Mr. Bell made gifts of inestimable and enduring value. The Minnesota Museum of Natural History, the James Ford Bell collection of books on trade and exploration in the University Library are living monuments to the man and symbolize his sense of civic and intellectual responsibility. They also are a manifestation of his faith in and devotion to his alma mater; he was a University of Minnesota graduate in the class of 1901. The full significance of all that he meant to the University in so many ways will grow and grow, and become increasingly apparent with the passing years.

For all of this the Regents of the University express profound appreciation. They express appreciation, too, for the good fortune that made each of them a working colleague of James Ford Bell. As a fellow Regent and as a friend, they mourn his passing. Upon the records of the University they spread this action, and instruct their Secretary to send a copy of it to the members of the Bell family.

Death of a Regent—Ray James Quinlivan, member of the Board of Regents since 1935, died October 13, 1961. The Board of Regents, in recognition of his service to the University, adopted the following resolution at a meeting November 4, 1961.

Ray James Quinlivan was elected a Regent of the University of Minnesota by the State Legislature in February of 1935. On September 22, 1950, he became First Vice President of the Board and its presiding officer. During those twenty-six years of service, eleven of them as Chairman, Regent Quinlivan proved himself a devoted public servant—wise, patient, vigilant and generous.

What Ray J. Quinlivan has meant and been to the University leaves an enduring mark. He participated in the selection of four of its Presidents, and his role in this process was decisive and outstanding. His judgment in all matters was sound and unerring, and his associates on the Board as well as the administrative officers with whom he worked, respected the logic of his mind, the certainty with which he analyzed issues that were before him, and above all the insightful and humane way in which he dealt with people and their problems, both on and off the campus. In him were balanced in a unique and wonderful manner the characteristics of a well-trained legal mind and an intuitive understanding of human nature which he often expressed with a wit and humor that helped the Regents and the University officers in many difficult moments. It was these endearing and valued qualities that the *Minnesota Daily* stressed in an editorial tribute from the students: "And he had a way, during Regents' meetings, of making his knowledge available in a manner that made you want to ask him for more."

Regent Quinlivan's fellow Regents are deeply conscious of the inevitable inadequacies of any formal statement that seeks to summarize his career or his contributions to the University of Minnesota. His devotion to public service found many forms of expression: in the legal profession of which he was so distinguished a member; in his years as a member of the Legislature of the State of Minnesota; as City Attorney of St. Cloud—the city where he was born, and where he died—and in countless other ways. The reserve with which he played his role sometimes belied the power of the impact his participation in any activity invariably created. His was a

strength that came through a calm, positive and responsible approach in everything he did.

His sense of responsibility as a member of the governing board of this University, and his sense of the responsibilities carried by his colleagues at other institutions, is nowhere better epitomized than in the closing paragraph of the address which he delivered in 1953 as President of the Association of Governing Boards: "A common purpose brings us and binds us together (as trustees and regents). It is the purpose of the people whom we represent—a people possessing a firm faith in and a determination to maintain and advance higher education. In no place on earth, save in America, are no artificial barriers raised against one who would scale the heights of learning. It is this heritage of equal opportunity which distinguishes the American people from all others, and which has made our nation great. It is this heritage of which we are the trustees—trustees granted the privilege and charged with the duty to preserve this heritage in even greater abundance than we have received from the past."

It is in the spirit of these words that his associates on the Board of Regents remember Ray J. Quinlivan, for they proclaim the kind of man he was. He is sorely missed, and will be for years to come. As a Regent, his will be an honored place in any telling of the story of the University of Minnesota. As a friend, his is an honored place in the hearts of all who were privileged to know him.

The Regents in adopting this statement honoring the memory of Ray James Quinlivan make it a part of the enduring records of the University of Minnesota, and they likewise instruct their Secretary to send to Mrs. Quinlivan and the members of her family a copy of their action as evidence of their sense of loss and of their sympathy—a sense of loss and of sympathy shared with all other citizens of the State of Minnesota.

UNIVERSITY PERSONNEL

CHANGES IN PERSONNEL

Board of Regents

Governor Elmer L. Andersen appointed Otto A. Silha, Minneapolis, to fill the vacancy due to the death of Regent James Ford Bell and Fred J. Hughes to fill the vacancy due to the death of Regent Ray James Quinlivan.

The 1961 Legislature re-elected the following regents for six-year terms: Daniel C. Gainey, First Congressional District; Robert E. Hess, Fourth Congressional District; A. J. Olson, Seventh Congressional District; and Herman F. Skyberg, Ninth Congressional District.

Bjarne E. Grottum, Second Congressional District, was elected to fill the vacancy of Edward B. Cosgrove who moved from the district and was not a candidate for re-election.

Faculties

RETIREMENTS

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

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

1960-61

John E. Anderson, professor emeritus, Institute of Child Development and Welfare (1925-61).

Edward S. Bade, professor emeritus, Law School (1932-61).

Jesse L. Bollman, professor emeritus, physiology, Mayo Foundation (1923-61).

Nelson L. Bossing, professor emeritus, College of Education (1938-61).

Ruth E. Boynton, director-professor emeritus, University Health Service (1921-27; 1928-61).

John N. Campbell, professor emeritus, College of Veterinary Medicine (1948-61).

Jonas J. Christensen, professor emeritus, plant pathology and botany (1920-61).

William L. Hart, professor emeritus, mathematics, College of Science, Literature, and the Arts (1919-61).

Elizabeth Jackson, professor emeritus, English (1916-61).

Roger L. J. Kennedy, professor emeritus, pediatrics, Mayo Foundation (1927-61).

Lawrence M. Randall, professor emeritus, obstetrics, Mayo Foundation (1925-61).

Lloyd H. Reyerson, professor emeritus, School of Chemistry (1919-61).

George M. Schwartz, professor emeritus, geology and mineralogy (1919-61).

George A. Thiel, professor emeritus, geology and mineralogy (1920-61).

Neils Thorpe, professor emeritus, Physical Education and Athletics (1920-61).

Waltman Walters, professor emeritus, surgery, Mayo Foundation (1924-61).

Wendell White, professor emeritus, psychology, General Extension Division (1925-61).

Parker O. Anderson, associate professor emeritus extension forester, Agricultural Extension (1925-61).

Philip W. Brown, associate professor emeritus, medicine, Mayo Foundation (1925-61).

Joseph T. Cohen, clinical associate professor emeritus, pediatrics (1925-61).

William A. Hanson, clinical associate professor emeritus, surgery (1928-61).

Marguerite Booth, clinical assistant professor emeritus, pediatrics (1939-61).

Woodard Colby, clinical assistant professor emeritus, pediatrics (1919-61).

Gjert M. Kelby, clinical assistant professor emeritus, radiology (1942-61).

- Raymond H. Landon, assistant professor emeritus, plant pathology and botany (1930-61).
 W. Ray Shannon, clinical assistant professor emeritus, pediatrics (1916-61).
 Mark J. Anderson, instructor emeritus, medicine, Mayo Foundation (1934-61).
 Lilly E. Lorenzen, instructor emeritus, Scandinavian (1945-61).
 Rolla I. Stewart, clinical instructor emeritus, surgery (1930-61).
 Helen Swan, instructor emeritus, West Central School and Experiment Station (1935-61).

1961-62

- John D. Akerman, professor emeritus-director of Rosemount Aeronautical Laboratories (1929-62).
 Gertrude M. Baker, professor emeritus-director Physical Education for Women (1919-62).
 Axel B. Algren, professor emeritus, mechanical engineering (1927-62).
 Clifford P. Archer, professor emeritus, elementary education (1937-62).
 Frank J. Heck, professor emeritus, medicine, Mayo Foundation (1932-62).
 William T. Heron, professor emeritus, psychology (1926-62).
 Roy M. Jernall, clinical professor emeritus, School of Dentistry (1920-62).
 James W. Kernohan, professor emeritus, pathologic anatomy, Department of Pathology, Mayo Foundation (1926-61).
 Izaak M. Kolthoff, professor emeritus, analytical chemistry (1927-62).
 John H. Kuhlmann, professor emeritus, electrical engineering (1920-62).
 John F. Noble, professor emeritus, pathology (1921-62).
 Theodore H. Sweetser, clinical professor emeritus, surgery (urology) (1919-62).
 George W. Anderson, associate professor emeritus, history (1943-62).
 Donald C. Heath, associate professor emeritus, School of Architecture (1924-62).
 Donald McCarthy, clinical associate professor emeritus, medicine (1920-62).
 Louis E. Prickman, associate professor emeritus, medicine, Mayo Foundation (1928-62).
 Willard D. White, clinical associate professor emeritus, surgery (1930-62).
 Bernard V. Beadle, assistant professor emeritus-assistant state leader 4-H Club, Agricultural Extension (1945-62).
 Bert A. Crowder, assistant professor emeritus, mechanical engineering (1938-62).
 Claude J. Ehrenberg, clinical assistant professor emeritus, obstetrics and gynecology (1925-62).
 Frank G. Hedenstrom, clinical assistant professor emeritus, pediatrics (1925-62).
 Monica Langtry, assistant professor emeritus, rhetoric, Institute of Agriculture (1919-62).
 Blanche E. Moen, assistant professor emeritus-chief reference librarian (1924-61).
 Alvey M. Pilkey, assistant professor emeritus, Northwest School and Experiment Station (1922-61).
 Edwin F. Robb, clinical assistant professor emeritus, pediatrics (1919-62).
 Virgil J. Schwartz, clinical assistant professor emeritus, ophthalmology (1923-62).
 William S. Williams, assistant professor emeritus, mechanical engineering (1919-62).
 William M. Barron, instructor emeritus, agricultural engineering, Northwest School and Experiment Station (1945-62).

TERMINATIONS, 1960-61

- Kenneth E. Clark, associate dean of Graduate School, effective December 31, 1960, and professor of psychology, effective June 30, 1961, to accept position as Dean of the College of Science, Literature, and the Arts of the University of Colorado.
 H. Harvard Arnason, professor and chairman of Art Department, effective June 15, 1961, to accept position as Vice President of Art Administration at the Guggenheim Museum, New York City.
 Wilbur M. Benson, professor of pharmacology, effective September 30, 1960, to accept a position with Mead-Johnson & Co., Evansville, Indiana.

- Ernest B. Brown, Jr., professor of physiology, effective June 15, 1961, to accept headship of department of physiology at the University of Kansas Medical Center.
- Don Davies, professor and director of student teaching, College of Education, effective August 19, 1961, to become executive secretary of the National Commission on Teacher Education and Professional Standards of the National Education Association.
- Kenneth C. Davis, professor, Law School, effective June 15, 1961, to accept position at University of Chicago Law School.
- Donald J. Ferguson, professor of surgery paid directly by Veterans Hospital, effective September 15, 1960, to accept position at University of Chicago.
- David Glick, professor of physiological chemistry, effective June 15, 1961, to accept a position at Stanford University Medical School.
- James P. Hartnett, professor of mechanical engineering, effective June 15, 1961, to accept chairmanship of department of mechanical engineering at University of Delaware.
- Harold H. Kelley, professor of psychology and Executive Secretary of the Laboratory for Research in Social Relations, effective June 15, 1961, to accept a position at University of California, Los Angeles.
- Willard R. Lane, professor of general education and Field Studies and Surveys, effective June 15, 1961, to accept position at University of Iowa.
- Herman C. Lichstein, professor of bacteriology, effective June 15, 1961, to accept position as head of department of microbiology at University of Cincinnati.
- William J. Micheels, professor and chairman of Trade and Industrial Education, effective at close of 1960-61, to accept the presidency of Stout State College, Menomonie, Wisconsin.
- William V. O'Connor, professor of English, effective at close of 1960-61, to accept position at University of California at Davis, California.
- Henry W. Riecken, Jr., professor of sociology and Laboratory for Research in Social Relations, effective June 30, 1961, to accept position as Director of the Division of Social Sciences of the National Science Foundation, Washington, D.C.
- Stanley Schachter, professor of psychology, effective June 15, 1961, to accept position at Columbia University.
- Arthur E. Schneider, professor, School of Forestry, effective June 30, 1961. Has been on leave serving Seoul National University of Korea since 1954 and decided not to return to the University of Minnesota.
- Paul C. Swenson, clinical professor of radiology, effective January 1, 1961, moved to Columbia, South Carolina.
- Herbert S. Wells, professor of physiology, effective June 15, 1961, retired from Veterans Hospital, Minneapolis.
- Douglas C. Basil, associate professor, School of Business Administration, effective June 15, 1961, to accept position as professor of management in graduate school of business at University of Southern California, Los Angeles.
- Charlotte W. Baumgartner, associate professor, School of Home Economics, effective June 15, 1961, to accept a position at Cornell University.
- Rudolph J. Capobianco, associate professor special education, College of Education, effective June 15, 1961.
- Lee M. Day, associate professor of agricultural economics, effective June 30, 1961, transferred to Agricultural Adjustment Branch, Farm Economics Division, Economic Research Service, U.S. Department of Agriculture, Washington, D.C.
- Alan H. Donagan, associate professor of philosophy, effective June 15, 1961, to accept a position at Indiana University.
- Robert M. Eisberg, associate professor, School of Physics, effective June 15, 1961, to accept a position at University of California, Santa Barbara.
- Ned A. Flanders, associate professor, General Education, effective June 15, 1961, to accept a professorship as consultant in educational research at University of Michigan.
- Lawrence H. Johnston, associate professor, School of Physics, effective June 15, 1961, to accept employment with Convair Aircraft Co., San Diego, California.

- Richard G. Lester, associate professor of radiology, effective April 30, 1961, to accept a position as chief of X-ray department of the Medical College of Virginia.
- Frank Morrell, associate professor psychiatry-neurology, effective February 28, 1961, to accept position as chief of neurology at Stanford University.
- Philip G. Morton, associate professor of Art, effective June 15, 1961, to move and reside in Jackson, Wyoming.
- O. William Muckenhirn, associate professor of electrical engineering, effective June 15, 1961, to accept position at University of Toledo, Toledo, Ohio.
- Arthur E. Naftalin, associate professor of political science, effective at close of 1960-61 due to his election as Mayor of the City of Minneapolis.
- Frank L. Spitzer, associate professor of mathematics, College of Science, Literature, and the Arts, effective June 15, 1961, to accept a position at Cornell University.
- Alan P. Thal, associate professor of surgery, effective June 30, 1961, to accept position as chief of department of surgery at Wayne State University.
- Dale E. Baker, assistant professor and assistant superintendent Northeast Experiment Station, effective at close of 1960-61, to accept a position at Pennsylvania State University.
- Heinz W. Berendes, assistant professor, pediatrics research funds, effective June 30, 1961, to accept position as Chief of the Perinatal Research Branch, National Institute of Neurological Diseases and Blindness, National Institutes of Health, Bethesda, Maryland.
- Emmett N. Bergman, assistant professor, College of Veterinary Medicine, effective August 15, 1961, to accept a position at Cornell University.
- Paul A. Bloland, assistant professor of educational psychology and director of Student Activities, effective September 2, 1960, to accept position as Dean of Students at Drake University.
- Charles R. Boughton, assistant professor, division of humanities, University of Minnesota, Duluth, effective June 15, 1961, to accept position at Bowling Green State University, Bowling Green, Ohio.
- Charles J. Brokaw, assistant professor of zoology, effective June 15, 1961, to accept a position at California Institute of Technology.
- Nora F. Cline, assistant professor in School of Public Health, effective at close of 1960-61, to accept a position at University of North Carolina.
- Myrtle H. Coe, assistant professor, School of Nursing, effective June 30, 1961, for health reasons.
- Ellis N. Cohen, clinical assistant professor of anesthesiology, effective March 31, 1961, to accept a position at Stanford University.
- John M. A. Danby, assistant professor of astronomy, effective June 15, 1961, to accept a position at Yale University.
- Ervin K. Dorff, assistant professor, division of science and mathematics, University of Minnesota, Duluth, effective June 15, 1961, to accept a position with Control Data Corporation, Minneapolis.
- Saul Engelbourg, assistant professor, Interdisciplinary Studies, College of Science, Literature, and the Arts, effective June 15, 1961, to accept a business history fellowship at Harvard University.
- Joseph N. Frank, assistant professor of English, effective June 15, 1961, for travel in Europe during 1961-62 and then to accept a position at Rutgers University.
- Jules S. Golden, assistant professor of psychiatry and neurology, effective October 15, 1960, to accept a position at Albany Hospital, New York City.
- Annette T. Gormican, assistant professor, School of Home Economics, effective December 15, 1960, to be married.
- Christine Herness, clinical assistant professor, Institute of Child Development, effective June 15, 1961, due to the shift of supervision of clinical students at Wilder Child Guidance.
- Allen Hodges, assistant professor, School Psychology Training Program in College of Education, effective June 15, 1961, to accept position with U.S. Public Health Service in Denver, Colorado.
- John G. Hurst, assistant professor, Institute of Child Development, effective June 15, 1961.
- Nora L. Larsen, assistant professor at Hormel Institute, effective August 31, 1960, to accept a position at St. Olaf College.

- William E. Martin, assistant professor of botany, effective June 15, 1961, to accept a position at University of California, Los Angeles.
- Robert S. Merrill, assistant professor of anthropology, effective June 15, 1961, to accept a position at University of Rochester, New York.
- Philip T. Meyers, assistant professor, School of Business Administration, effective June 15, 1961.
- Phares L. Mixon, assistant professor of rhetoric, effective June 15, 1961.
- Georgia G. Nobles, assistant professor, School of Nursing, effective June 30, 1961. Relationship with Minneapolis General Hospital has been changed.
- Ruby G. Overmann, assistant professor, physical medicine and rehabilitation, effective June 30, 1961, unable to continue her teaching duties.
- John F. Perry, Jr., assistant professor of surgery, effective June 30, 1961, to enter private practice in Jamestown, North Dakota.
- Raymond C. Read, assistant professor, surgery, Veterans Hospital, effective June 30, 1961, to accept position at Wayne State University.
- Donald L. Richter, assistant professor of statistics, College of Science, Literature, and the Arts, effective June 15, 1961, to take a position in industry.
- Eleanor L. Robinson, assistant professor, Institute of Child Development, effective June 15, 1961, to accept a position at Purdue University.
- Joseph M. Shelley, assistant professor, School of Architecture, effective June 15, 1961, to enter private practice of architecture.
- Helga Slessarev, assistant professor of German, effective June 15, 1961, to accept a position at University of Cincinnati, Ohio.
- Robert E. Swanson, assistant professor, physiology, effective at close of 1960-61, to accept a position at the University of Oregon.
- M. Lee Taylor, assistant professor, sociology, effective June 15, 1961, to accept a position at Louisiana State University.
- Walter F. Wedin, assistant professor of agronomy and plant genetics, effective April 30, 1961, to accept position at Iowa State University.
- Stephen S. Winter, assistant professor, inorganic chemistry, effective June 15, 1961, to accept a position at University of Buffalo, New York.

TERMINATIONS, 1961-62

- Richard J. FitzGerald, assistant dean and assistant professor, Law School, effective September 30, 1961, to enter private practice of law.
- Rudolf Hermann, professor and director hypersonic laboratory, Aeronautics and Engineering Mechanics, effective June 30, 1962, to accept position as director of research laboratory at University of Alabama.
- Chieh-Chien Chang, professor aeronautics and engineering mechanics, effective at close of 1961-62, to study Van Allen Belt theory with space satellites at Aerospace Corporation in California and later to take a position as Director of Plasma Space Science Laboratory at Catholic University, Washington, D.C.
- Anand P. Chaudry, professor, School of Dentistry, effective September 30, 1961, to accept a position at University of Pittsburgh.
- Monroe D. Donsker, professor of mathematics, College of Science, Literature, and the Arts, effective June 15, 1962, to accept position at Courant Institute of Mathematical Sciences of New York University.
- Meyer Dwass, professor of statistics, College of Science, Literature, and the Arts, effective June 15, 1962, to accept a position at Northwestern University.
- Edgar A. Hines, Jr., professor of medicine, Mayo Foundation, effective December 30, 1961, to accept position with Veteran's Administration Hospital at Oteen, North Carolina.
- Ingram Olkin, professor of statistics, College of Science, Literature, and the Arts, effective June 15, 1962, to accept a position at Stanford University.
- William F. Scherer, professor of microbiology, effective June 30, 1962, to accept a position at Cornell University.
- David D. Daly, associate professor of neurology, Mayo Foundation, effective August 15, 1961, to join staff of Barrow Neurological Institute, Phoenix, Arizona.

- Guy Duckworth, associate professor of music, effective June 15, 1962, to accept position as professor and chairman of piano preparatory department at Northwestern University.
- Avner Friedman, associate professor of mathematics, Institute of Technology, effective June 15, 1962, to accept a professorship at Northwestern University.
- Adriano M. Garsia, associate professor of mathematics, College of Science, Literature, and the Arts, effective June 15, 1962, to accept position at California Institute of Technology.
- Gerald A. Gladstein, associate professor of psychology, University of Minnesota, Duluth, effective June 15, 1962, to accept position at University of Rochester.
- Armin E. Grams, associate professor, Institute of Child Development, effective June 16, 1962, to accept position at Merrill Palmer School in Detroit, Michigan.
- William W. Heusner, Jr., associate professor of physical education and athletics, effective June 15, 1962, to accept position at Michigan State University, East Lansing.
- Eugene A. Johnson, associate professor of mechanical engineering, effective at close of 1961-62, to accept position at Gustavus Adolphus College, St. Peter, Minnesota.
- Christian R. Klimt, associate professor, School of Public Health, effective at close of 1961-62, to accept position as director of division of epidemiology at University of Maryland School of Medicine.
- Lloyd D. MacLean, associate professor of surgery (Ancker Hospital), effective June 30, 1962, to accept position in surgery at McGill University, Montreal, Canada.
- Richmond B. McQuistan, associate professor of electrical engineering, effective June 15, 1962, to accept employment as staff scientist at Minneapolis Honeywell Research Center, Hopkins, Minnesota.
- Robert R. Pinches, associate professor-associate state leader 4-H Club, effective May 14, 1962, to accept position with Federal Extension Service, Washington, D.C.
- William P. Raney, associate professor of electrical engineering, effective June 15, 1962, to accept position with National Academy of Sciences—National Research Council, Washington, D.C.
- Holger R. Stub, associate professor of sociology, University of Minnesota, Duluth, effective June 15, 1962, to accept position at Temple University, Philadelphia.
- Thomas G. Sturgeon, associate professor of English, University of Minnesota, Duluth, effective June 15, 1962, to accept position at Franklin and Marshall College, Lancaster, Pennsylvania.
- Reginald E. Allen, assistant professor of Classics, effective June 15, 1962, to accept position at Indiana University.
- Edward E. Anderson, clinical assistant professor, School of Dentistry, effective June 30, 1962, to devote more time to his private practice.
- Di Chen, assistant professor of electrical engineering, effective June 15, 1962, to accept position as senior research scientist at Honeywell Research Center, Hopkins, Minnesota.
- Eleanor Colle, assistant professor of pediatrics, effective June 30, 1962, to accompany her husband who accepted a position at McGill University, Montreal, Canada.
- John F. Dillon, assistant professor of radiology, effective June 30, 1962, to join the Methodist Hospital at Indianapolis, Indiana.
- William J. Dresser, clinical assistant professor, School of Dentistry, effective June 15, 1962, to devote more time to his private practice.
- Donald W. Dunn, assistant professor, School of Public Health, effective June 30, 1962.
- Robert R. Etem, clinical assistant professor, School of Dentistry, effective June 15, 1962, to devote full time to his practice.
- Sidney E. Grossberg, assistant professor of microbiology, effective June 30, 1962, to accept a position at Cornell University.

- A. Douglas Hally, assistant professor of anatomy, effective December 31, 1961, to return to Scotland.
- George L. Houle, assistant professor of music, effective June 15, 1962, to accept a position at Stanford University.
- Jerry E. Johnson, clinical assistant professor, School of Dentistry, effective June 15, 1962, to devote full time to his practice.
- Irving J. Lowe, assistant professor, School of Physics, effective June 15, 1962, to accept position at University of Pittsburgh.
- Eugene L. McGarry, assistant professor, General College, effective June 15, 1962, to accept position at Orange State College, Fullerton, California.
- Theodore M. Nelson, assistant professor, Southern School of Agriculture, to accept position at Colorado State College, Greeley, Colorado.
- Walter M. Nunn, Jr., assistant professor of electrical engineering, effective June 15, 1962.
- Robert T. Patrick, assistant professor of anesthesiology, effective July 31, 1962, to accept position with Natrona County Memorial Hospital, Casper, Wyoming.
- Ralph W. Peterson, assistant professor of electrical engineering, effective June 15, 1962.
- Mohammed Y. Quereshi, assistant professor of psychology, University of Minnesota, Duluth, effective June 15, 1962, to accept position at University of North Dakota.
- John D. Ross, assistant professor of microbiology, effective June 15, 1962, to accept position at University of Saskatchewan, Canada.
- Douglas H. Shepard, assistant professor of English, University of Minnesota, Duluth, effective June 15, 1962, to accept position at State University College, Fredonia, New York.
- Eugene E. Stish, assistant professor of physical education and athletics, effective June 15, 1962, to accept position at Illinois Normal University.
- Donald P. Taylor, assistant professor of plant pathology and botany, effective October 19, 1961, to accept position at University of Illinois.
- Omar E. Tewfik, assistant professor of mechanical engineering, effective June 15, 1962, to accept employment with Corning Glass Company.
- Franklin J. Thompson, assistant professor and principal, University High School, effective June 15, 1962, to accept position as principal for the South Pasadena High School, California.
- Theodore C. Volsky, assistant professor of psychology and assistant director of Student Counseling Bureau, effective June 30, 1962, to accept position at University of Colorado.
- Willis L. Winter, Jr., assistant professor, School of Journalism, effective June 15, 1962, to accept position at University of Washington, Seattle.
- William D. Wolking, assistant professor of psychiatry and neurology, effective January 31, 1962, to accept position with H. Hillis Miller Health Center in Gainesville, Florida.
- Howard G. Worthen, assistant professor of pediatrics, effective February 15, 1962, to accept position at Cornell University Medical Center.
- Ann P. Zimmerman, assistant professor, Library School, effective June 15, 1962.

APPOINTMENTS, 1960-61

Administration

Willard L. Thompson as Assistant to the President and Associate Professor,
School of Journalism

B.S. 1937, M.S. 1949, Ph.D. 1958, University of Illinois

Dean

Paul V. Grambsch as Dean and Professor, School of Business Administration

B.A. 1941, North Central College (Harperville, Illinois); M.A. 1947, University of Mississippi; D.B.A. 1955, Indiana University

Professors

- Raymond M. Dodson as professor of organic chemistry
B.S. 1942, Franklin and Marshall College; Ph.D. 1947, Northwestern University
- Bruno H. Greene as professor of law and law librarian
J.U.D. (Doctor Juris) 1927, University of Vienna; B.S. (library science) 1948, Columbia University; LL.B. 1952, Rutgers University School of Law
- Edward Gross as professor of sociology
B.A. 1942, University of British Columbia; M.A. 1945, University of Toronto; Ph.D. 1949, University of Chicago
- William C. Meecham as professor of aeronautical engineering
B.S. January 1948, M.S. June 1948, Ph.D. 1955, University of Michigan
- Robert A. Plunkett as professor of aeronautical engineering
B.S. 1939, Sc.D. 1948, Massachusetts Institute of Technology

Associate Professors

- Eugene Ackerman as associate professor in biophysics, Mayo Foundation
B.A. 1941, Swarthmore College; M.S. 1943, Brown University; Ph.D. 1949, University of Wisconsin
- Adrian C. Dorenfeld as associate professor, School of Mines and Metallurgy
B.S. 1940, Engineer of Mines 1941, Columbia University
- Kathryn M. Fritz as associate professor and assistant director of public health nursing
B.S. 1943, University of Minnesota; M.A. 1955, Teachers College of Columbia University
- Stephen G. Gasiorowicz as associate professor, School of Physics
B.A. 1948, M.A. 1949, Ph.D. 1952, University of California (Los Angeles)
- John A. Goodding as associate professor and assistant director of resident instruction, College of Agriculture, Forestry, and Home Economics
B.S. 1947, University of Nebraska; M.S. 1950, Kansas State University; Ph.D. 1957, State College of Washington (Pullman)
- Heinrich W. Guggenheimer as associate professor of mathematics, College of Science, Literature, and the Arts
Ph.D. 1950, University of Basel (Switzerland)
- Richmond B. McQuistan as associate professor of electrical engineering
B.S. 1950, M.S. 1952, Ph.D. 1954, Purdue University
- William T. Peria as associate professor of electrical engineering
B.S. 1948, Queen's University; M.A. Sc. 1952, Ph.D. 1956, University of British Columbia
- William P. Raney as associate professor of electrical engineering
B.A. 1950, Harvard College; M.S. 1953, Ph.D. 1955, Brown University
- Milton Sobel as associate professor of statistics, College of Science, Literature, and the Arts
B.A. 1940, City College of New York; M.A. 1946, Ph.D. 1951, Columbia University
- Cecil Wood as associate professor of German
B.A. 1938, University of Minnesota; Ph.D. 1952, Yale University

Assistant Professors

- Ayers L. Bagley as assistant professor of general education
B.S. 1954, Wayne University; M.S. 1956, Ph.D. 1960, Indiana University
- Dale E. Baker as assistant professor of soils and assistant superintendent of Northeast Experiment Station
B.S. 1957, M.S. 1958, Ph.D. 1960, University of Missouri
- Vera M. Behrendt as clinical assistant professor of psychiatry and neurology
B.A. 1925, University of British Columbia; M.A. 1928, University of Oregon; M.D. 1931, Johns Hopkins University

- Raymond A. Bohling as assistant professor and supervisor of departmental libraries
B.A. 1951, Wartburg College; M.A. 1952, University of Denver
- Charles R. Boughton as assistant professor of speech, University of Minnesota, Duluth
B.A. 1953, M.A. 1954, University of Illinois; Ph.D. 1960, Northwestern University
- Earl T. Carter as assistant professor of medicine, Mayo Foundation
B.S. 1944, M.D. 1947, M.S. 1950, Northwestern University; Ph.D. 1955, University of Texas (Galveston)
- Robert M. Collins as assistant professor and principal of Southern School of Agriculture
B.S. 1943, M.S. 1951, Ph.D. 1953, Iowa State University (Ames)
- James R. Eckman as assistant professor of history of medicine, Mayo Foundation
B.A. 1932, University of Minnesota; M.A. 1944, Ph.D. 1946, Georgetown University
- John L. Gergen as assistant professor of physics, University of Minnesota, Duluth
B.S. 1952, M.S. 1956, Ph.D. 1960, University of Minnesota
- Richard K. Humphrey as assistant professor and program director of Center for Continuation Study
B.A. 1927, Princeton University
- John Q. Imholte as assistant professor of history, University of Minnesota, Morris
B.A. 1952, Washington and Lee University; M.A. 1957, Ph.D. 1961, University of Minnesota
- Jay R. Jensen as assistant professor of speech in Speech and Hearing Clinic, Office of the Dean of Students
B.S. 1951, M.S. 1957, University of Utah; Ph.D. 1960, University of Wisconsin
- Walter Littman as assistant professor of mathematics in Institute of Technology
B.A. 1952, Ph.D. 1956, New York University
- Thomas S. Lundgren as assistant professor of aeronautical engineering
B.S. 1954, M.S. 1956, Ph.D. 1960, University of Minnesota
- Eugene L. McGarry as assistant professor of General College
B.A. 1952, Cornell College; M.A. 1957, Northwestern University
- Walter M. Nunn, Jr. as assistant professor of electrical engineering
B.S. 1950, Tulane University; M.S. 1952, Oklahoma State University; Ph.D. 1960, University of Michigan
- John Overend as assistant professor of physical chemistry
B.A. 1953, Ph.D. 1955, St. John's College, Oxford University
- John E. Parker as assistant professor of medical illustration and photography
B.S. 1950, George Washington University; Certificate—Medical Illustration, 1953, Johns Hopkins University
- William E. Pruitt as assistant professor of mathematics, College of Science, Literature, and the Arts
B.S. 1955, M.S. 1956, Oklahoma State University of Agriculture and Applied Science; Ph.D. 1960, Stanford University
- Eugene R. Rodemich as assistant professor of mathematics in Institute of Technology
A.B. 1952, Washington University (St. Louis); Ph.D. 1957, Stanford University
- Leon Rottmann as assistant professor of education, Student Activities Bureau
B.S. 1955, M.A. 1957, Ph.D. 1959, University of Nebraska
- Britton K. Ruebush as assistant professor, Institute of Child Development and Welfare
B.A. 1956, Stanford University; M.S. 1957, Ph.D. 1960, Yale University

- Morris Smithberg as assistant professor of anatomy
B.A. 1941, Brooklyn College; Ph.D. 1953, University of Rochester, New York
- Anna L. Stensland as assistant professor of English, University of Minnesota, Duluth
B.A. 1944, Northland College; M.A. 1947, Ph.D. 1958, University of Wisconsin
- Edward I. Sucoff as assistant professor, School of Forestry
B.S. 1955, M.S. 1956, University of Michigan; Ph.D. 1960, University of Maryland
- Romeyn Taylor as assistant professor of history
A.B. 1949, Harvard College; M.A. 1956, Ph.D. 1960, University of Chicago
- Edward C. Thiel as assistant professor, School of Mines and Metallurgy
B.S. 1950, Ph.D. 1955, University of Wisconsin
- Larry C. Thompson as assistant professor of chemistry, University of Minnesota, Duluth
B.S. 1957, Willamette University; M.S. 1959, Ph.D. 1960, University of Illinois
- Jeanne Carol Traphagen as assistant professor of social studies, General College
B.S. 1944, M.A. 1949, Ph.D. 1956, University of Minnesota
- Lincoln H. Turner as assistant professor of mathematics, College of Science, Literature, and the Arts
B.S. 1948, M.S. 1948, University of Chicago; Ph.D. 1957, Purdue University
- Conrad J. Weiser as assistant professor of horticulture
B.S. 1957, North Dakota Agricultural College; Ph.D. 1960, Oregon State College
- John C. Wright as assistant professor, Institute of Child Development and Welfare
B.A. 1954, Harvard College; Ph.D. 1960, Stanford University
- Charles W. Young as assistant professor of dairy husbandry
B.S. 1956, M.S. 1958, Oklahoma State University of Agriculture and Applied Science; Ph.D. 1961, North Carolina State College

APPOINTMENTS, 1961-62

Professors

- Carl A. Auerbach as professor, Law School
B.A. 1935, Long Island University; LL.B. 1938, Harvard Law School
- Samuel M. Burke as professor of international relations and area studies, Hill Family Foundation
B.A. (honours) 1926, M.A. 1928, Punjab University
- Preston E. Cloud, Jr., as professor and chairman geology and mineralogy
B.S. 1938, George Washington University; Ph.D. 1940, Yale University
- Meyer Dwass as professor of statistics, College of Science, Literature, and the Arts
B.A. 1948, George Washington University; M.A. 1949, Columbia University; Ph.D. 1952, University of North Carolina
- Harold L. James as professor of geology
B.S. 1938, Washington State University; Ph.D. 1945, Princeton University
- James E. Lawver as professor of metallurgical engineering and director of the Mines Experiment Station
Met.E. 1943, Sc.D. 1956, Colorado School of Mines
- Gordon W. O'Brien as professor of English
A.B. 1940, M.A. 1941, University of Kansas; Ph.D. 1951, Ohio State University
- Otto P. Pflanze as professor of history
B.A. 1940, Maryville College (Maryville, Tennessee); M.A. 1942, Ph.D. 1950, Yale University
- Paul K. Sims as professor and director, Geological Survey
B.A. 1940, M.S. 1941, University of Illinois; Ph.D. 1950, Princeton University

Robert J. Sirny as professor, School of Home Economics

B.S. 1943, M.S. 1950, Ph.D. 1951, University of Wisconsin

John Spizizen as professor and head of microbiology

B.A. 1939, University of Toronto; Ph.D. 1942, California Institute of Technology

Murray A. Straus as professor, School of Home Economics and sociology

B.A. 1948, M.S. 1949, Ph.D. 1956, University of Wisconsin

Associate Professors

Elliot Aronson as associate professor psychology Laboratory for Research in Social Relations

B.A. 1954, Brandeis University; M.A. 1956, Wesleyan University (Middleton, Conn.); Ph.D. 1959, Stanford University

Marvin B. Bacaner as associate professor of physiology

M.D. 1953, Boston University Medical School

James F. Berry as associate professor psychiatry-neurology

B.A. 1949, Johns Hopkins University; Ph.D. 1953, University of Rochester, New York

C. Edward Bowers as associate professor of civil engineering and St. Anthony Falls Hydraulic Laboratory

B.S. 1942, University of Wyoming; M.S. 1949, University of Minnesota

Harry M. Bracken as associate professor of philosophy

B.A. 1949, Trinity College (Hartford, Conn.); M.A. 1954, Johns Hopkins University; Ph.D. 1956, State University of Iowa

Frederic L. Darley as associate professor of speech, Mayo Foundation

A.B. 1939, New Mexico State Teachers College; M.A. 1940, Ph.D. 1950, State University of Iowa

Harry Foreman as associate professor, School of Public Health

B.S. 1938, Antioch College; Ph.D. 1942, Ohio State University; M.D. 1947, University of California

Sudhish G. Ghurye as associate professor of statistics, College of Science, Literature, and the Arts

B.S. 1945, M.S. 1947, University of Bombay, India; Ph.D. 1952, University of North Carolina

Richard J. Goldstein as associate professor of mechanical engineering

B.M.E. 1948, Cornell University; M.S. in ME. 1950, M.S. in Physics 1951, Ph.D. 1959, University of Minnesota

Roy H. Mattson as associate professor of electrical engineering

B.E.E. 1951, M.S. 1952, University of Minnesota; Ph.D. 1959, Iowa State University

Herbert D. Mohring as associate professor of economics, U.S. Office of Education, National Defense Graduate Fellowship Industrial Organization in School of Business Administration

B.A. 1950, Williams College (Williamstown, Mass.); Ph.D. 1959, Massachusetts Institute of Technology

Terrance Sandalow as associate professor, Law School

A.B. 1954, J.D. 1957, University of Chicago

Karl L. Sellig as associate professor, Romance Languages

B.A. 1946, M.A. 1947, Ohio State University; Ph.D. 1954, University of Texas

Richard B. Simons as associate professor and manager of Minneapolis Office and Coordinator of Field Services, General Extension Division

B.A. 1941, Miami University (Oxford, Ohio); Ph.D. 1952, University of Chicago

Timothy L. Smith as associate professor of history

B.A. 1943, University of Virginia; M.A. 1945, Ph.D. 1955, Harvard University

Assistant Professors

Robinson S. Abbott as assistant professor of biology, University of Minnesota, Morris

B.S. 1949, Bucknell University; Ph.D. 1956, Cornell University

- Alfred Aepli as assistant professor of mathematics, Institute of Technology
Diploma, 1951, Dr. Math, 1957, Swiss Federal Institute of Technology (Zurich)
- Donald B. Aird as assistant professor of music
B.A. 1946, M.A. 1957, San Francisco State College
- Thelma B. Baiert as assistant professor, extension specialist, clothing, in
Agricultural Extension
B.Educ. 1938, Wisconsin State College (Stevens Point); M.S. 1952, University of
Wisconsin
- James W. Barnard as assistant professor, Institute of Child Development
B.A. 1955, Middlebury College; M.A. 1958, University of Vermont; M.S. 1960, Ph.D.
1961, Yale University
- Richard E. Bartman as clinical assistant professor of psychiatry and neurology
B.A. 1948, Wesleyan University (Middletown, Conn.); M.D. 1952, Harvard Medical
School
- Titus P. Bellville as assistant professor of psychiatry and neurology
B.A. 1935, Bowling Green University; M.D. 1941, Marquette University
- Hyman Berman as assistant professor of history
B.S. 1948, City College of New York; M.A. 1949, New York University; Ph.D. 1956,
Columbia University
- Iver Bogen, Jr. as assistant professor and counselor, University of Minnesota,
Morris
B.A. 1951, Macalester College; M.A. 1959, University of Minnesota; Ph.D. 1961,
University of Denver
- Glenn E. Bowie as assistant professor, aeronautical engineering
B.S. 1954, Columbia University; M.S. 1960, University of Minnesota
- Dana H. Bramel as assistant professor, psychology
B.A. 1956, Reed College; Ph.D. 1960, Stanford University
- William R. Charlesworth as assistant professor, Institute of Child Development
B.A. 1952, Muhlenberg College; M.A. 1958, Wesleyan University (Middletown, Conn.);
Ph.D. 1961, Cornell University
- Jesse H. Choper as assistant professor, Law School
B.S. 1957, Wilkes College; LL.B. 1960, University of Pennsylvania
- Peter L. Crawley as assistant professor of mathematics, College of Science,
Literature, and the Arts
B.S. 1957, M.S. 1958, Ph.D. 1961, California Institute of Technology
- Gordon B. Davis as assistant professor, School of Business Administration
B.A. 1955, Idaho State College; M.B.A. 1957, Ph.D. 1959, Stanford University
- Jan D. Duker as assistant professor, School Psychology Training in College of
Education
B.S. 1951, M.S. 1953, Oklahoma A & M College; Ph.D. 1958, University of Minnesota
- Harold E. Dziuk as assistant professor, College of Veterinary Medicine
B.S. 1951, D.V.M. 1954, M.S. 1955, Ph.D. 1960, University of Minnesota
- Edward M. Foster as assistant professor of economics and Upper Midwest
Economic Survey
B.A. 1956, Claremont Men's College; Ph.D. 1961, Massachusetts Institute of Tech-
nology
- Harry Furstenberg as assistant professor of mathematics, College of Science,
Literature, and the Arts
B.A. 1955, M.S. 1955, Yeshiva University (New York City); Ph.D. 1958, Princeton
University
- Marshall G. Greenberg as assistant professor of psychology, University of
Minnesota, Duluth
B.A. 1956, Haverford College; M.A. 1959, Ph.D. 1961, University of Michigan
- Frank B. W. Harper as assistant professor, Institute of Child Development
M.A. 1952, Glasgow University (Scotland); Ph.D. 1961, University of California

- Ronald A. Helin as assistant professor of geography
B.A. 1955, Ph.D. 1961, University of California, Los Angeles; M.A. 1956, Miami University (Oxford, Ohio)
- E. Alexander Hill III, as assistant professor of organic chemistry
B.S. 1957, Allegheny College; Ph.D. 1961, California Institute of Technology
- Herbert J. Hopen as assistant professor and assistant superintendent, Northeast Experiment Station (Grand Rapids)
B.S. 1956, M.S. 1959, University of Wisconsin; Ph.D. 1962, Michigan State University
- Baruch S. Jacobson as assistant professor of radiology
B.A. 1951, Columbia University; Ph.D. 1956, University of California (Berkeley)
- Clyde E. Johnson as assistant professor of music, University of Minnesota, Morris
B.Mus. 1951, M.A. 1955, Ph.D. 1957, State University of Iowa
- Robert K. Josephson as assistant professor of zoology
B.S. 1956, Tufts University; Ph.D. 1960, University of California (Los Angeles)
- Hugh F. Kabat as assistant professor, College of Pharmacy
B.S. 1954, M.S. 1956, University of Michigan; Ph.D. 1961, University of Colorado
- Bjorn Karlsen as assistant professor, psycho-educational clinic, College of Education
B.S. 1949, State Teachers College in Oslo, Norway; B.A. 1950, M.A. 1951, University of Nebraska; Ph.D. 1954, University of Minnesota
- Frederick W. L. Kerr as assistant professor of neurological surgery, Mayo Foundation
M.D. 1949, University of Buenos Aires Medical School (South America)
- James F. Koerner as assistant professor of physiological chemistry
B.S. 1950, Ph.D. 1956, Iowa State College
- Marian O. Larson as assistant professor-assistant state leader 4-H Club
B.S. 1950, University of Minnesota; M.S. 1956, University of Wisconsin
- Hugh B. Lynn as assistant professor of surgery, Mayo Foundation
B.A. 1936, Princeton University; M.D. 1940, Columbia University
- Osgood T. Magnuson as assistant professor-assistant to director, Agricultural Extension
B.S. 1947, M.A. 1955, University of Minnesota
- Gareth B. Matthews as assistant professor of philosophy
B.A. 1951, Franklin College; M.A. 1952, Ph.D. 1960, Harvard University
- Charles A. McCarthy as assistant professor of mathematics, College of Science, Literature, and the Arts
B.A. 1956, University of Rochester; Ph.D. 1959, Yale University
- Stanley R. Meinen as assistant professor, assistant state leader 4-H Club Agricultural Extension
B.S. 1951, Kansas State College; M.Ed. 1955, University of Maryland
- Fred W. Meitzer as assistant professor of speech and dramatics, division of humanities, University of Minnesota, Duluth
B.A. 1956, M.A. 1958, Kent State University
- Glen H. Nelson as assistant professor, College of Veterinary Medicine
B.S. 1951, D.V.M. 1951, University of Minnesota
- Robert Orlando as assistant professor, psycho-educational clinic, College of Education
B.A. 1954, M.A. 1955, Ph.D. 1958, University of Connecticut
- George L. Perry as assistant professor of economics and Upper Midwest Economic Survey
B.S. 1954, Ph.D. 1961, Massachusetts Institute of Technology

- Frederick W. Peterson as assistant professor of music, University of Minnesota, Morris
 B.A. 1954, St. Olaf College; B.Th. 1957, Luther Theological Seminary; Ph.D. 1961, University of Minnesota
- Philip S. Portoghese as assistant professor of pharmaceutical chemistry
 B.S. 1953, M.S. 1958, Columbia University
- Robert R. Randleman as assistant professor, University High School and industrial education
 B.S. 1952, Ph.D. 1961, University of Minnesota
- Bruce D. Rolloff as assistant professor of physical education, University of Minnesota, Morris
 B.S. 1951, Gustavus Adolphus College; Ed.D. 1961, Colorado State College
- Stephen B. Scallen as assistant professor and assistant dean, Law School
 B.A. 1954, St. Thomas College; LL.B. 1959, University of Minnesota
- Lee C. Schramm as assistant professor, College of Pharmacy
 B.S. 1957, Ohio State University; M.S. 1959, Ph.D. 1962, University of Connecticut
- Gerald M. Siegel as assistant professor of speech, Speech and Hearing Clinic, Office of the Dean of Students
 B.A. 1953, M.A. 1954, Brooklyn College; Ph.D. 1957, State University of Iowa
- Francis J. Sorauf, Jr., as assistant professor of political science
 B.A. 1950, M.A. 1952, Ph.D. 1953, University of Wisconsin
- Velda Stonecypher as assistant professor of music, University of Minnesota, Duluth
 B.M. 1959, University of Miami, Florida; M.M. 1961, Indiana State University
- Theofanis G. Stavrou as assistant professor of history
 B.A. 1956, Bob Jones University (Greenville, South Carolina); M.A. 1957, Ph.D. 1961, Indiana University
- Joo Ho Sung as assistant professor, Multiple Sclerosis Clinic
 M.D. 1952, Severance Medical College, Seoul, Korea
- Donivan J. Watley as assistant professor of education and Student Counseling Bureau
 B.A. 1957, M.A. 1959, Ph.D. 1961, University of Denver
- Donald B. White as assistant professor of horticulture
 B.S. 1956, University of Massachusetts; Ph.D. 1961, Iowa State University

PROMOTIONS AND TRANSFERS, 1960-61

- Professor and Chairman School of Chemistry to Dean of Graduate School and Professor*
 Bryce L. Crawford, Jr. (chemistry)
- Professor and Chairman to Professor and Associate Dean of Graduate School*
 Kenneth E. Clark (psychology)
- Professor to Associate Dean and Professor*
 Charles V. Netz (College of Pharmacy)
- Professor and Head to Assistant Dean, Professor, and Head*
 Ralph L. Kitchell (College of Veterinary Medicine—veterinary anatomy)
- Professor-Assistant Director of Resident Instruction to Professor-Director of Resident Instruction and Assistant Dean*
 Keith N. McFarland (Institute of Agriculture)

Professor to Professor and Associate Director

Albert M. Fulton (General Extension Division)

Professor to Professor and Head

Alexander C. Hodson (entomology and economic zoology)

Comptroller and Treasurer to Assistant Vice President and Treasurer

Clinton T. Johnson (Business Office)

Associate Professor, Superintendent, and Acting Dean to Professor, Superintendent, and Dean

Rodney A. Briggs (West Central School—Morris) (University of Minnesota—Morris)

Associate Professor to Professor

Evan R. Allred (agricultural engineering)
 Clarence H. Boeck (University High School)
 John A. Buttrick (School of Business Administration—economics)
 Eugenio Calabi (IT—mathematics)
 Huai C. Chiang (University of Minnesota, Duluth—biology)
 Jacques R. Chipault (Hormel Institute)
 John S. Chipman (School of Business Administration—economics)
 Laurence K. Cutkomp (entomology and economic zoology)
 Allen Downs (art)
 Stuart W. Fenton (School of Chemistry)
 Paul Fetler (music)
 Edward A. Fletcher (mechanical engineering)
 Albert M. Fulton (General Extension Division)
 Frederick E. Berger (Center for Continuation Study)
 Wendell P. Glick (University of Minnesota, Duluth—English)
 Carl V. Goossen (elementary education)
 Ralph S. Grant (Northeast Experiment Station—Duluth)
 John H. Grindlay (Mayo Foundation—surgical research)
 George A. Hallenbeck (Mayo Foundation—physiology and surgery)
 F. Lloyd Hansen (General Extension Division)
 Leonard L. Harkness (agricultural extension)
 Robert L. Heller (University of Minnesota, Duluth—geology)
 Elizabeth Jackson (English)
 Eloise M. Jaeger (Physical Education for Women)
 Joseph M. Janes (Mayo Foundation—surgery)
 James J. Jezeski (Dairy Industries)
 Herbert G. Johnson (agricultural extension)
 James D. Kelly (Physical Education and Athletics for Men)
 John W. Kirklin (Mayo Foundation—surgery)
 Jacob C. Levenson (English)
 Lawrence Markus (IT—mathematics)
 Gerald R. McKay (agricultural extension)
 Howard A. Morris (Dairy Industries)
 Donn G. Mosser (radiation therapy)
 Malcolm H. Myers (art)
 Howard F. Nelson (trade and industrial education)
 Johannes C. C. Nitsche (IT—mathematics)
 John F. Noble (pathology)
 Charles A. Owen, Jr. (Mayo Foundation—medical research)
 Moses Passer (University of Minnesota, Duluth—chemistry)
 Burton Paulu (Extension Division—radio-television broadcasting)
 Ruby B. Pernel (School of Social Work)
 Howard F. Polley (Mayo Foundation—medicine)
 Orville S. Privett (Hormel Institute)
 Johannes Riedel (music)

William C. Rogers (Extension Division—State Organization Service)
 I. Richard Savage (School of Business Administration—economics)
 James B. Serring, Jr. (IT—mathematics)
 Olaf C. Soine (Northwest School and Station)
 G. Robert Stange (English)
 John E. Stecklein (Bureau of Institutional Research)
 Martin Steinmann, Jr. (English)
 R. Dorothy Sundberg (anatomy)
 Richard A. Swalin (School of Chemistry—metallurgy)
 Walter K. Vivrett (School of Architecture)
 Wendell White (General Extension Division—psychology)

Visiting Professor to Professor

Norman Garmezy (psychology)

Clinical Assistant Professor to Professor

Norman O. Holte (School of Dentistry)

Assistant Professor and Program Director to Associate Professor and Associate Director

Merrill K. Cragun (Center for Continuation Study)

Assistant Professor and Admissions Officer to Associate Professor and Admissions Officer

Theodore E. Kellogg (Office of Admissions and Records)

Assistant Professor and Curator to Associate Professor and Curator

John Parker (James F. Bell Collection—Library)

Assistant Professor and Principal Southern School of Agriculture to Associate Professor and Superintendent of Southern Experiment Station

Deane A. Turner

Assistant Professor and University Organist to Associate Professor and University Organist

Heinrich Fleischer (music)

Assistant Professor to Associate Professor and Assistant Director

Clark D. Starr (speech and theater arts)

Theodore C. Volsky (psychology—Student Counseling Bureau)

Assistant Professor to Associate Professor

Paul Adams (pediatrics)

Ray C. Anderson (pediatrics)

Raymond L. Arthaud (agricultural extension)

Robert W. Berg (agricultural extension)

Allan A. Blatherwick (aeronautical engineering)

Mary E. Bowne (University of Minnesota, Duluth—Physical Education for Women)

Gerhard Brand (bacteriology)

J. Doyle Britton (inorganic chemistry)

Dorothy M. Burrows (General College—literature and writing)

Naomi C. Chase (College of Education—student teaching)

Edward J. Cowles (University of Minnesota, Duluth—chemistry)

J. Campbell Craddock (geology and mineralogy)

Herbert G. Croom (West Central—University of Minnesota, Morris)

Guy Duckworth (music)
 Franklin H. Ellis, Jr. (Mayo Foundation—surgery)
 John Ervin, Jr. (University Press)
 Charles Fairhurst (School of Mines and Metallurgy)
 William J. L. Felts (anatomy)
 Darrell F. Fienup (agricultural economics)
 F. Faith Finnberg (General College—literature and writing)
 Immanuel C. Fischer (General Extension Division)
 Dewey G. Force (psycho-educational clinic)
 Charles E. Gates (Agricultural Experiment Station)
 Charles J. Glotzbach (College of Education—student personnel office)
 Ledru O. Guthrie (English)
 Albert B. Hagedorn (Mayo Foundation—medicine)
 Robert L. Hall (Student Activities Bureau—sociology)
 Robert C. Hart (University of Minnesota, Duluth—English)
 Bernard V. Haxby (electrical engineering)
 Gordon T. Heistad (clinical psychology)
 Robert T. Holt (political science)
 John C. Ivins (Mayo Foundation—surgery)
 Minerva O. Jenson (agricultural extension)
 Stanley B. Kegler (University High School)
 William K. Krivit (pediatrics)
 Elmer W. Learn (agricultural economics)
 Edward Leete (organic chemistry)
 Leah M. Lewis (General Extension Division)
 John A. Lofgren (agricultural extension)
 Stanley A. Lovestedt (Mayo Foundation—dental surgery)
 David T. Lykken (clinical psychology)
 Frank M. MacDonald (medicine)
 Lloyd D. MacLean (surgery)
 Grover E. Maxwell (Minnesota Center for Philosophy of Science)
 E. Scott Maynes (School of Business Administration—economics)
 William M. McConahey (Mayo Foundation—medicine)
 Leroy C. McLaren (bacteriology)
 William A. Mindak (School of Journalism)
 Robert D. Moulton (speech and theater arts)
 Paul L. Murphy (history)
 Pearl C. Niemi (Slavic and Oriental Languages)
 R. Norine Odland (elementary education)
 Harley J. Otto (agricultural extension)
 Curtis J. Overdahl (agricultural extension)
 Robert R. Owens (University of Minnesota, Duluth—English)
 Konald A. Prem (obstetrics and gynecology)
 Robert G. Robinson (agronomy and plant genetics)
 Mordecai M. Roshwald (interdisciplinary studies)
 Harlund G. Routhe (agricultural extension)
 Eleanor M. Salisbury (General Extension Division)
 Robert G. Schmidt (University of Minnesota, Duluth—sociology)
 Robert L. Scott (speech and theater arts)
 Cherg-Jiann Shiue (School of Forestry)
 Wesley C. Simonton (Library School)
 Barbara J. Stuhler (Extension Division—State Organization Service)
 Alan P. Thal (general surgery)
 Edward A. Usenik (veterinary surgery and radiology)
 Brom Weber (English)
 Roger E. Wilk (College of Education—student personnel office)
 Robert B. Wilson (Mayo Foundation—obstetrics and gynecology)
 Frederick T. Witzig (University of Minnesota, Duluth—geography)

Assistant Professor to Associate Professor and Superintendent

Bernard E. Youngquist (Northwest School and Station)

Clinical Assistant Professor to Clinical Associate Professor

Harold G. Buckstein (neurosurgery)
 Richard J. Frey (medicine)
 Robert W. Goltz (medicine—histopathology laboratory)
 Charles A. Neumeister (proctology)
 John G. Rukavina (dermatology)
 Baxter A. Smith (urology)

Research Associate to Associate Professor

Victor E. Anderson (Graduate School—research grants)

Clinical Assistant Professor to Associate Professor

Alvin L. Schultz (medicine)

Assistant Professor to Clinical Associate Professor

Frank Keisler, Jr. (psychiatry-neurology)
 Otto N. Raths, Jr. (psychiatry-neurology)

Lecturer to Associate Professor

Edward W. Francel (School of Social Work)

Instructor to Assistant Professor

Reginald E. Allen (classics)
 Kurt Amplatz (radiology)
 Neil A. Anderson (plant pathology and botany)
 Frank T. Benson (General College—oral communication)
 John P. Brantner (clinical psychology)
 Edward M. Copeland, Jr. (Slavic and Oriental languages)
 William J. A. Culmer (agricultural engineering)
 Wendell J. DeBoer (College of Agriculture, Forestry, and Home Economics)
 Karl D. Fezer (plant pathology and botany)
 William T. Foulk, Jr. (Mayo Foundation—medicine)
 Pacy Friedman (University of Minnesota, Duluth—speech)
 Boyd C. Fuller (Southern School of Agriculture)
 James L. Gibbs, Jr. (anthropology)
 Forrest J. Harris (General College—social studies)
 William A. Harris (IT—mathematics)
 Carl B. Heggstad (anatomy)
 Edward W. Humphrey (general surgery)
 James S. Hunter, Jr. (Mayo Foundation—obstetrics and gynecology)
 Frank D. Irving (School of Forestry)
 Richard K. Juberg (IT—mathematics)
 Mary B. Lampe (Physical Education for Women)
 Monica Langtry (Agriculture—rhetoric)
 Marvin G. Lepley (occupational therapy)
 Benjamin Y. Liu (mechanical engineering)
 Karl A. Lofgren (Mayo Foundation—surgery)
 William E. Martin (botany)
 James H. Matthews (anesthesiology)
 Wilbur L. Moen (physical therapy)
 Thomas T. Myers (Mayo Foundation—surgery)
 Neville P. Pearson (secondary education)
 Harold O. Perry (Mayo Foundation—dermatology)
 Anthony J. Pollock (psychiatry-neurology)
 Earl A. Schultz (anesthesiology)
 Douglas H. Shepard (University of Minnesota, Duluth—English)
 Richard A. Skok (School of Forestry)
 Helga Slessarev (German)
 Frederic R. Steinhauser (General College—social studies)

BIENNIAL REPORT

George K. Stillwell (Mayo Foundation—physical medicine and rehabilitation)
 Donald P. Taylor (plant pathology and botany)
 Richard A. Theye (Mayo Foundation—anesthesiology)
 Franklin J. Thompson (University High School)
 Shirley R. Trantanella (horticulture)
 Bror S. Troedsson (physical medicine and rehabilitation)
 Jack P. Whisnant (Mayo Foundation—neurology)
 Elizabeth A. Whitney (School of Nursing)
 Kenneth E. Winsness (School of Forestry)
 Arnold S. Woestehoff (Bureau of Recommendations)
 Howard C. Worthen (pediatrics)
 Eugene S. Wright (rhetoric)
 James A. Wright (English)

Clinical Instructor to Clinical Assistant Professor

Frank Adair (ophthalmology)
 Paul S. Blake (neurosurgery)
 Robert D. Blomberg (medicine)
 Theodore T. Edblom (School of Dentistry)
 Robert R. Etem (School of Dentistry)
 John G. Fee (medicine)
 John S. Gillam (obstetrics and gynecology)
 Erick Y. Hakanson (obstetrics and gynecology)
 Walter G. Iverson (School of Dentistry)
 George W. Janda (obstetrics and gynecology)
 Martin E. Janssen (medicine)
 Charles E. Lindemann (medicine)
 Stanley R. Maxeiner, Jr. (general surgery)
 Valentine O'Malley (medicine)
 Lloyd E. Pearson (School of Dentistry)
 Hanns C. Schwyzer (general surgery)
 Abbott Skinner (general surgery)
 William T. Smith (proctology)
 Bernard J. Spencer (general surgery)
 Frederic F. Wippermann (ophthalmology)

Instructor to Clinical Assistant Professor

Kurt Pollak (otolaryngology)

Visiting Lecturer to Assistant Professor

Ralph E. Giesey (history)

Lecturer to Assistant Professor

Elizabeth L. Cless (Extension Division)

PROMOTIONS AND TRANSFERS, 1961-62

Professor of Economics, School of Business Administration to Associate Dean of Graduate School and Professor of Economics

Francis M. Boddy

Assistant Dean and Assistant Professor to Assistant Dean and Associate Professor

William Fleeson (College of Medical Sciences)

Associate Professor and Assistant Director to Professor and Director

Donald W. Cowan (University Health Service)

Assistant Director, Agricultural Experiment Station and Professor to Professor and Head

Milton F. Kernkamp (plant pathology and botany)

Associate Professor and Assistant Director to Professor and Assistant Director

Theda Hagenah (Student Counseling Bureau)

Transfer from University of Minnesota, Professor, Duluth, to Institute of Agriculture, St. Paul Campus

Huai-Chang Chiang (entomology and economic zoology)

Associate Professor Extension Agronomist to Assistant Director-Associate Professor

William F. Hueg (Agricultural Experiment Station)

Assistant Professor and Assistant Dean of Students to Associate Professor and Assistant Dean of Students

Martin L. Snoke (educational psychology)

Associate Professor to Professor

Richard W. Anderson (psychiatry)

George R. Blake (soils)

Bernard Bowron (English)

Joseph J. Buckley (anesthesiology)

Harold W. Chase (political science)

David C. Dahlin (Mayo Foundation—pathology)

Francis E. Drake (rhetoric)

James W. DuShane (Mayo Foundation—pediatrics)

Earl C. Elkins (Mayo Foundation—physical medicine and rehabilitation)

George W. England (Industrial Relations Center)

Albert Faulconer, Jr. (Mayo Foundation—anesthesiology)

Archie L. Good (veterinary physiology and pharmacology)

Edmund F. Graham (dairy husbandry)

John E. Hafstrom (Duluth—mathematics and engineering)

Wendell H. Hall (medicine)

Paul B. Hamond (veterinary physiology and pharmacology)

Robert S. Hancock (business administration)

Delbert C. Hastings (business administration)

Carroll V. Hess (agricultural economics)

John M. Higbee (veterinary diagnostic laboratories)

Norton M. Hintz (School of Physics)

Claude R. Hitchcock (surgery)

Ralph H. Hopp (University Libraries)

John A. Johnson (physiology)

William D. Kelly (surgery)

Henry Lepp (Duluth—geology)

Albert J. Linck (plant pathology and botany)

Paul R. Lipscomb (Mayo Foundation—orthopedic surgery)

Donald G. Low (veterinary medicine and clinics)

Collin S. MacCarty (Mayo Foundation—neurosurgery)

Thomas Mahoney (Industrial Relations Center)

Richard B. McHugh (School of Public Health)

Edwin F. Menze (German)

Franz Montgomery (English)

Francis B. Moore (Duluth—chemistry)

Robert E. Moore (English)

Truman Nodland (agricultural economics)

Katsuhiko Ogata (mechanical engineering)

Hendrik J. Oskam (electrical engineering)

Harold C. Pederson (agricultural extension)

David G. Pugh (Mayo Foundation—radiology)
 Edgar Reich (mathematics—IT)
 Helmut Rohrl (mathematics—IT)
 Josephine Lutz Rollins (art)
 Dennis M. Ryan (agricultural extension)
 Louis T. Safer (General College—general arts)
 Kinsey M. Simonton (Mayo Foundation—otolaryngology and rhinology)
 Leon A. Snyder (agronomy and plant genetics)
 Marvin L. Stein (mathematics IT—Numerical Analysis Center)
 Donald C. Swanson (classics)
 Gordon I. Swanson (agricultural education)
 Marvin J. Taves (sociology)
 Albert Tezla (Duluth—English)
 Elmer L. Thomas (dairy industries)
 Hylton A. Thomas (art)
 Robert A. Ulstrom (pediatrics)
 Ralph W. Wayne (agricultural extension)
 Hans F. Weinberger (mathematics—IT)
 Jesse B. Williams (dairy husbandry)
 Robert D. Wirt (psychology)
 Julius F. Wolff, Jr. (Duluth—political science)
 Lewis B. Woolner (Mayo Foundation—pathology)
 Donald R. Yennie (School of Physics)

Associate Director and Associate Professor to Associate Director and Professor
 Gertrude M. Gilman (administration—hospitals)

Associate Professor to Research Professor
 Samuel Schwartz (medicine)

Clinical Associate Professor to Clinical Professor
 Ragnvald S. Ylvisaker (medicine)

Assistant Director and Assistant Professor to Associate Director and Associate Professor
 R. Drew Miller (Mayo Foundation—medicine)

Instructor and Assistant Director to Associate Professor and Director
 Glenn Gullickson (physical medicine—Rehabilitation Center)

Associate Professor-Surgeon to Associate Professor and Assistant Director
 Benjamin R. Reiter (University Health Service)

Research Associate and Assistant Professor to Associate Professor
 Mary E. Corcoran (Bureau of Institutional Research)
 Robert L. Lathrop (Bureau of Institutional Research)

Assistant Professor and Extension Editor to Associate Professor and Extension Editor
 Josephine B. Nelson (agricultural extension)

Assistant Professor to Associate Professor
 Harold J. Alford (Extension Division—St. Paul office)
 Donald E. Anderson (electrical engineering)
 Rutherford Aris (chemical engineering)
 George S. Baker (Mayo Foundation—neurosurgery)
 Bruce E. Balow (Psycho-Educational Clinic)

Edwin D. Bayrd (Mayo Foundation—medicine)
Henry A. Bent (inorganic chemistry)
R. Glen Berryman (business administration)
Henry W. Blackburn (Lab Physiological Hygiene)
A. Mark Bolsterli (School of Physics)
Ernest Bormann (speech and theater arts)
Peter F. Briggs (physical medicine—rehabilitation, psychology, psychiatry—
neurology, and Institute of Child Development)
Byron W. Brown (School of Public Health)
James B. Carey (medicine)
John B. Carlson (Duluth—biology)
Keith S. Champlin (electrical engineering)
Dean A. Crawford (Duluth—secondary education)
William M. Crockett (Duluth—English)
John S. Dahler (chemical engineering)
Anna M. Duval (Duluth—chemistry)
C. Lindsley Edson (Duluth—music)
Jesse E. Fant (civil engineering)
Margaret M. Forbes (classics)
Edward C. Frederick (Northwest School and Station)
Adriano M. Garsia (mathematics—SLA)
Paul W. Gast (geology and mineralogy)
Nicholas A. Glaskowsky (School of Business Administration)
Francis J. Glick (Duluth—chemistry)
Frederick C. Goetz (medicine)
Stephen G. Granger (Morris—counseling)
Eldon G. Hill (Hormel Institute)
Leverett P. Hoag (Duluth—geography)
Edward W. Humphrey (surgery)
John D. Hurrell (English)
O. Elden Johnson (anthropology)
Herbert Jonas (College of Pharmacy)
William A. Kavanaugh (trade and industrial education)
Olaf E. Kolari (animal husbandry)
Warren MacKenzie (art)
George McCutcheon (General College—mathematical studies)
Norman W. Moen (General College—social studies)
Helen P. Mudgett (Extension Division)
James R. Murphy (Duluth—music)
Richard E. Norris (botany)
Karl H. Potter (philosophy)
Rosella H. Qualey (agricultural extension)
Gilford W. Remington (Extension Division—Duluth office)
Warren L. Reynolds (inorganic chemistry)
Jay Y. Roshal (Morris—botany)
Richard H. Rust (soils)
James C. Sentz (agronomy and plant genetics)
John C. Sim (School of Journalism)
Sidney Simon (University Art Gallery)
John M. Sivertsen (School of Chemistry—metallurgy)
Robert C. Slater (mortuary science)
Burton Stein (history)
David A. Storvick (mathematics—SLA)
Holger R. Stub (Duluth—sociology)
W. Albert Sullivan (surgery and Continuation Medical Education)
Hendrik J. Svien (Mayo Foundation—neurosurgery)
Harold J. C. Swan (Mayo Foundation—physiology)
Roy A. Swanson (classics)
Jan H. Tillisch (Mayo Foundation—medicine)
Fernando Torres (psychiatry and neurology)
Alfred Uihlein (Mayo Foundation—neurosurgery)
Walter Uphoff (Industrial Relations Center)
John E. Verrill (Duluth—Laboratory School)
Melvin Waldfogel (art)

Thomas F. Waters (entomology and economic zoology)
 David D. Webster (psychiatry-neurology)
 Erwin C. Welke (Audio-Visual Extension Service)
 Roy D. Wilcoxson (plant pathology and botany)
 Ralph E. Williams (West Central School and Station)
 Arnold S. Woestehoff (Bureau of Recommendations)
 William E. Wright (history)

Visiting Associate Professor to Associate Professor

Carl N. DeSilva (aeronautics and engineering mechanics)
 Steven A. Gal (mathematics—IT)

Clinical Assistant Professor to Clinical Associate Professor

Rolf L. Andreassen (medicine)
 David M. Craig (medicine)
 Delmar R. Gillespie (medicine)
 Douglas P. Head (medicine)
 Richard H. Jones (orthopedic surgery)
 J. C. Miller (medicine)

Director of Medical Education and Instructor to Director of Medical Education and Assistant Professor

Dennis J. Kane (Ancker Hospital)

Research Associate to Assistant Professor

Egolf V. Bakuzis (School of Forestry)
 Donald C. Rasmussen (agronomy and plant genetics)
 Theodore W. Sudia (plant pathology and botany)

Instructor and Bandmaster to Assistant Professor and Bandmaster

Frank P. A. Bencriscutto (music)

Instructor and Health Physicist to Assistant Professor and Health Physicist

Ralph O. Wollan (University Health Service)

Instructor to Assistant Professor

Richard W. P. Achor (Mayo Foundation—medicine)
 Carl S. Alexander (medicine)
 Josef L. Altholz (history)
 Donald G. Baker (soils)
 Arleen L. Barkeim (agricultural extension)
 Phil Berger (diagnostic roentgenology)
 Philip E. Bernatz (Mayo Foundation—surgery)
 Frank R. Braun (Bureau of Recommendations)
 John A. Callahan (Mayo Foundation—medicine)
 Lewis F. Carey (diagnostic roentgenology)
 Curtis H. Carlson (physiological chemistry)
 Richard J. Cody (English)
 Daniel C. Connolly (Mayo Foundation—medicine)
 Stanley M. Dennis (veterinary pathology and parasitology)
 Richard A. DeWall (surgery)
 Donald W. Dunn (hospital administration)
 Delphie J. Fredlund (School of Public Health)
 William E. Gardner (secondary education)
 Robert J. Gores (Mayo Foundation—dental surgery)
 Orville H. Johnson (psychiatry-neurology)
 James T. Joichi (mathematics—SLA)
 Martin H. Lease, Jr. (Duluth—political science)

James P. Lillehei (medicine)
 Theodore S. Long (Morris—humanities)
 Fred E. Lukermann, Jr. (geography)
 Edgar L. Makowski (obstetrics and gynecology)
 Harold R. Marquardt (Student Counseling Bureau)
 R. Paul Marvin (agricultural education)
 Warren F. McGuckin (Mayo Foundation—physiological chemistry)
 Maurice W. Meyer (School of Dentistry)
 Chester L. Miracle (mathematics—SLA)
 Richard Narvaez (Romance languages)
 Daniel C. Neale (general education)
 Erland R. Nelson (psychiatry-neurology and University Health Service)
 Norman H. Olson (Duluth—physical education)
 Vernal S. Packard, Jr. (agricultural extension)
 Milton P. Reiser (urology)
 Darrett B. Rutman (history)
 Gustave L. Scheffler (University Health Service—Division of Environmental Health and Safety)
 George L. Shapiro (speech and theater arts)
 Gertrude M. Strinden (Southern School of Agriculture)
 Richard E. Symmonds (Mayo Foundation—obstetrics and gynecology)
 John R. Tester (Museum of Natural History)
 Philip G. Walther (Duluth—psychology)
 Warren J. Warwick (pediatrics)
 Wallace M. Wass (veterinary medicine and clinics)
 Clifford L. Wilcox (agricultural extension)
 Stanley G. Wold (art education)
 William Wolking (child psychiatry)

Instructor (IT) to Assistant Professor (Morris)

Milton D. Jacobson (mechanical engineering)

Instructor and Research Fellow to Assistant Professor

Frank B. Knight (mathematics—SLA)

Research Fellow to Assistant Professor

Arthur R. Page (pediatrics)

Principal Student Personnel Worker to Assistant Professor of Education

James H. Reeves (Student Activities Bureau)

Senior Student Personnel Worker-Instructor to Assistant Professor-Student Counselor

Moy F. Gum (Duluth—Student Personnel Services)

Clinical Instructor to Clinical Assistant Professor

David M. Anderson (urology)
 Robert R. Cooper (ophthalmology)
 David Gavisier (surgery)
 John H. Glaeser (otolaryngology)
 Elmer M. Hill (dermatology)
 Jerry E. Johnson (School of Dentistry)
 Bruce E. Linderholm (urology)
 J. Benjamin Lund (psychiatry-neurology)
 Robert L. Merrick (neurosurgery)
 Hugo E. Miller (urology)
 Harold J. Panuska (School of Dentistry)
 William E. Price (urology)
 Harold G. Ravits (dermatology)

Leander T. Simons (ophthalmology)
 Donald B. Swenson (medicine)
 Earl G. Yonehiro (surgery)

Lecturer to Assistant Professor

John A. Crane (School of Social Work)
 Frances P. Guzie (School of Social Work)
 Philip C. Hovda (School of Social Work)
 John Q. Imholte (Morris—Social Science)
 Lawrence F. Merl (School of Social Work)
 J. Russell Nelson (School of Business Administration)
 Ida G. Rapoport (School of Social Work)
 Larry A. Sjaastad (Ford Foundation Economic Study of the Upper Mid-
 west Region)
 Frances E. Skinner (Duluth—sociology)
 James E. Stageberg (School of Architecture)

Coach-Instructor to Assistant Professor—Coach

Robert R. Bossons (physical education and athletics)
 Denver J. Crawford (physical education and athletics)
 Wallace T. Johnson (physical education and athletics)
 Richard A. Larson (physical education and athletics)
 Donald R. Lewis (physical education and athletics)
 George A. Nash (physical education and athletics)
 Glen A. Reed (physical education and athletics)
 Richard W. Siebert (physical education and athletics)

Principal Librarian to Assistant Professor

Lester Mattison (Library—circulation)

Assistant Professor to Lecturer

Velv W. Greene (School of Public Health)

Instructor to Assistant Director and Instructor

John S. Welch (Mayo Foundation—surgery)

LEAVES OF ABSENCE, 1960-61

- Harold Macy, dean of Institute of Agriculture and professor of bacteriology, with salary May 1 to July 31, 1961, on account of illness.
- Addison M. Alspach, professor of music, University of Minnesota, Duluth, sabbatical furlough for 1960-61, for travel and study in Europe.
- George Amberg, professor of interdisciplinary studies in general education, sabbatical furlough for the spring quarter of 1960-61, to do research on the motion picture and study film literature and archives collection in the United States and abroad.
- John E. Anderson, professor in Institute of Child Deelopment, with salary December 27, 1960 to March 15, 1961, on account of illness.
- H. Harvard Arnason, professor and chairman of art, continuation of 33% time leave without salary for 1960-61 as director of Walker Art Center; without salary February 1 to June 15, 1961, to serve as vice president of art administration at the Guggenheim Museum, New York City.
- Henry Borow, professor of psychological studies, General College, 50% time leave without salary for 1960-61 to participate in a College Entrance Examination Board project between curricular patterns in American colleges and career training and development.
- Jan O. M. Broek, professor of geography, without salary for spring quarter of 1960-61, to serve as visiting professor at University of Washington.

- Chieh-Chien Chang, professor of aeronautical engineering, without salary February 1 to June 15, 1961, for research in air defense and space science at Aeronautical Space Corporation in Los Angeles, California.
- John S. Chipman, professor of economics, School of Business Administration, without salary for 1960-61, to work in Chile as a member of the University of Chicago team under contract with the International Cooperation Administration.
- Theodore W. Clymer, professor of general education, sabbatical furlough for 1960-61, to study the research programs in reading instruction at a number of major universities of the United States.
- Willard W. Cochrane, professor of agricultural economics, without salary August 22 to November 6, 1960, to serve as full-time adviser on agricultural policy to the Democratic Party nominee for President of the United States, and without salary January 25 to June 30, 1961, to serve as adviser on agricultural policy to the United States Secretary of Agriculture.
- John G. Darley, professor of psychology, continuation of leave without salary for 1960-61, to serve as Executive Secretary of the American Psychological Association in Washington, D.C.
- Kenneth C. Davis, professor in Law School, sabbatical furlough September 16, 1960 to January 31, 1961, to accept a Ford Foundation grant to study English administrative law in London.
- Monroe D. Donsker, professor of mathematics in SLA, without salary for 1960-61, to continue his research in conjunction with Danish physicists at University of Aarhus, Denmark.
- Ernst R. G. Eckert, professor of mechanical engineering, with salary January 20 to February 3, 1961, to attend international meeting on heat transfer with chemical and phase conversions, held in Minsk, USSR.
- Roxana R. Ford, professor and assistant director of home economics education, sabbatical furlough July 1 to December 31, 1960 for travel in Europe.
- Albert W. Frenkel, professor of botany, sabbatical furlough for 1960-61, to complete observations and experimental work on bacterial photosynthesis with work to be done in Sweden and at Pennsylvania State University and at the University of Florida.
- Bernard R. Gelbaum, professor of mathematics, College of Science, Literature, and the Arts, sabbatical furlough for 1960-61, to engage in research in the field of Banach algebras at Princeton Institute for Advanced Study, supported by the National Science Foundation.
- Robert J. Gorlin, professor and head of oral pathology, School of Dentistry, without salary April 1 to June 30, 1961, for research in Denmark for a book, *Syndromes of the Head and Neck*, to be published sometime in 1962.
- Raymond L. Grismer, professor of Romance Languages, sabbatical furlough December 16, 1960 to June 15, 1961, to complete some unfinished research projects which necessitates visiting various libraries in Washington, D.C., Madrid, Paris, and London.
- Ruth Harrington, professor and assistant director School of Nursing, 50% leave with salary and 50% time leave without salary December 15, 1960 to June 30, 1961, on account of illness.
- James P. Hartnett, professor of mechanical engineering, without salary for 1960-61 to accept a Guggenheim Fellowship for study in Japan.
- Walter W. Heller, professor and chairman economics, School of Business Administration, without salary January 23 to June 15, 1961, to serve as chairman of the U.S. President's Council of Economic Advisers, Washington, D.C.
- E. Adamson Hoebel, professor and chairman anthropology, without salary for fall and spring quarters of 1960-61, to accept an appointment as fellow at the Center for Advanced Study in the Behavioral Sciences at Stanford California.
- Harvey H. Hoyt, professor and head Veterinary Medicine and Clinics, without salary December 1, 1960 to January 31, 1961, to serve as technical consultant for the Food and Drug Program of the International Cooperative Administration Program in Yugoslavia.
- Robert S. Hoyt, professor of history, sabbatical furlough for 1960-61, to attend the International Congress of Historical Sciences at Stockholm in August

- and to spend the remainder of the time doing research in England on the history of the royal administration of the Anglo-Norman period.
- Richard C. Jordan, professor and head of mechanical engineering, with salary November 28 to December 9, 1960, to serve as delegate from the National Academy of Sciences—National Research Council to Executive Committee meeting in Paris.
- Yale Kamisar, professor Law School, without salary September 16, 1960 to January 31, 1961, to accept a grant by the Social Science Research Council to study the exercise of the prosecutor's discretion in Minnesota.
- Fred L. Kildow, professor in School of Journalism, sabbatical furlough for 1960-61, to make a survey of high school journalism in Minnesota both as a curricular and extracurricular activity, plan, find writers for, and edit a series of handbooks for scholastic journalism.
- Richard L. Kozelka, professor in School of Business Administration, sabbatical furlough September 16, 1960 to February 15, 1961, to attend Harvard Graduate School of Business, visit classes and read in library; leave without salary February 16 to June 15, 1961 to teach in the School of Business Administration of the University of Florida.
- Werner Levi, professor of political science, without salary January 16 to June 15, 1961, to serve as Carnegie Visiting Professor at the University of Hawaii.
- Willem J. Luyten, professor and chairman of astronomy, with salary February 25 to March 25, 1961, to accept an educational exchange professorship for the State Department at the Astronomical Observatory of the University of Mexico.
- Lawrence Markus, professor of mathematics Institute of Technology, without salary for the fall quarter of 1960-61, to participate in a research project on differential geometry and dynamical systems sponsored by Yale University and the Office of Naval Research at Yale University.
- William H. Marshall, professor and director of biological sessions (Lake Itasca) entomology and economic zoology, sabbatical furlough October 16, 1960 to July 15, 1961, to accept a Fulbright grant to set up a research project within the Bureau of Animal Ecology in the Department of Scientific Research and Investigation in New Zealand.
- Samuel H. Monk, professor of English, without salary for winter and spring quarters of 1960-61, to accept the Mrs. William Beckman Professorship of English Languages and Literatures at the University of California.
- Gordon M. A. Mork, professor of general education, sabbatical furlough for 1960-61, to accept a Fulbright scholarship to study educational psychology taught in schools of northern Europe and the United Kingdom.
- Will M. Myers, professor and head agronomy and plant genetics, without salary July 1-31, 1960, to attend the Eighth International Grassland Congress in Reading, England.
- Johannes C. C. Nitsche, professor of mathematics Institute of Technology, without salary for 1960-61, to serve as visiting professor at the University of Puerto Rico.
- Raymond B. Nixon, professor School of Journalism, without salary April 1 to June 15, 1961, to accept an invitation from Bureau of Educational and Cultural Affairs of the U.S. Department of State to deliver lectures to journalistic and academic groups in Yugoslavia, Greece, France and to preside over the General Assembly of the International Association for Mass Communications Research in Lausanne, Switzerland.
- Edgar L. Piret, professor of chemical engineering, continuation of leave without salary for 1960-61, to serve as Science Attaché to the Department of State, United States Embassy, Paris, France.
- Philip M. Raup, professor of agricultural economics, sabbatical furlough September 16, 1960 to August 31, 1961, to study land value and land use changes associated with rapid urban growth and industrial expansion in Europe and the United Kingdom.
- Henry W. Riecken, Jr., professor of sociology and Laboratory for Research in Social Relations, continuation of leave without salary for 1960-61, to serve as head of the Office of Social Sciences at the National Science Foundation, Bethesda, Maryland.

- Johannes Riedel, professor of music, with salary November 20 to December 4, 1960, to present lectures on American music at the University of Mainz, the Conservatory of Music in Cologne, and the Conservatory of Music in Berlin, Germany.
- Arnold M. Rose, professor of sociology, without salary for the winter and spring quarters of 1960-61, to accept a grant from the Rockefeller Foundation to do a pilot study of the political power structure in the United States.
- Paul C. Rosenbloom, professor of mathematics Institute of Technology, 75% time leave without salary for 1960-61 to continue working 25% time as director of Minnesota National Laboratory for Improvement of Secondary School Mathematics and 50% time as director of a writing project under the auspices of School Mathematics Study Group.
- I. Richard Savage, professor of economics School of Business Administration, without salary for 1960-61, to teach at Harvard University.
- Roy A. Schuessler, professor of music, sabbatical furlough for 1960-61, to make a comparative study of the vocal methods used in training voices in the world renowned boys' choirs and to study projects being carried on at the University of Paris and Groningen University in Holland.
- James B. Serrin, Jr., professor of mathematics Institute of Technology, sabbatical furlough for 1960-61, for travel, research and writing and work on a textbook on theoretical fluid dynamics with time to be spent in Minneapolis and Stanford University.
- Ernst Simonson, professor School of Public Health, Division of Physiological Hygiene, 24% time leave without salary for 1960-61, for consultation at Veterans Administration Hospital.
- Lorenz G. Straub, professor, head and director of civil engineering and hydraulics, continue on 20% leave without salary for 1960-61.
- Allen Tate, professor of English, 33% time leave without salary for spring quarter of 1960-61, to complete a major literary project.
- Leonard Unger, professor of English, without salary for 1960-61, to serve as visiting professor at Duke University.
- George B. Vold, professor of sociology, without salary for the fall quarter of 1960-61, to serve as visiting professor at Pennsylvania State University.
- Dennis W. Watson, professor of bacteriology and immunology, sabbatical furlough for 1960-61, to do research on streptococcal toxins at the University of Freiburg, West Germany, and at various institutions throughout Europe.
- Lemen J. Wells, professor of anatomy, sabbatical furlough for 1960-61, to do research and travel in Italy, France, and England.
- Benjamin Willerman, professor of psychology Student Counseling Bureau, sabbatical furlough September 16, 1960 to July 15, 1961, for research at the University of London.
- C. Arthur Williams, Jr., professor School of Business Administration, without salary for 1960-61, to serve as visiting professor at Wharton School of Finance and Commerce, University of Pennsylvania.
- C. Gilbert Wrenn, professor of general education, 50% time leave without salary for fall quarter to continue his work for the American Personnel and Guidance Association on a special national project, and 20% time leave without salary for writing final report.
- Victor E. Anderson, associate professor and assistant director Dight Institute, without salary for 1960-61, for advanced study at the National Institute for Neurological Diseases and Blindness.
- Paul W. Bamford, associate professor of history, without salary for 1960-61, to conduct historical research in France under Fulbright and Guggenheim grants.
- Douglas C. Basil, associate professor School of Business Administration, without salary for winter quarter of 1960-61, to do research and writing in the field of management theory.
- Glen E. Baxter, associate professor of mathematics College of Science, Literature, and the Arts, without salary for 1960-61, for research at University of Aarhus in Denmark.
- Fred H. Blum, associate professor of interdisciplinary studies in general education, continuation of leave without salary for fall and spring quarters

of 1960-61, to direct an action-research project dealing with "The Significance of Religious Principles for the Industrial-Social Order" with time to be spent in London, England.

Bernard Bowron, associate professor of English, without salary for fall quarter of 1960, on account of the illness of his wife.

K. F. Gerhard Brand, associate professor of bacteriology, without salary September 16, 1960 to February 28, 1961, for an extended trip.

Alan H. Donagan, associate professor philosophy, without salary September 16, 1960 to January 31, 1961, to serve as visiting professor at Cornell University.

Robert M. Douglass, associate professor, State Leader-Program Planning, Agricultural Extension, with salary January 23 to April 8, 1961, on account of illness.

Robert M. Eisberg, associate professor School of Physics, without salary for 1960-61, to do experimental and theoretical research at the Institute for Nuclear Study, University of Tokyo, Japan, under Fulbright and Guggenheim Fellowships.

Darrell F. Fienup, associate professor agricultural economics, without salary from July 1, 1960 to August 30, 1961, to study at the national level the impact of federal grading on the market structure and pricing of lamb at the request of Congress and by direction of the Secretary of Agriculture.

Joseph G. Gall, associate professor of zoology, sabbatical furlough for 1960-61, to do research at St. Andrews, Scotland, and Tubingen, Germany.

Leon W. Green, associate professor of mathematics Institute of Technology, without salary February 1 to June 15, 1961, to participate in a research project on differential geometry and dynamical systems sponsored by Yale University and the National Science Foundation at Yale.

John W. Hall, associate professor and associate curator of paleobotany, botany department, sabbatical furlough for 1960-61, to attend the International Geological Congress in Copenhagen, and to study fossil, pollen, and spores of the Cretaceous age, and travel to Stockholm, Bergen, Utrecht, and Paris.

James M. Henderson, associate professor economics School of Business Administration, continuation of leave without salary for 1960-61, to serve as director of research Economic Study of the Upper Midwest Region.

Norton M. Hintz, associate professor School of Physics, without salary for fall quarter of 1960-61, to complete work started during sabbatical furlough on recent developments in theory of nuclear structure at Institute for Theoretical Physics in Copenhagen.

Claude R. Hitchcock, associate professor of surgery, with salary May 9-June 16, 1961, for research work on organ transplantation in the baboon at the laboratory facilities of the Southwest Foundation at Darajani, Kenya, East Africa.

Ruth F. Hovde, associate professor laboratory medicine and director medical technology laboratory, with salary March 1-31, 1961, on account of illness.

Chi-Chun Hsiao, associate professor of aeronautical engineering, with salary September 16 to October 1, 1960, to present papers at the 10th Japanese National Congress, Applied Mechanics meeting and Japanese Physical Society meeting; also visit a number of polymer research laboratories in Japan.

Thomas P. Irving, associate professor of Romance Languages, without salary for 1960-61, to work on an Iraqi grammar and dictionary at Georgetown University under contract with the Office of Education.

David T. Lykken, associate professor clinical psychology, without salary July 1 to August 31, 1960, to participate in studies at the Center for Advanced Study in the Behavioral Sciences at Palo Alto, California.

Arthur E. Naftalin, associate professor of political science, 100% time leave without salary for fall and spring quarters and 67% time leave without salary for winter quarter of 1960-61.

Gerhard Neubeck, associate professor, Student Counseling Bureau, sabbatical furlough from September 16, 1960 to September 15, 1961, to accept a Ful-

- bright grant to lecture on Family Life Education at the Danish Graduate College of Teacher Training in Copenhagen, Denmark.
- Elizabeth Nissen, associate professor of Romance Languages, sabbatical furlough for 1960-61, for travel in Italy to study the contemporary Italian theatre, and visit the International Drama Festival in Paris.
- Katsuhiko Ogata, associate professor of mechanical engineering, without salary for 1960-61, to return to Japan for a minimum period of one year under the exchange-visitor program.
- John Parker, associate professor and curator, James Ford Bell Collection, Library, with salary July 1 to August 31, 1960, for research in London, Oxford, and Cambridge libraries.
- Luther J. Pickrel, associate professor, extension economics public affairs Agricultural Extension, without salary February 9 to June 30, 1961, to serve as visiting professor Center for Agricultural and Economic Adjustment of Iowa State University, Ames.
- Edgar Reich, associate professor of mathematics Institute of Technology, without salary for 1960-61, to accept a Fulbright scholarship and Guggenheim fellowship to do research at the University of Aarhus, Denmark.
- Armand A. Renaud, associate professor of Romance Languages, without salary for fall and winter quarters of 1960-61, to write a book on Baroque literature in France.
- Josephine L. Rollins, associate professor of art, sabbatical furlough for 1960-61, to travel and paint in Europe, British Isles and the Mediterranean countries.
- Mordecai Roshwald, associate professor interdisciplinary studies in general education, without salary for fall and winter quarters of 1960-61, to complete research on the problem of world peace through world government and to submit a political novel to his London publishers.
- Dennis M. Ryan, associate professor, extension agricultural engineer, Agricultural Extension, with salary January 30 to March 11, 1961, on account of illness.
- Frank L. Spitzer, associate professor of mathematics, College of Science, Literature, and the Arts, without salary for 1960-61, to do research at Princeton University under an NSF grant.
- Eugene Stolarik, associate professor aeronautical engineering, with salary September 16-23, 1960, to visit educational centers on the continent and attend the Second International Congress of Aeronautical Sciences in Switzerland.
- Marjorie U. Wilson, associate professor of Physical Education for Women, sabbatical furlough for 1960-61, to visit major universities and study physical educational programs in countries in Middle and Far East.
- Donald R. Yennie, associate professor in School of Physics, without salary for 1960-61, to accept a senior postdoctoral NSF fellowship for study and research in fundamental physics at the University of Paris and Cern, Geneva, Switzerland.
- Harold J. Alford, assistant professor Extension Classes, without salary October 1, 1960 to June 15, 1961, to work on Doctor's degree.
- Murray Bates, physician, University Health Service and assistant professor School of Public Health, without salary March 27 to June 15, 1961, for trip to Europe.
- Heinz W. Berendes, assistant professor of pediatrics, without salary for 1960-61, to continue to serve as civilian consultant to the National Institutes of Neurological Disease and Blindness.
- Myrtle H. Coe, assistant professor in School of Nursing, without salary August 8 to September 5, 1960, for a rest.
- Beulah E. R. Compton, assistant professor School of Social Work, without salary for 1960-61, to work with Family Centered Project in St. Paul.
- Mary E. Corcoran, research associate and assistant professor Bureau of Institutional Research, without salary April 16 to June 30, 1961, to serve as consultant to the College Entrance Examination Board for the International Study of University Admissions.
- J. Campbell Craddock, assistant professor of geology and mineralogy, without salary for fall and winter quarters of 1960-61, to direct a geologic field

- investigation under a National Science Foundation grant as part of the United States Antarctic Research program.
- Evelyn D. Crisp, assistant professor in General College, without salary September 1, 1960 to June 15, 1961, to study retailing programs.
- Caroline M. Fredrickson, assistant professor-district supervisor of home economics Agricultural Extension, sabbatical furlough from September 26, 1960 to August 31, 1961, to work toward master's degree at Cornell University.
- William A. Harris, Jr., assistant professor of mathematics Institute of Technology, without salary for 1960-61, to do research at the Mathematics Research Center of United States Army, University of Wisconsin.
- Leslie K. Lindor, assistant professor at West Central School and Experiment Station, continuation of leave without salary July 1 to August 31, 1960, to visit European countries and observe agricultural experiment stations and operations of physical plant facilities in Europe after the completion of services as Physical Plant Administrator at the University of the Philippines.
- Howard J. Newell, assistant professor district 4-H club leader Agricultural Extension, without salary November 1 to December 8, 1960, and 50% time leave without salary December 9, 1960 to June 15, 1961, for graduate study at the University of Minnesota.
- Naomi M. Peterson, assistant professor in School of Business Administration, sabbatical furlough for winter and spring quarters of 1960-61, to study the status of women in management who have been graduated from collegiate programs for administrative assistants.
- Alvey M. Pilkey, assistant professor at Northwest School and Station, with salary July 16 to September 15, 1960, on account of illness.
- William E. Pruitt, assistant professor of mathematics College of Science, Literature, and the Arts, without salary March 18 to June 15, 1961, for military service.
- Mary L. Rice, assistant professor of literature and writing General College, without salary for spring quarter of 1960-61, for personal reasons.
- Warren B. Stenberg, assistant professor of mathematics Institute of Technology, continuation of 50% leave without salary for 1960-61, to serve as associate director of the Minnesota National Mathematics Laboratory.
- John R. Thompson, assistant professor at Southern School of Agriculture, with salary June 30 to July 31, 1960, on account of injury, and sabbatical furlough October 1, 1960 to May 31, 1961, for work towards doctor's degree at Iowa State University.
- Robert L. Vernier, assistant professor of pediatrics, without salary August 16, 1960 to June 30, 1961, to do research on the kidney with particular reference to the morphology of the developing human kidney under the sponsorship of the American Heart Association and the Guggenheim Foundation.
- Willis L. Winter, Jr., assistant professor in School of Journalism, without salary for 1960-61, to work toward his Ph.D. degree at the University of Illinois.

LEAVES OF ABSENCE, 1961-62

- Athelstan F. Spilhaus, dean and professor Institute of Technology, without salary June 12, 1961 to October 21, 1962, to serve as Federal Commissioner of the United States Science Exhibit at the Seattle World's Fair.
- Robert E. Summers, dean of Admissions and Records, with salary January 5-24, 1962, to meet with scholarship boards and assist in interviewing prospective students for American colleges and universities in Central East Africa under the auspices of the African Scholarship Program of American Universities and the African-American Institute.
- J. William Buchta, associate dean and professor College of Science, Literature, and the Arts, without salary December 24, 1961 to March 23, 1962, to serve as consultant on the Chilean project conducted by the Center for Study of Higher Education, University of California.

- Henry M. Cavert, assistant dean Medical School Administration and associate professor of physiology, sabbatical furlough August 15, 1961 to August 14, 1962, to do research in Great Britain on heart muscle metabolism.
- Ernst C. Abbe, professor of botany, without salary for fall and winter quarters of 1961-62, to accept a Fulbright lectureship at the University of Malaya, Singapore.
- Roland H. Abraham, professor-assistant director Agricultural Extension, sabbatical furlough October 4, 1961 to September 30, 1962, for graduate study toward a Ph.D. degree.
- Axel B. Algren, professor mechanical engineering, with salary February 19 to March 16, 1962, on account of illness.
- John A. Anderson, professor and head of pediatrics, sabbatical furlough September 16, 1961 to September 15, 1962, to obtain knowledge concerning advanced biochemical and enzymological research and application of such knowledge to human developmental biology as it concerns infants and children. Time to be spent in Stockholm, Sweden.
- Werner W. Boehm, professor School of Social Work, sabbatical furlough for 1961-62, to develop advanced skill in methods of research and acquire special knowledge in social psychology.
- Guy L. Bond, professor of general education, sabbatical furlough for 1961-62, to study methods of adjusting instruction to individual differences in reading as practiced in several foreign countries (Japan, Philippines, Thailand, India, Greece, Italy, England, Scotland).
- Jan O. M. Broek, professor of geography, sabbatical furlough for 1961-62, to do research on Southeast Asia under a grant from the Joint Committee on Asian Studies of the American Council of Learned Societies and the Social Science Research Council.
- Martin Bronfenbrenner, professor of economics, without salary May 1 to June 15, 1962, to serve on United Nations' mission to Japan.
- Charles R. Burnham, professor of agronomy and plant genetics, without salary October 1 to December 31, 1961, to serve as guest professor at Purdue University to teach advanced cytogenetics.
- Roy E. Carter, Jr., professor School of Journalism, without salary September 16-30, 1961, to serve as journalism and communications research specialist with the United States State Department in South America.
- Chieh-Chien Chang, professor of aeronautical engineering, without salary September 16, 1961 to June 15, 1962, to continue research in air defense and space science at Aeronautical Space Corporation, Los Angeles, California.
- Willard W. Cochrane, professor of agricultural economics, continuation of leave without salary for 1961-62, to serve as Director of Agricultural Economics, United States Department of Agriculture.
- A. Orville Dahl, professor of botany, without salary for spring quarter of 1961-62, to do research of structure of pollen under the auspices of the National Science Foundation.
- John G. Darley, professor of psychology, continuation of leave without salary for 1961-62, to continue as Executive Secretary of the American Psychological Association.
- Ernst R. G. Eckert, professor of mechanical engineering, with salary January 6-13, 1962, to attend the Interantional Conference on Heat Transfer and a meeting of the International Flame Research Foundation.
- Ruth E. Eckert, professor of general education, 50% time without salary December 16, 1961 to March 15, 1962, for personal reasons.
- George W. England, professor Industrial Relations Center, without salary July 1 to August 4, 1961, to participate in Institute of Basic Mathematics for Application to Business under a Ford Foundation grant.
- Paul Fetler, professor of music, sabbatical furlough for 1961-62, to do creative work and study contemporary trends and techniques in musical compositions in Berlin, Germany.
- Edna L. Fritz, professor and director School of Nursing, without salary August 7 to September 4, 1961, for work toward completion of doctoral thesis.

- Bernard R. Gelbaum, professor of mathematics, College of Science, Literature, and the Arts, without salary for 1961-62, to do research at the Institute for Defense Analyses at Princeton, New Jersey.
- Ruth E. Grout, professor School of Public Health, without salary for winter quarter of 1961-62, to serve as consultant to the World Health Organization African Regional Office.
- Alrik Gustafson, professor and chairman of Scandinavian, sabbatical furlough for 1961-62, to carry on an investigation and write a book on the Swedish dramatist August Strindberg under a Fulbright grant at the University of Stockholm and the Sorbonne University, Paris.
- Walter W. Heller, professor of economics School of Business Administration, continuation of leave without salary for 1961-62, to serve as Chairman of the President's Council of Economic Advisers, Washington, D.C.
- Reuben L. Hill, professor of sociology, sabbatical furlough for 1961-62, to serve as lecturer in family sociology and social research methods in Belgium under a Fulbright grant.
- Robert Jenness, professor of agricultural biochemistry, sabbatical furlough September 16, 1961 to August 15, 1962, to do research on the resolution and characterization of certain proteins of milk at the Netherlands Institute for Dairy Research at Ede, Netherlands, under a Fulbright scholarship.
- Donovan A. Johnson, professor of education University High School and General Education, 25% leave without salary from University High School, October 16, 1961 to June 15, 1962, to accept a contract with the Minnesota State Department of Education as associate director of Mathematics Section.
- Richard C. Jordan, professor and head of mechanical engineering, with salary November 17-25, 1961, to serve as a delegate from National Academy of Sciences—National Research Council to Executive Committee Institut Internationale du Froid meeting in Paris.
- Harry W. Kitts, professor of agricultural education, without salary January 1 to June 30, 1962, to accept an ICA appointment at Bangkok, Thailand.
- Jacob C. Levenson, professor of English, sabbatical furlough for 1961-62, to accept an American Council of Learned Societies fellowship to complete research on project in Anglo-American literary relations in the twentieth century, time to be spent in or near London.
- Edwin H. Lewis, professor School of Business Administration, sabbatical furlough for 1961-62, to serve under a Fulbright award as lecturer in marketing at the Universities of Madrid and Barcelona, Spain.
- Benjamin E. Lippincott, professor of political science, sabbatical furlough for 1961-62, to study the relation of art of politics and possibilities of behavioral versus traditional political science in the United States and Europe.
- Thomas A. Mahoney, professor Industrial Relations Center, without salary July 1-August 19, 1961, to conduct seminars on management development in South Africa under sponsorship of the National Development Foundation of South Africa.
- George W. Mather, professor College of Veterinary Medicine, without salary August 1, 1961 to June 30, 1962, to carry out special work in radioactive isotopes and radiobiology at the Brookhaven National Laboratories of the Associated Universities at Upton, Long Island, New York.
- Francis B. Moore, professor and head of department of chemistry, University of Minnesota, Duluth, sabbatical furlough for 1961-62, for study and research at Iowa State University, Ames.
- William E. Parham, professor and chief of organic chemistry, sabbatical furlough for 1961-62, for consultation and experimentation with organic chemists at the California Institute of Technology and at University of Groningen, Holland, under a Guggenheim fellowship.
- Edgar L. Piret, professor of chemical engineering, continuation of leave without salary 1961-62, to serve as Science Attaché to the Department of State, U.S. Embassy, Paris, France.
- Louis W. Rees, professor School of Forestry, with salary July 10-31, 1961, on account of illness.

- Paul C. Rosenbloom, professor of mathematics Institute of Technology, continuation of 75% leave without salary for 1961-62, to serve as director of Minnesota laboratory for the improvement of secondary school mathematics and director of a writing project under the auspices of School Mathematics Study Group.
- George Seltzer, professor Ford Foundation Faculty Study Fellowship, School of Business Administration, without salary February 16 to June 15, 1962, to study at University of Rhodesia and Nyasaland.
- Robert N. Shoffner, professor of poultry husbandry, sabbatical furlough February 16 to December 31, 1962, to broaden competence in quantitative genetic techniques and background in related areas of biochemistry and cytogenetics at the University of Queensland, Brisbane, Australia.
- Lloyd M. Short, professor of political science, without salary for 1961-62, to serve as an adviser in the School of Public Administration at Seoul National University of Korea Cooperative Project.
- G. Robert Stange, professor of English, sabbatical furlough for 1961-62, to finish a book on the poetry of Matthew Arnold and to accept a Guggenheim fellowship for this research at the British Museum and at the libraries of Oxford and Cambridge.
- John E. Turner, professor of political science, sabbatical furlough for 1961-62, to study the ideological cleavages within the Parliamentary Labour Party in Great Britain.
- Hugh L. Turriffin, professor of mathematics Institute of Technology, sabbatical furlough for 1961-62, to do research on problems in differential equations, time to be spent in Europe.
- LeRoy T. Anderson, associate professor of electrical engineering, without salary for 1961-62, to accept a National Science Faculty Fellowship at Stanford University.
- Glen E. Baxter, associate professor of mathematics College of SLA, continuation of leave without salary for 1961-62, for research at University of Aarhus, Denmark, under a Fulbright fellowship.
- Fred H. Blum, associate professor interdisciplinary studies in general education, continuation of leave without salary for 1961-62, to continue research on the significance of religious principles for the industrial-social order, time to be spent in England.
- A. Mark Bolsterli, associate professor, School of Physics, without salary December 16, 1961 to June 15, 1962, to study at NORDITA, Copenhagen, Denmark.
- Blanchard K. Braum, clinical associate professor of Dentistry, without salary May 1 to June 15, 1962, for vacation.
- Grace D. Brill, associate professor extension nutritionist Agricultural Extension, sabbatical furlough March 5 to May 26, 1962, for advanced work in foods and nutrition.
- Arnold F. Caswell, associate professor of music education, sabbatical furlough for 1961-62, to study original manuscripts and choral compositions by 19th century German master composers, in Munich, Germany.
- Clarke A. Chambers, associate professor of history, without salary for 1961-62, to serve as visiting lecturer at University of California, Berkeley.
- Mary E. Corcoran, associate professor Bureau of Institutional Research, continuation of leave without salary for 1961-62, to serve as consultant to the College Entrance Examination Board for the International Study of University Admissions conducted under the sponsorship of UNESCO and the International Association of Universities.
- Marvin D. Dunnette, associate professor of psychology, without salary February 3 to June 15, 1962, to serve as visiting professor at University of California, Berkeley.
- Thomas J. Edmond, clinical assistant professor School of Dentistry, without salary January 22 to February 15, 1962, for vacation.
- Avner Friedman, associate professor of mathematics Institute of Technology, without salary for 1961-62, to serve as visiting associate professor at Stanford University.

- Adriano Garsia, associate professor of mathematics College of SLA, without salary for 1961-62, to accept a naval research associateship at California Institute of Technology.
- George S. Hage, associate professor School of Journalism, sabbatical furlough for 1961-62, to write a history of Minnesota journalism.
- Arvid B. Hagen, associate professor district supervisor county extension work Agricultural Extension, with salary February 2-24, 1962, on account of illness.
- Robert L. Hall, associate professor sociology Office of Dean of Students Activities Bureau, without salary January 16 to June 30, 1962, to serve as Program Director for Sociology and Social Psychology Division with the National Science Foundation.
- James M. Henderson, associate professor of economics School of Business Administration, continuation of leave without salary for 1961-62, to serve as Director of Research Economic Study of the Upper Midwest Region.
- Robert T. Holt, associate professor of political science, without salary December 16, 1961 to June 15, 1962, to accept a fellowship at the Center for Advanced Study in Behavioral Science at Stanford, California.
- Thomas B. Irving, associate professor of Romance Languages, continuation of leave without salary for 1961-62, to work on Iraqi grammar and dictionary at Georgetown University under contract with United States Office of Education.
- Arthur L. Johnson, associate professor of sociology, without salary October 16, 1961 to June 15, 1962, for military service.
- O. Elden Johnson, associate professor of anthropology, without salary for spring quarter of 1961-62, to serve as visiting associate professor at the University of Utah.
- G. Gordon Kingsley, associate professor and coordinator of counseling in General College, without salary July 23-29, 1961, to teach and supervise counselors at a summer counseling institute sponsored by the Defense Education Act at College of William and Mary, Williamsburg, Virginia.
- Christian R. Klimt, associate professor School of Public Health, without salary January 24 to February 14, 1962, for trip to Pakistan for University of Maryland.
- Thor Kommedahl, associate professor of plant pathology and botany, sabbatical furlough September 1, 1961 to August 31, 1962, to study the ecology of roots and associate root microflora at the Waite Agricultural Institute in Australia.
- Elmer W. Learn, associate professor agricultural economics, 72% time leave without salary April 2 to June 30, 1962, to work for the Federal Reserve Bank of Minneapolis regarding Upper Midwest Economic Study.
- James F. Maclear, associate professor social studies, University of Minnesota, Duluth, sabbatical furlough for 1961-62, to do research on seventeenth century English intellectual and religious history at the Newberry Library at Harvard University and Folger Shakespeare Library in Washington, D.C.
- Merle P. Meyer, associate professor School of Forestry, sabbatical furlough September 1, 1961 to June 1, 1962, to accept a Fulbright lectureship for the establishment of a curriculum in forest aerial photogrammetry at the School of Forestry, Agricultural College of Norway, Vollebakk.
- Robert D. Moulton, associate professor of speech and theater arts, sabbatical furlough for 1961-62, to do research on Scandinavian dramatic literature and its choreographic derivatives in Stockholm, Sweden.
- Paul L. Murphy, associate professor of history, without salary for 1961-62, to accept a research fellowship at the Center for Study of Liberty in America at Harvard University.
- Glenn C. Nelson, associate professor of art, University of Minnesota, Duluth, without salary for spring quarter of 1961-62, to write a book on ceramic sculpture.
- Ingram Olkin, associate professor and chairman of statistics, College of Science, Literature, and the Arts, without salary for 1961-62, to engage in a research project in multivariate analysis and to teach at Stanford University.

- Steven Orey, associate professor of mathematics, College of SLA, sabbatical furlough for 1961-62, to complete research on the theory of Markov processes at Oxford University, England.
- Rosella H. Qualey, associate professor-district supervisor home economics extension, with salary November 6 to December 9, 1961, on account of illness.
- Jacob Schmookler, associate professor of economics, without salary for 1961-62, to teach at Harvard University.
- Samuel Schwartz, associate professor experimental medicine, sabbatical furlough September 1, 1961 to August 31, 1962, to conduct research which will permit better understanding of mechanisms of action of porphyrins in biological systems exposed to ionizing radiations and to become familiar with pertinent techniques being employed at the Department of Experimental Medicine and Cancer Biology, Hebrew University, Jerusalem, Israel and the Weitzman Institute, Rehovot, Israel.
- Leon A. Snyder, associate professor of agronomy and plant genetics, sabbatical furlough for 1961-62, to engage in a program of study and research in the initiation of investigations on the genetic effects of certain chemical agents, work to be done principally at the University of Copenhagen, Denmark.
- Burton Stein, associate professor of history, without salary for 1961-62, to conduct research in India and England under a Fulbright award and the American Council of Learned Societies award.
- Norman E. Abelson, assistant professor of music, without salary for 1961-62, to study voice in Salzburg, Austria.
- Constantine Anagnostopoulos, assistant professor of microbiology, without salary February 16 to June 30, 1962, for trip to Europe.
- Donald G. Aronson, assistant professor mathematics Institute of Technology, without salary for 1961-62, to accept a senior postdoctoral fellowship from the National Science Foundation for study and research at Stanford University.
- Robert W. Bath, assistant professor-assistant state leader 4-H Club in Agricultural Extension, without salary October 1, 1961 to June 30, 1962, for graduate study at University of Wisconsin.
- Emmanuel M. Berger, assistant professor Student Counseling Bureau, without salary July 3 to August 4, 1961, to teach at Oklahoma State University.
- Eric R. Brown, assistant professor of Cancer Biology, without salary June 1 to August 31, 1961, to do research at Baranan Laboratories, Atlanta, Georgia.
- Edward M. Copeland, Jr., assistant professor of Slavic and Oriental Languages, without salary for 1961-62, to serve as visiting lecturer in Japanese at Stanford University.
- Bert A. Crowder, assistant professor of mechanical engineering, with salary for the winter and spring quarters of 1961-62, on account of illness.
- Glenn H. Daniels, assistant professor at West Central School and Station, sabbatical furlough September 16, 1961 to September 15, 1962, to work for doctoral degree at Michigan State University.
- Joseph E. Duncan, assistant professor of English, University of Minnesota, Duluth, sabbatical furlough for 1961-62, to do research for a book on Milton at Columbia University Library, the New York Public Library, the Folger Shakespeare Library in Washington, D.C., and the British Museum and other British libraries.
- John R. Eix, agricultural extension agent rural development-assistant professor Hubbard County, sabbatical furlough October 23, 1961 to June 30, 1962, for study at University of Minnesota.
- Margaret M. Forbes, assistant professor of classics, sabbatical furlough for 1961-62, for travel and study in Italy and Greece.
- Forrest J. Harris, assistant professor social studies in General College, without salary for 1961-62, to serve as secretary to the Mayor of Minneapolis.
- Paul R. Hasbargen, assistant professor extension economist farm management Agricultural Extension, without salary October 16, 1961 to June 30, 1962, to work toward Ph.D. degree at Michigan State University.

- J. Vernon Jensen, assistant professor interdisciplinary studies in general education and speech, without salary for 1961-62, to accept a Fulbright lectureship at State Training College of Teachers, Rangoon, Burma.
- J. Dorrance Kiser, assistant professor of art, University of Minnesota, Duluth, sabbatical furlough for 1961-62, to study mural painting in Mexico City.
- Anne O. Krueger, assistant professor economics School of Business Administration, without salary September 16, 1961 to March 15, 1962, to initiate a series of studies on the impact of the Common Market on the United States economy for the Bankers Trust Company of New York.
- Jesus Gil de Lamadrid, assistant professor mathematics College of Science, Literature, and the Arts, without salary for 1961-62, to accept a research associateship at Yale University.
- Martin H. Lease, Jr., assistant professor division of social science, University of Minnesota, Duluth, without salary for spring quarter of 1961-62, to accept a fellowship with the Citizenship Clearing House to study political parties in operation.
- Eleanor Y. Loomis, assistant professor-consumer marketing specialist Agricultural Extension, without salary May 14 to June 30, 1962, for trip around the world.
- Albert J. Moscowitz, assistant professor School of Chemistry, without salary for 1961-62, to serve as visiting lecturer at the University of Copenhagen, Denmark.
- George L. Perry, assistant professor economics Upper Midwest Economic Survey School of Business Administration, without salary January 1 to June 15, 1962, to work on the Council of Economic Advisers in Washington, D.C.
- Eugene F. Pilgram, agricultural agent-assistant professor Chippewa County, Agricultural Extension, sabbatical furlough October 23, 1961 to May 31, 1962, for graduate study at University of Minnesota.
- Alvey M. Pilkey, assistant professor at Northwest School and Station, with salary September 1 to October 31, 1961, on account of illness.
- William E. Pruitt, assistant professor of mathematics College of Science, Literature, and the Arts, continuation of leave without salary for 1961-62, for military service.
- Fredrick R. Steinhauser, assistant professor social studies in General College, without salary fall quarter of 1961-62, for additional military training.
- Edward C. Thiel, assistant professor School of Mines and Metallurgy, without salary for fall quarter of 1961-62 to direct United States airborne geophysical traverse program in Antarctica.
- John R. Thompson, assistant professor Southern School of Agriculture, sabbatical furlough December 1, 1961 to March 31, 1962, and without salary April 1 to May 31, 1962, to complete course work toward Ph.D. degree at Iowa State University, Ames.
- Robert L. Vernier, assistant professor of pediatrics, continuation of leave without salary July 1 to August 31, 1961, for research on the human kidney under the sponsorship of the American Heart Association and Guggenheim Foundation at Staten Serum Institute, Copenhagen, Denmark.
- Willis L. Winter, Jr., assistant professor in School of Journalism, continuation of leave without salary for 1961-62, to complete his doctoral program at University of Illinois.
- James V. Johnson, agricultural agent-instructor Faribault County, Agricultural Extension, sabbatical furlough October 16, 1961 to June 15, 1962, for graduate study at University of Minnesota.

DEATHS

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

- Jacob Solomon Blumenthal, clinical associate professor medicine, July 3, 1960.
Clinton Raymond Stauffer, professor emeritus geology and mineralogy, July 11, 1960.

- Albert Martin Field, professor emeritus agricultural education, July 14, 1960.
Hendrie Walter Grant, clinical associate professor ophthalmology, August 5, 1960.
George P. Conger, professor emeritus philosophy, August 14, 1960.
Fordyce R. Heilman, professor of bacteriology, Mayo Foundation, August 16, 1960.
Adelaide M. Johnson, clinical professor psychiatry and neurology, School of Public Health, November 20, 1960.
John C. Brown, clinical assistant professor emeritus ophthalmology and and otolaryngology, November 27, 1960.
Dorr F. Hallenbeck, assistant professor emeritus medicine, Mayo Foundation, December 3, 1960.
Wilford S. Miller, professor emeritus, College of Education, December 10, 1960.
William F. Geddes, professor and head agricultural biochemistry, January 7, 1961.
James M. Hayes, clinical associate professor emeritus surgery, January 9, 1961.
William P. Sadler, clinical assistant professor obstetrics and gynecology, January 16, 1961.
Asher N. Christensen, professor of political science, January 19, 1961.
Lynwood C. Downs, professor emeritus German, January 21, 1961.
Jerome T. Syverton, professor and head of bacteriology, January 28, 1961.
Arthur N. Milgram, professor of mathematics, Institute of Technology, January 30, 1961.
Clarence C. Ludwig, professor emeritus political science, director Municipal Reference Bureau, February 10, 1961.
Boyd S. Gardner, associate professor emeritus dental surgery, Mayo Foundation, March 5, 1961.
Earl B. Fischer, professor College of Pharmacy, March 5, 1961.
Gene W. Stevermer, extension agent farm management, Agricultural Extension, March 16, 1961.
Faith Thompson, professor of history, April 7, 1961.
Henry P. Wagener, professor emeritus ophthalmology, Mayo Foundation, April 27, 1961.
William M. Curran, instructor, Southern School of Agriculture (Waseca), April 29, 1961.
Reuel Fenstermacher, professor and head of division of veterinary diagnostic laboratories, College of Veterinary Medicine, May 7, 1961.
Cherng J. Shiue, associate professor, School of Forestry, June 5, 1961.
Edgar V. Allen, professor of medicine, Mayo Foundation, June 14, 1961.
Marguerite Guinotte, assistant professor emeritus French, July 13, 1961.
Albert G. Schulze, clinical instructor emeritus obstetrics and gynecology, July 24, 1961.
August C. Krey, professor emeritus history, July 28, 1961.
Leonard F. Boon, assistant professor emeritus Civil Engineering, August 6, 1961.
John O. Christianson, professor and director agricultural short courses, August 6, 1961.
William W. Fletcher, associate professor of speech, August 17, 1961.
Edgar Dwight Brown, associate professor emeritus pharmacology, August 21, 1961.
Frederick H. K. Schaaf, clinical professor emeritus medicine, September 8, 1961.
Irvine McQuarrie, professor emeritus pediatrics, September 9, 1961.
Gordon R. Kamman, clinical associate professor psychiatry-neurology, September 25, 1961.
Thor W. Gullickson, professor emeritus dairy husbandry, September 30, 1961.
Donald G. Paterson, professor emeritus psychology, October 4, 1961.
Ben Sommers, clinical assistant professor medicine, October 18, 1961.
Herbert C. Nelson, clinical professor emeritus, School of Dentistry, November 7, 1961.
Edward C. Thiel, assistant professor, School of Mines and Metallurgy, November 9, 1961.
Amos S. Wells, professor emeritus, School of Dentistry, November 9, 1961.

- Ernest A. Heilman, professor emeritus, School of Business Administration, November 22, 1961.
- E. Mendelssohn Jones, clinical professor emeritus surgery, December 7, 1961.
- John J. Bittner, professor and director Division of Cancer Biology, December 14, 1961.
- Joseph M. Thomas, professor emeritus English, January 4, 1962.
- William Lindsay, professor emeritus music, January 6, 1962.
- Alvey M. Pilkey, assistant professor emeritus, Northwest School and Station, January 26, 1962.
- James B. Fitch, professor emeritus dairy husbandry, February 10, 1962.
- William T. Peyton, professor emeritus neurosurgery, March 3, 1962.
- Ora M. Leland, dean and professor emeritus, Institute of Technology, March 30, 1962.
- Harold C. Hillman, clinical associate professor, School of Dentistry, April 13, 1962.
- William H. Bussey, professor emeritus mathematics, College of SLA, June 6, 1962.

HONORS AND DISTINCTIONS

Administration

O. MEREDITH WILSON served as member, Executive Committee, and member, Board of Directors, Upper Midwest Research and Development Council; chairman, Commission on Plans and Objectives in Higher Education, and member, Executive Committee, American Council on Education; member, National Defense Education Act Committee, and member, "Task Force" on Humanities and Social Studies Committee, Association of American Universities; member, Council on Higher Education in the American Republics, chairman, Advisory Committee to College and University Presidents Committee, vice chairman, Board of Trustees, member, Regional Advisory Committee, Midwest Office, and member, Council on Foreign Relations, Institute of International Education; chairman, Commission on the Rights, Liberties and Responsibilities of the American Indian, The Fund for the Republic, Inc.; member, Executive Committee, Carnegie Foundation for Advancement of Teaching; member, Board of Trustees, Institute for College and University Administrators; member, Board of Trustees, Teachers Insurance and Annuity Association of American and College Retirement Equities Fund; member, Steering Committee, State Universities Association; member, Advisory Committee, Board of Control of Florida; member, Board of Trustees, Fund for Dental Education; member, American Library Trustee Association; member, Panel on Basic Research and Graduate Education, President's Science Advisory Committee; member, National Council, Atlantic Union Committee; member, Board of Directors, Center for Advanced Study in the Behavioral Sciences; member, Committee on the Role of Education in American History; trustee, Committee for Economic Development; member, Business Ethics Advisory Council, U. S. Department of Commerce; member, Defense Advisory Committee on Education in the Armed Forces; member, Panel on Educational Research and Development, President's Science Advisory Committee and National Science Foundation; member, Board of Trustees, Educational Testing Service; member, Selection Committee, General Motors National Scholarship Plan; member, Educational Policies Commission, National Education Association; member, Board of Trustees, National Opinion Research Center; member, U. S. National Commission for the United Nations Educational, Scientific and Cultural Organization; chairman, *ad hoc* Advisory Commission Panel on Educational Statistics, U. S. Department of Health, Education, and Welfare; and chairman, Liaison Committee on Higher Education, State of Minnesota. He was also elected to honorary membership in the Gamma Psi chapter, Alpha Phi Omega; Alpha Kappa Psi, and Phi Beta Kappa. He was awarded the honorary degree, Doctor of Laws, by Carleton College, Macalester College, and the University of Utah.

STANLEY J. WENBERG served as University of Minnesota representative, Committee on Institutional Cooperation, Council of Ten and the University of Chicago; chairman, Educational Advisory Committee, Midwest Conference,

Council of State Governments; secretary-treasurer, Association of Minnesota Colleges; member, Board of Directors, International Center for Students and Visitors; member, Minnesota Citizens Committee for Public Education; member, Educational Policies Commission, Minnesota Education Association; trustee, University of Minnesota Foundation; vice chairman and secretary, University of Minnesota Coordinating Council; member, Public Relations Committee, Upper Midwest Economic Study; member, Board of Directors, North Star Research and Development Institute; member, Board of Directors, Minnesota Mental Health Association; member, Board of Directors, Minneapolis Chamber of Commerce; member, Hennepin County United Fund Board; and chairman, Schools Division, Hennepin County United Fund Drive.

WILLARD L. THOMPSON served as member, Selections Board, Awards for Outstanding Advertising in the Public Interest, *Saturday Review*; liaison member, Southeast Minneapolis Planning and Coordinating Council; and participant, Leadership Training Program, North Central Association of Colleges and Secondary Schools.

Academic Administration

MALCOLM M. WILLEY served as member, Board, National Science Foundation; chairman, Committee on the Social Sciences; member, Board of Directors, Social Science Research Council; director, Midwest Inter-Library Center; and director, Walker Art Center.

Office of Admissions and Records

T. E. KELLOGG served as chairman, College and High School Relationships Committee, American Association of Collegiate Registrars and Admissions Officers; and received an award from the American Association of Collegiate Registrars and Admissions Officers.

T. E. PETTENGILL served as chairman, Big Ten and University of Chicago Registrars and Admissions Officials; and member, Minimum Data and Definitions Committee, American Association of Collegiate Registrars and Admissions Officers.

R. E. SUMMERS served as member, Steering Committee, African Scholarship Program, American Universities; he also was member, Committee on Transcript Adequacy, American Association of Collegiate Registrars and Admissions Officers; and member, General Motors National Scholarship Plan Committee.

Office of the Dean of Students

HENRY E. ALLEN served as chairman, Indian Sub-Committee, Governor's Human Rights Commission; vice president, Board of Directors, Minneapolis Indian Employment Center; member, Board of Directors, vice president and chairman, Executive Committee, Minneapolis Civic Orchestra; member, Board of Directors, Foreign Policy Association of Minnesota; member, Minneapolis Mayor's Commission on Human Relations; vice president and president, Association for the Coordination of University Religious Affairs; and member, Board of Directors, International Center for Students and Visitors.

RALPH F. BIRDIE served as member, Advisory Committee on Testing, Educational Testing Service; member, Committee on Equality of Opportunity in Higher Education, and member, High School-College Relations Committee, American Council on Education; regional coordinator, Project TALENT; Minnesota coordinator, American College Testing Program; member, Advisory Committee, General Mills Scholarship Program; member, Research Panel, United States Office of Education; member, Yearbook Committee, National Society for the Study of Education; consultant, Veterans Administration Training Program; member, Council of Representatives, member, Executive Committee, Division 17, American Psychological Association Committee, Di-

vision 17, member, Committee on Evaluation, and member, Committee on Confidentiality of Records, American Psychological Association; member, Committee on Testing, Minnesota Counselors Association; member, Committee on Prospective Students, American Association of University Professors and member, Subcommittee on Testing, Board Advisory Committee, member, High School-College Relations Committee, and member, Advisory Committee on Counseling and Testing, Minnesota State Board of Education. He also received a research grant from the United States Office of Education.

EMMANUEL M. BERGER served as regional correspondent, Division 17, Newsletter (*Counseling Psychology*); and commission member, 1963 Convention, American Personnel and Guidance Association.

DAVID P. CAMPBELL served as member, Convention Program Committee, Town and Country Pastors. He also received a United States Office of Education research grant.

ALICE M. CHRISTIAN served as co-chairman, Election Committee, and member, Membership Committee, Minnesota Rehabilitation Association; member, Board of Trustees, and member, Nominating Committee, Twin City Vocational Guidance Association; and member, Convention Committee, American Personnel and Guidance Association.

HELENER K. CURRIER was elected to Psi Chi, National Honorary Psychology Organization.

THEDA HAGENAH served as member, Executive Council, and treasurer, American College Personnel Association; delegate, American Personnel and Guidance Association; member, Advisory Committee, and president, Minnesota Association of Deans and Counselors of Women; and member, chairman, Nominating Committee, Student Personnel Section, Minnesota Education Association.

ERNEST H. HENRIKSON served as consultant, Aphasia Clinic, Minneapolis Veterans Administration Hospital; chairman, Committee on Communications of the Health Committee, Governor's Citizens Council on the Aging of Minnesota; book review editor, *Journal of Speech and Hearing Disorders* and *Journal of Speech and Hearing Research*, American Speech and Hearing Association.

VIVIAN H. HEWER served as membership chairman, Twin City Vocational Guidance Association; member, informal committee on status of counseling psychology, District 17, member, Ad Hoc Committee, and member, Committee on Psychology in the Training of Counselors, American Psychological Association; and consultant, Veterans Administration.

ALBERT B. HOOD received a research grant from the United States Office of Education.

JOHN M. HUEBNER served as consultant, Southeast Minneapolis Planning and Coordination Committee.

HAROLD R. MARQUARDT served as member, Commission III, Student Residence Programs, American College Personnel Association.

HUGH J. MCCARDLE served as president, Eta Chapter, University of Minnesota, Phi Delta Kappa; coordinator, Annual State Fair Current Events Quiz Contest; president, Twin City Chapter, River Falls State College Alumni, and delegate, Phi Delta Kappa International Biennial Meetings.

MABELLE G. McCULLOUGH served as member, Board of Directors, and chairman, Program Committee, Wesley Foundation; member, Committee for the Study of Financing Public Education, Minnesota State Division, American Association of University Women; member, Women's Advisory Council for Civil Defense, State of Minnesota; and member, International Committee, Institutional Representative and chairman, Off-Campus Housing Committee, Association of College and University Housing Officers.

CORNELIA McCUNE served as executive secretary, State Board of Examiners of Psychology.

JACK C. MERWIN served as member, Committee to Develop Test of Measurement Competencies, and chairman, Committee to Study the Reliability of Testscor Scoring Service, National Council on Measurements in Education;

consultant, Buffalo University; consultant, Minneapolis School of Art; and consultant, Luther Seminary.

JOSEF MESTENHAUSER served as member, Board of Directors, and chairman, Research Committee, National Association of Foreign Student Advisers.

FORREST G. MOORE served as acting chairman, Advisory Committee, Foreign Student Leadership Project, National Student Association; chairman, Committee on Placement, National Association of Foreign Student Advisers; member, Committee on International Education, and chairman, Project on Membership of Asian Personnel Workers, American Personnel and Guidance Association.

GERHARD NEUBECK was awarded a Fulbright lectureship and served as member, Executive Board, Minnesota Council on Family Life; member, Committee on Standards and Training, American Association of Marriage Counselors; and chairman, Financial Committee, National Council on Family Relations.

BARBARA J. OSTRANDER served as editor, *Newsletter* and member, Executive Committee, Twin City Vocational Guidance Association.

ALTON L. RAYGOR served as member, Board of Directors, and chairman, Ethics Committee, Minnesota Reading Association; member, Board, chairman, Program Committee, and Treasurer, North Central College and Adult Reading Association; Minnesota chairman, International Reading Association; member, Research Advisory Committee, National Reading Research Foundation; and member, Board, Reading Research Services, Inc.

JAMES H. REEVES served as member, Board of Directors and chairman, Research Committee, St. Paul Urban League; member, Governor's Committee on Human Rights; member, Steering Committee for 1964 National Convention, National Association of Foreign Student Advisers; member, Committee on the History of the Negro in Minnesota, Minnesota Historical Society.

GEORGE B. RISTY served as chairman, Minnesota Indian Scholarship Committee; chairman, Scholarship Selections Committee and member, Advisory Council, GEM Stores; member, National Advisory Panel, National Defense Student Loan Program, United States Office of Education; chairman, Scholarship Selections Committee, Great Northern Railroad; chairman, Scholarship Selections Committee, Northern States Power Company; chairman, Scholarship Selections Committee, International Milling Company Scholarship Programs; member, Scholarship Selections Committee, Tozer Foundation; member, Scholarship Selections Committee, Minneapolis P.T.A.; and member, Scholarship Selections Committee, Sears-Roebuck Foundation Scholarship Programs.

RUTH ROBERTS served as chairman, Teachers of English Section, Regional Conference of Foreign Student Advisers; member, Region IV Conference Program Committee, National Association of Foreign Student Advisers; Region IV Chairman, Language Section Program, Regional Conference, National Association of Foreign Student Advisers; and consultant, Robbinsdale Public Schools.

LEVERNE F. SNOXELL served as member, Minnesota State Civil Service Examining Board.

MARGARET SPACE served as member, Executive Committee, member, Board of Trustees, and secretary-treasurer, Twin City Vocational Guidance Association; chairman, Program Committee, and vice president, Richfield Alumnae Chapter, Mu Phi Epsilon; and member, Board of Directors, and secretary, Minneapolis Women's Rotary Club.

CLARK D. STARR served as member, Professional Advisory Committee, Minnesota Society for Crippled Children and Adults.

ROSE EDITH STEDMAN served as member, Minneapolis Volunteer Service Bureau Advisory Board; member and chairman, State Higher Education, American Association of University Women; and member, American Psychological Association.

EDWARD O. SWANSON served as vice president, and member, Board of Directors, Twin City Vocational Guidance Association; treasurer, Minnesota

Council for the Gifted; consultant, American Board of Dermatology; consultant, Minnesota School Mathematics Study Group Project; and member, Research Committee, Minnesota Counselors Association.

FORREST L. VANCE served as member, Executive Council, Minnesota Psychological Association.

THEODORE C. VOLSKY served as chairman, Program Committee, Annual Conference, Minnesota Psychological Association; member, Program Committee, Annual Conference, Minnesota Psychological Association; member, Program Committee, Town and Country Pastors; consultant, University of Chicago Counseling Center Research Project; and chairman, State Membership Committee, American College Personnel Association.

BENJAMIN WILLERMAN was awarded a Social Science Research Council Faculty Research Fellowship.

EDMUND G. WILLIAMSON served as chairman, Commission VIII on Students' Discussion and Action on Social Issues, National Association of Student Personnel Administrators; member, Advisory Committee on Counseling and Guidance Training Institutes Program, National Defense Education Act, United States Office of Education; member, Advisory Committee on Counseling Services for Vocational Rehabilitation and Education, United States Veterans Administration; consultant, Minneapolis Office, Veterans Administration; chairman, Committee Studying Upgrading of Services for Foreign Students, National Association of Foreign Student Advisers; editor, Minnesota Library of Student Personnel Work, and Studies in Student Personnel Work, University of Minnesota Press; member, Board of Cooperating Editors, *Journal of Counseling Psychology* and *Journal of Educational and Psychological Measurement*. He also received the Nancy C. Wimmer Award, American Personnel and Guidance Association.

DONALD R. ZANDER served as member, State Directing Committee, Lutheran Student Foundation of Minnesota; member, Campus Directing Committee, Lutheran Student Foundation; consulting psychologist, Minnesota Psychological Association; vice-president, University Lutheran Church of Hope.

University Press

JOHN ERVIN, JR. served as member and acting chairman, Admissions and Standards Committee, Association of American University Presses; and member, Annual Meeting Program Committee, Association of American University Presses.

JANE MCCARTHY received five Chicago Book Clinic awards, four Midwestern Books Competition Awards, and a "Fifty Books of the Year" award, American Institute of Graphic Arts for the design of books.

University Libraries

RAYMOND A. BOHLING served as member, Executive Committee, and member, Board of Directors, Minnesota Chapter, Special Libraries Association.

LOIS R. FERM served as Keeper of the Records, Epsilon Chapter, Pi Lambda Theta (National Honorary Educational Organization for Women).

H. DONALD FERRIS served as chairman, Agricultural and Biological Sciences Sub-section, and member, Executive Board, Subject Specialists Section, American Library Association.

KATHARINE M. HOLUM served as member, Board of Editors, *Response*, Lutheran Society for Worship Music in the Arts.

RALPH H. HOPP served as member, Council, American Library Association; member, Board of Directors, and member, Steering Committee, University Libraries Section, Association of College and Research Libraries.

CARL JACKSON served as member, Executive Committee, Acquisitions Section, Resources and Technical Services Division; chairman, Bookdealer-Library Relations Committee, Chairman, Sub-Committee on Mechanization; member, Nominating Committee, Acquisitions Section, and member, Com-

mittee on Organization, Resources and Technical Services Division, American Library Association.

JOHN PARKER served as executive secretary, Society for the History of Discoveries; and president, Twin Cities chapter, the Manuscript Society.

EDWARD B. STANFORD served as member, Committee on Library Resources, Resources and Technical Services Division, and member, Subcommittee on Microfilming Projects, American Library Association; and member, Advisory Committee of Librarians, Midwest Inter-Library Center.

VERNERS J. VITINS served as member, Board of Trustees, and secretary, American Latvian Association.

Department of Concerts and Lectures

JAMES S. LOMBARD served as local manager, Spring Festival, and co-chairman, Upper Midwest Regional Auditions, Metropolitan Opera; assistant secretary, Advisory Committee, Gideon Seymour Memorial Lecture Series; member, Advisory Committee, Sidney Hillman Lecture Series; member, Advisory Committee, "Music Under the Stars," Junior Chamber of Commerce; member, Advisory Committee, Young Artists Contest, Women's Association of the Minneapolis Symphony Orchestra; member, Board of Directors, St. Paul Civic Opera; advisory member, Management Committee, Six O'Clock Club; chairman, Committee for the Development of Opera; director, National Association of Concert Managers; vice president and president, Evergreen Club; member, Minneapolis Economic Roundtable; and director, St. Paul Civic Opera. Re-wrote the Charter, Constitution and By-Laws of the Minnesota Odd Fellows Home.

PAUL K. PETERSON served as president, North Central Theatre Association.

THEODORE E. STALL served as president, National Assembly Managers' Association.

Bureau of Institutional Research

MARY CORCORAN served as consultant, College Entrance Examination Board, International Study of University Admissions, UNESCO.

EARL N. RINGO served as member, Research Team, Liaison Committee on Higher Education in Minnesota.

JOHN E. STECKLEIN served as chairman, Research Team, Liaison Committee on Higher Education in Minnesota; chairman, National Institutional Research Forum; member, Higher Education Advisory Committee, Midwestern Regional Conference of the Council of State Governments; and member, Visitation Team, North Central Association.

Minnesota Museum of Natural History

W. J. BRECKENRIDGE received an Atomic Energy Commission research grant.

JOHN R. TESTER served as session chairman, First International Conference on Wildlife Diseases; and session chairman, First Symposium on Radioecology.

DR. D. W. WARNER served as member, Board of Trustees, St. Paul Institute; and received research grants from the Hill Family Foundation, National Institutes of Health, and National Science Foundation.

Student Unions

PAUL W. LARSON served as consultant, North Dakota University Union building; chairman, Red Cedar Point Association; and member, Board of Directors, Twin City Civic Orchestra.

GORDON L. STARR served as member, Boys State Committee, American Legion; trustee, Diamond Lake Lutheran Church; chairman, Scholarship Committee, vice president and president, Minnesota Recreation Association; member, Governor's Advisory Committee on Youth; chairman, Boy Scouts of

America Troop; research director, National Industrial Recreation Association; trustee, National Industrial Foundation; member, National Advisory Committee on Recreation Research; and member, National Committee on Recreation Standards. He also received an award from the National Industrial Recreation Association.

University Health Service

RICHARD G. BOND served as consultant, Division of Research Services, consultant, Biophysics Section, Technical Development Laboratories, Communicable Disease Center, and consultant, National Cancer Institute, National Institutes of Health, Public Health Service; coinvestigator, National Institutes of Health Research Grant; member, Governing Council and Executive Committee, and chairman, Environmental Health and Safety Section, American College Health Association; chairman, Hospital Facilities Committee, American Public Health Association; and member, Committee on Professional Preparation in Health Education, American National Committee for Health Education of the Public Health. He also received a World Health Organization Educational Travel Fellowship.

RUTH E. BOYNTON served as member, State Board of Health; coinvestigator, Kimberly-Clark Corporation Research Grant; and principal investigator, Kimberly-Clark Corporation Research Grant; and secretary-treasurer, American College Health Association. She also received the Dr. Francis E. Harrington Award.

DONALD W. COWAN served as coinvestigator, United States Public Health Service Research Grant; and was elected honorary member, British Student Health Officers Association.

EDWARD J. DVORAK served as member, Professional Advisory Committee for the Architectural Barriers Educational Survey Project, Minnesota Society for Crippled Children and Adults; member, Public Health Coordinating Council, Greater St. Paul United Fund and Council, Inc.; and editor, *Newsletter*, American College Health Association.

GEORGE S. MICHAELSEN served as consultant, Architectural and Engineering Branch, Division of Hospital and Medical Facilities, Bureau of State Services; and consultant, Sanitary Engineering Branch, Division of Research Services, National Institutes of Health, United States Public Health Service; member, Advisory Committee on Radiological Safety, and member, Advisory Committee on Minnesota Poison Information Center, State Board of Health; president, Board of Trustees, Augsburg College and Theological Seminary, Minneapolis; secretary, Board of Trustees, Lutheran Deaconess Hospital, Minneapolis; member, Committee on Hospital Facilities, Engineering and Sanitation Section, American Public Health Association; representative of the American Public Health Association to American Standards Association, Subcommittee on Use and Handling of Radioactive Isotopes and High Energy Radiation, and representative of the American Public Health Association on the American Standards Association Subcommittee on Lighting A53, and member, Agricultural Committee, American Conference of Governmental Industrial Hygienists.

LEE D. STAUFFER served as chairman, Student Housing Committee, American College Health Association.

Business Administration

LAURENCE R. LUNDEN served as secretary, and member, Board of Directors, Midwestern Universities Research Association; member, Board, 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 Committee of Business Officers, Association of Land-Grant Colleges and Universities—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; mem-

ber, Board of Trustees, Fairview Hospital; member, Board of Directors, Velie-Ryan Corporation; and treasurer, Central Lutheran Church.

College of Science, Literature, and the Arts

ERNEST C. ABBE received research grants from the National Science Foundation.

HAROLD B. ALLEN served as member, National Advisory Council on Teaching of English as a Second Language; member, National Advisory Council on a Testing Program in English as a Foreign Language; chairman, Language Arts Advisory Committee, Minnesota State Board of Education; associate director, Minnesota Curriculum Center; member, Board of Managers, American Name Society; chairman, Linguistics Section, Midwest Modern Language Association; and member, Committee on State of Knowledge about the Teaching of Composition, member, Committee on Preparation and Certification of Teachers of English, member, ad hoc committee on the National Interest, member, Committee on the Right to Read, member, Commission on the English Language, member, Advisory Council, member, Executive Committee, chairman, Advisory Board for English as a Foreign Language textbook project (USIA), first vice president, and president, National Council of Teachers of English.

JOSEF L. ALTHOLZ served as associate editor, *Wellesley Index to Victorian Periodicals*.

V. ELVING ANDERSON served as secretary-treasurer, American Scientific Affiliation; member, Board of Trustees, Minnesota Academy of Science; member, Board of Trustees, Baptist Hospital Fund (St. Paul); and consultant, Perinatal Research Branch, National Institute of Neurological Diseases and Blindness.

DOMINICK ARGENTO was elected to the American Society of Composers, Authors, and Publishers.

CHARLES W. BACKSTROM served as director, Minnesota Citizenship Clearing House; member, Planning Committee, and chairman, Panel of Municipal Finance, Governor's Council on Metropolitan Problems. He also received a grant from the Ford Foundation.

ARTHUR H. BALLETT served as chairman, Liaison Committee between the American Educational Theatre Association and the National Council of Teachers of English.

PAUL W. BAMFORD received a research grant from the University of Paris and was awarded a Guggenheim Fellowship.

WARD J. BARRETT served as member, Committee on Climatology, Association of American Geographers.

GLEN BAXTER received research grants from the United States Air Force and the Fulbright Foundation.

W. DONALD BEATTY served as president, Upper Midwest History Conference.

R. M. BENOLKEN received a United States Public Health Service research grant.

ROBERT F. BERKHOFFER, JR. served as member, Advisory Committee on Social Studies, Minnesota State Board of Education; representative, Membership Committee, Mississippi Valley Historical Association; and secretary-treasurer, Upper Midwest Section, American Studies Association.

DAVID K. BERNINGHAUSEN served as member, Council, and chairman, Committee on Accreditation, American Library Association; member, Executive Board, Association of American Library Schools; chairman, Committee on Intellectual Freedom, Minnesota Library Association; and vice president and president, Minnesota Chapter, American Association of University Professors.

WERNER W. BOEHM served as chairman, Committee on Community Organization, Governor's Citizen's Council on Aging; consultant, Committee on Psychiatry and Social Work, Group for the Advancement of Psychiatry; member, Commission on Education, and member, Committee on Education,

Psychiatric Social Work Section, National Association of Social Workers; member, House of Delegates, and member, Curriculum Committee, Council on Social Work Education; and vice chairman, Commission II, and rapporteur, Study Group I, Xth International Conference of Schools of Social Work. He also received a National Institute of Mental Health research grant.

JOHN R. BORCHERT served as member, Presidential Nominating Committee, Association of American Geographers; urban research director, Upper Midwest Economic Study; member, Minnesota Natural Resources Council; and chairman, Advisory Committee on Social Studies, Minnesota State Board of Education. He also received Minnesota Highway Department and United States Bureau of Public Roads research grants.

ERNEST G. BORMANN served as member, Discussion and Group Methods Interest Group, member, Radio-Television-Film Interest Group, and member, Rhetoric and Public Address Interest Group, Speech Association of America; and chairman, Division Section, Central States Speech Association.

JAN O. M. BROEK served as delegate to the American Council of Learned Societies, vice president, and president, Association of American Geographers; and United States delegate to XIXth International Geographical Congress. He also received an American Council of Learned Societies—Social Science Research Council research grant.

MITCHELL V. CHARNLEY served as member, Executive Committee, Association for Education in Journalism; member, Board of Directors, National Association for Mental Health; and president, Minnesota Association for Mental Health.

HAROLD W. CHASE served as member, Governor's Self-Study Survey. He also received a Brookings Institute grant.

P. E. CLOUD, JR. served as member, Pacific Science Board, National Research Council; member, ad hoc Panel on Oceanographic Facilities, National Science Foundation; member, Governor's Advisory Committee on Minnesota Geological Survey; member, Advisory Committee, Minnesota Museum of Natural History; member, Traveling Committee, First National Coastal and Shallow Water Research Conference, National Science Foundation—Office of Naval Research; co-chairman, Woodring Conference on Major Biological Innovations and the Geologic Record, National Academy of Sciences—Carnegie Institution of Washington; member, Baton Rouge Conference on Coastal Geography, Office of Naval Research; chairman, Committee on Review Articles in Geology, and member, ad hoc Committee on National Medal of Science, Geological Society of America; and member, Walcott Fund Committee, and member, Mary Clark Thompson Fund Committee, National Academy of Sciences. He also delivered the S. F. Emmons Lecture, Colorado Scientific Society; served as visiting lecturer, University of Texas, and received a National Science Foundation grant.

MIRIAM R. COHN served as chairman, Standing Committee on Group Work Practice in the School System, National Practice Committee, National Association of Social Workers; member, Social Service Committee, Governor's Conference on Children and Youth; and member, Executive Committee, Minnesota Conference, Social Work Education.

BEULAH COMPTON served as vice chairman, Social Action Committee, chairman, Corrections Committee, and consultant, National Association of Social Workers; member, Advisory Committee on Corrections, Council on Social Work Education; delegate, Casework Council, St. Paul; member, Governor's Committee on Children and Youth; member, Application Review Panel, Department of Health, Education, and Welfare; and coordinator, Family Centered Project, Greater St. Paul Community Chest and Council.

CAMPBELL CRADDOCK served as member, University Committee on Polar Research, National Science Foundation; geologist, United States Bellingshausen Sea Expedition; and leader, Eighth Coast Expedition, Antarctica. He also received a National Science Foundation grant.

JOHN A. CRANE served as consultant, Minnesota State Welfare Department; consultant, Texas State Department of Social Welfare; and chairman, Re-

search Section, Southern Minnesota Chapter, National Association of Social Workers.

A. ORVILLE DAHL served as chairman, General Section, International Conference on Palynology; chairman, University of Oslo Summer School Scholarship Committee; chairman, Norwegian-American Scholarship Fund; and member, Board of Directors, Minneapolis Chapter, Nordmanns Forbundet; and president, Science Club. He also received National Science Foundation and National Institutes of Health grants.

HAROLD C. DEUTSCH served as member, Advisory Board, Program of Information on World Affairs; member, Executive Committee, Foreign Relations Committee; member, Executive Board, Foreign Policy Association; member, Awards Committee, McKnight Foundation; trustee, Institute for Documentary Research on Foreign Nations; and consultant, United States Army War College.

DON DROBAC was elected to Alpha Kappa Delta, sociology honor society.

MARVIN D. DUNNETTE served as president, Twin City Vocational Guidance Association; and member, Council of Representatives, chairman, Committee for the Division of Industrial Psychology, and fellow, American Psychological Association.

EDWIN EMERY served as associate editor, *Journalism Quarterly*; and member, Executive Committee, Commission on History of the Press, International Congress of Historical Sciences.

EUGENE H. FALK served as secretary and chairman, Comparative Literature Section, Modern Language Association; secretary and chairman, Comparative Literature Section, Midwest Modern Language Association; and member, National Advisory Committee, International Federation for Modern Languages and Literature.

CHARLES H. FOSTER served as editor, *New England Quarterly*.

ROY G. FRANCIS served as member, Research Committee, Hennepin County Community Health, Welfare Council; associate editor, *Social Problems*; consulting editor, *Sociological Quarterly*; delegate, Minnesota Conference of the Congregational Church; and president, Brimhall PTA, Roseville Public Schools.

PAUL FREED served as president, Alpha Sigma Chapter, Pi Kappa Lambda, music honor society; member, Materials Committee, Minnesota Music Teachers' Association; and state contest judge, Minnesota Public School Music League.

ALBERT W. FRENKEL received research grants from the Kettering Foundation, the National Science Foundation, and the United States Public Health Service.

ERHARD FRIEDRICHSMEYER served as native informant, National Defense Education Act Summer Language Institute.

JOSEPH GALL received research grants from the National Science Foundation and the National Cancer Institute.

NORMAN GARMEZY served as chairman, Small Grants Committee, and member, Special Grants Review Committee, National Institute of Mental Health. He also received a research grant from the National Institute of Mental Health.

PAUL W. GAST served as member, Geophysical Research Board, National Academy of Science. He also received National Aeronautics and Space Administration and National Science Foundation grants.

BERNARD R. GELBAUM received a National Science Foundation grant.

J. EDWARD GERALD served as member, Committee on Professional Freedom and Responsibility, Association for Education in Journalism; member, Committee on Freedom of Expression, Minnesota Branch, American Civil Liberties Union; and chairman, Committee on Faculty-Student Relationships, Minnesota Chapter, American Association of University Professors.

RALPH E. GIESEY served as president, Minnesota Society of the Archaeological Institute of America; and member, Committee on Medieval and Modern

Coins, American Numismatic Society. He also received a Rockefeller Foundation grant.

JESUS GIL DE LAMADRID received a National Science Foundation grant.

KENNETH L. GRAHAM served as second vice president, member, Board of Directors, member, Executive Committee, American Educational Theatre Association; member, Board of Directors, American National Theatre and Academy; member, Educational Committee, Citizens League of Minneapolis; member, Screening Committee, Minneapolis Citizens Organized for Responsible Government; member, Speakers Bureau, Minneapolis United Fund; chairman, Drama and Pageants Committee, Minnesota Civil War and Sioux Rising Centennials; editorial adviser, *Directing for the Theatre* and *Introduction to Acting*; and district and regional critic judge, Minnesota State High School League. He also received a Ford Foundation grant.

MARSHALL G. GREENBERG was awarded a grant from the National Institutes of Health.

EDWARD GROSS served as consultant, Government of Alberta, Canada; and member, Governing Board, Jewish Vocational Service, St. Paul.

HEINRICH GUGGENHEIM received a United States Air Force grant.

ALRIK GUSTAFSON served as chairman, Advisory Committee, member, Nominating Committee, chief bibliographer, *Annual Bibliography*, Scandinavian Languages and Literature Section, and chairman, Committee on Evaluations, Swedish Section, Modern Language Association of America. He received the Henrik Schück Award of the Swedish Academy; was elected to Värmlands Nation, Uppsala University, Sweden; and also received a Fulbright grant.

CLIFFORD I. HAGA served as chairman, Employment Committee, Twin City Chapter, and member, Price Waterhouse Award Committee, Systems and Procedures Association of America. He also received the Systems Man of the Year award, Twin City Chapter, Systems and Procedures Association.

JOHN W. HALL received a National Science Foundation research grant.

LAURENCE R. HARPER, JR. received a National Science Foundation research grant.

ERNEST H. HENRIKSON served as chairman, Subcommittee on Problems of Communication, Governor's Committee on Problems of Aging; consultant, Hennepin County Chapter, American Cancer Society; consultant, Veterans Administration Hospital; member, Committee on Association Honors, chairman, Association Planning Committee, and chairman, Committee on Liaison with the International Association of Laryngectomees, American Speech and Hearing Association; and book review editor, *Journal of Speech and Hearing Disorders* and the *Journal of Speech and Hearing Research*.

REUBEN HILL served as member, Social Scientists Advisory Committee, Social Security Administration; member, National Advisory Committee on Behavioral Science Research, Disaster Research Group, Office of Civilian Defense; consultant, Biosocial Growth Center, National Institute of Mental Health; consultant, Family Service Association of America; chairman, Committee on Family Research, International Sociological Association; and member, Executive Committee, American Sociological Association. He was elected to honorary membership, Instituto de Estudios Políticos, University of Madrid; and received the Ernest W. Burgess Award, a Fulbright grant and a National Institute of Mental Health grant.

FRANK D. HIRSCHBACH served as president, Minnesota Chapter, American Association of Teachers of German; and vice-president, Midwestern Modern Language Association.

E. ADAMSON HOEBEL served as member, Committee on the International Exchange of Persons; member, Board, Social Science Research Council; and member, Governor's Human Rights Commission. He received a grant from the Center for Advanced Study in Behavioral Sciences.

PHILIP HOVDA served as member, Committee for Revision of Standards of Child Caring Institutions, Minnesota State Department of Public Welfare; and

member, Executive Board, and member, Nominating Committee, Southern Minnesota Chapter, National Association of Social Workers.

WILLIAM S. HOWELL served as member, Advisory Committee of Discussion and Group Methods, member, Advisory Committee of the Public Address Interest Group, member, Legislative Assembly, and member, Legislative Assembly Committee on Resolutions, Speech Association of America; member, Advisory Committee, American Forensic Association; member, YMCA House of Delegates; and speech activities adviser, Minnesota State High School League.

ROBERT S. HOYT served as secretary, American Committee, International Commission for the History of Representative and Parliamentary Institutions; member, Board of Editors, *Studies in Medieval and Early Renaissance History*, University of Nebraska Press; and received a Social Science Research Council faculty fellowship.

MEI-LING HSU received a research grant from the University of Wisconsin.

JOHN D. HURRELL served as member, Regional Selection Committee, Woodrow Wilson National Fellowship Foundation, and editor, *Drama Survey*.

H. L. JAMES served as member, Solid Earth Panel, National Research Council; member, Council, chairman, Committee on Committees, and chairman, Budget Committee, Geological Society of America; member, Council, Society of Economic Geology; chairman, Governor's Advisory Board for the Geological Survey of Minnesota; and was elected to the National Academy of Sciences.

JAMES J. JENKINS served as member, Behavioral Sciences Study Section, National Institutes of Health, United States Public Health Service; member, Advisory Committee on Teaching of English, Minnesota State Board of Education; chairman, Committee on Linguistics and Psychology, Social Science Research Council; associate editor, *Psychological Monographs*, *Journal of Verbal Learning and Verbal Behavior*; and received research grants from the National Science Foundation, United States Public Health Service, and Social Science Research Council.

J. VERNON JENSEN served as chairman, Committee on Liaison with Speech Association of America and American Educational Theatre Association, National Council of Teachers of English.

ARTHUR L. JOHNSON served as vice chairman, Committee on Strengthening Family Life, Governor's Advisory Council on Children and Youth.

O. ELDEN JOHNSON served as visiting professor, University of Utah. He also received a National Science Foundation research grant.

DAVID E. JONES served as associate editor, *Drama Survey*; and was elected to Alpha Epsilon Rho, honorary radio-television fraternity.

ROBERT L. JONES served as member, Steering Committee, W. R. Hearst Foundation Journalism Awards; chairman, Education Committee, Minnesota Press Club; chairman, Personnel Committee, Region VI, Sigma Delta Chi; member, Advisory Editorial Board, *Journalism Quarterly*; and vice president, American Association of Schools and Departments of Journalism. He also received a United States Office of Education research grant.

TOM B. JONES received the 1960 McKnight Foundation Humanities Award and the 1961 McKnight Foundation Humanities Award.

PHILIP D. JORDAN served as member, Committee on Revision of the Social Studies Curriculum, Minnesota State Board of Education; member, Editorial Board, *Gopher Historian*, Minnesota Historical Society; member, Pelzer Memorial Committee, Mississippi Valley Historical Association; member, Membership Committee, Southern Historical Association; and consultant, American Documentation Center, Western Reserve University.

ROBERT K. JOSEPHSON received a National Science Foundation grant.

NORMAN S. KERR received a National Science Foundation grant.

JOHN C. KIDNEIGH served as president, member, National Board Executive Committee, and member, Joint Committee on Education, National Association of Social Workers; member, Committee on Advanced Education, member, Accrediting Panel of Study Teams, Council on Social Work Education; mem-

ber, Board of Directors, member, Personnel Standards Committee, Family and Children's Service Society of Minneapolis; member, Board of Directors, Minneapolis Urban League; member, Panel of Consultants, United States Veterans Administration.

FRED L. KILDOW served as director, National Scholastic Press Association, and director, Associated Collegiate Press.

FRANK B. KNIGHT received a United States Air Force research grant.

BARBARA L. KNUDSON served as member, Mayor's Advisory Committee on the Workhouse, Minneapolis.

GISELA KONOPKA served as Commission Member, International Conference of Social Welfare, Rome, Italy; chairman, Committee on Correction Institutions, Minnesota Governor's Advisory Council on Children and Youth; member, Advisory Council, Minnesota State Department of Corrections; member, Mayor's Committee on the Minneapolis Workhouse; member, Advisory Board, Minneapolis Juvenile Delinquency Project; member, Family and Child Welfare Division, Hennepin County Welfare Council; consultant, State Department of Public Welfare; consultant, Big Sister Association, Minneapolis; member, Editorial Board, *American Journal of Orthopsychiatry*; member, Board of Directors, vice-president, and president-elect, American Association of Orthopsychiatry; member, Board of Directors, National Conference of Social Welfare; member, Board of Directors, chairman, Group Work Section, National Association of Social Workers; chairman, History of Social Welfare Groups; and project reviewer, Department of Health, Education and Welfare. She also received a National Institutes of Health research grant.

DAVID L. LABERGE received a National Science Foundation grant.

ROBERT T. LAUDON served as member, Executive Board, East Central District, Music Teachers' National Association; and president, Minnesota Music Teachers' Association.

DONALD B. LAWRENCE served as member, Research Committee, Mazama Mountaineering Club; member, Committee on Glaciology, American Geographical Society; member, Board of Trustees, Minnesota Chapter, Nature Conservancy; and member, Cedar Creek Committee, Minnesota Academy of Science.

J. C. LEVENSON received an American Council of Learned Societies grant.

WERNER LEVI served as visiting professor, University of Hawaii.

ROBERT LINDSAY served as editor, *Static*, and member, Council on Radio and Television Journalism, Association for Education in Journalism; chairman, Committee on Research, and member, Advisory Board, *Bulletin*, Radio-Television News Directors Association; member, Educational Advisory Committee, Public Relations Society of America; member, Board of Directors, Minnesota Professional Chapter, Sigma Delta Chi; chairman, Committee on Constitution and By-Laws, and member, Education Committee, Minnesota Press Club; and member, International Conference on University Education for Public Relations.

GARDNER LINDZEY served as member, Psychopharmacology Study Section, National Institutes of Health; member, White House Panel on Drug Abuse; member, Committee on Faculty Fellowships, Social Science Research Council; chairman, Committee on Genetics and Behavior, Social Science Research Council; and associate editor, *Psychological Abstracts*.

BENJAMIN E. LIPPINCOTT served as first vice president, American Society for Political and Legal Philosophy; and member, ROTC Panel, Reserve Forces Policy Board, Department of Defense.

HYMAN S. LIPPMAN served as psychiatrist-director, Amherst H. Wilder Child Guidance Clinic, St. Paul; member, Executive Committee, and member, Steering Committee, Governor's Committee on Children and Youth; member, Governor's Committee on Exceptional Children; member, Committee on Certification in Child Psychiatry, American Board of Psychiatry and Neurology; and president, American Association of Psychiatric Clinics for Children.

RODNEY C. LOEHR served as member, Editorial Board, *Agricultural History*, and chairman, Edwards Memorial Awards Committee, *Agricultural History*

Society; member, Historical Sites Committee, Mississippi Valley Historical Association; and honorary member, Loyal Legion.

LLOYD H. LOFQUIST served as president, American Rehabilitation Counseling Association; member, Executive Council, American Personnel and Guidance Association; member, Counseling Psychology Professional Affairs Committee, American Psychological Association; member, Board Executive Council, Minnesota Psychological Association; chairman, Minnesota State Board of Examiners of Psychologists; member, Governor's Advisory Committee on Employment of the Handicapped; member, National Liaison Committee, University Rehabilitation Counseling Training Coordinators; and member, Board of Editors, *Personnel Guidance Journal*. He also received research grants from the United States Office of Vocational Rehabilitation.

WARREN S. LOUD served as editor, *SIAM Review*; and member, Board of Governors, Mathematical Association of America. He also received a United States Army research grant.

WILLEM J. LUYTEN served as visiting professor, National University of Mexico. He also received research grants from the National Science Foundation, the Office of Naval Research, the Hill Family Foundation, and the Guggenheim Foundation.

KENNETH MACCORQUODALE served as editor, *Century Psychology Series*; member, Psychological Sciences Review Panel, National Institute of Mental Health; consultant, Surgeon General, United States Navy; chairman, Area Psychology Advisory Panel, Veterans Administration; consulting editor, *Journal of Experimental Psychology*; and member, Minnesota State Board of Examiners in Professional Psychology. He also received a National Science Foundation research grant.

CHARLES A. MCCARTHY received a National Science Foundation grant.

E. W. MCDIARMID served as vice president, Association of Minnesota Colleges; and member, Executive Committee, James J. Hill Reference Library Trustees.

CHARLES H. McLAUGHLIN served as member, Board of Directors, and chairman, Policy Committee, Minnesota Division, American Association for the United Nations; member, Executive Board, League of Minnesota Municipalities; director, Minnesota Conference on World Tensions; and rapporteur and chairman, High School Residential Seminar on National Goals, and American Assembly Arms Control Conference.

MARY MALCOLM served as secretary, Alpha Sigma Chapter, Pi Kappa Lambda, honorary music society.

EUGENE COTTON MATHER served as co-chairman, Big Ten Faculty Field Research Seminar in Geography, Council of Institutional Cooperation; and member, Committee on Cultural Geography, Association of American Geographers.

PAUL E. MEEHL served as president, American Psychological Association; and member, American Board of Examiners in Professional Psychology. He also received a National Institutes of Health research grant.

LAWRENCE F. MERL served as member, Subcommittee on Programs of Preparation for School Social Workers, State Advisory Committee on Teacher Education, Minnesota State Department of Education; member, Commission on Social Work Practice, secretary, Executive Committee, member, Practice Committee, and member, Program Committee, School Social Work Section, member, Joint Committee, School Social Work—Social Group Work Sections, and member, Program Committee, Southern Minnesota Chapter, National Association of Social Workers; chairman-elect, Student Personnel Section, Minnesota Education Association; and member, Local Arrangements Committee, Region 8 Conference, American Association of Mental Deficiency.

DAVID JOHN MERRELL served as member, Advisory Committee, National Science Foundation. He also received a National Science Foundation research grant.

LENNOX A. MILLS received a Guggenheim Fellowship.

WILLIAM A. MINDAK served as editor, *Marketing Institute Proceedings*, American Marketing Association; and national alumni vice president, Alpha Delta Sigma, professional advertising fraternity.

ELIO D. MONACHESI served as chairman, Advisory Committee, Minnesota State Department of Corrections; chairman, Committee for Research in Anti-Social Behavior; member, Board of Directors, Big Brother, Inc., Minneapolis; and member, Trainee Policy and Screening Committee, Ramsey County Probation Department.

SAMUEL H. MONK served as member, Advisory Council, Department of English, Princeton University; member, Executive Council, Modern Language Association of America; and member, Special Committee, American Council of Learned Societies. He also served as visiting professor, University of California.

THOMAS MORLEY served as member, Board of Governors, Nature Conservancy; and member, Board of Trustees, Minnesota Chapter, Nature Conservancy.

KARL F. MORRISON was elected fellow, Royal Numismatic Society. He also received an American Philosophical Society research grant.

PAUL L. MURPHY served as visiting professor, University of Colorado.

MAYO K. NEWHOUSE served as member, Education and Standards Committee, American Public Welfare Association; consultant, Division of Technical Training, Bureau of Family Services, Department of Health, Education and Welfare. He also received a National Institute of Mental Health grant.

RAYMOND B. NIXON served as president, International Association for Mass Communication Research; editor, *Journalism Quarterly*, member, Council on Communications Research, and member, Committee on International Liaison, Association for Education in Journalism; consultant, Department of Mass Communication, UNESCO; and consultant, United States Department of State. He also received Department of State and Ford Foundation research grants.

DAVID W. NOBLE served as vice-president, American Studies Association of Minnesota and the Dakotas.

RICHARD E. NORRIS received a National Science Foundation research grant.

PAUL OBERG served as executive secretary-treasurer, Minnesota Public School Music League; and dean, American Federation of Music Congress of Strings.

MARCELLA OJA served as secretary, Twin City Chapter, National Association of Teachers of Singing; and vice president, Alumni Chapter, Sigma Alpha Iota, national music fraternity.

ANNE W. OREN served as vice-president, Board of Directors, Minneapolis Traveler's Aid Society; member, Advisory Committee, Margaret Barry Neighborhood House; consultant, Delta Gamma Memorial Foundation; member, Civic Contributions Committee, Minneapolis Woman's Club; and member, Executive Committee, Minnesota Council on Social Work Education.

STEVEN OREY received Air Force Office of Research and National Science Foundation grants.

GERALD B. OWNBEY received a National Science Foundation grant.

STANLEY G. PAYNE received Social Science Research Council and American Philosophical Society grants.

ORVILLE PETERSON served as editor, *Minnesota Municipalities*, and executive secretary, League of Minnesota Municipalities; member, Tax Study Committee, member, Civil Defense Advisory Council, and member, Citizens Council on the Aging; member, Minnesota Natural Resources Council; and member, Personnel Committee, Citizens League of Minneapolis and Hennepin County.

OTTO P. PFLANZE served as secretary-treasurer, Conference Group for Central European History. He also received a McKnight Foundation award.

W. C. PHINNEY received National Science Foundation grants.

PHILIP W. PORTER received National Science Foundation and National Institute of Mental Health grants.

WILLIAM E. PRUITT served as member, Program Committee, Annual Meeting, Institute of Mathematical Statistics. He also received Office of Naval Research and Air Force Scientific Research grants.

HERMAN RAMRAS served as associate director, National Defense Education Act Foreign Language Institute; secretary, and president, Lambda Alpha Psi; chairman, Conference of Chairmen of Big Ten German Departments; and chairman, Consultative Committee for the Humanities Program.

SHELDON C. REED served as chairman, Advisory Committee on Medical Genetics, and member, Advisory Committee on Radiation Hazards, Minnesota State Board of Health; and member, Governor's Committee on Mental Retardation. He also delivered the Wilhelmina E. Key Lecture, American Society of Human Genetics; and received United States Public Health Department and Minnesota Human Genetics League grants.

ARMAND A. RENAUD served as consultant, Minnesota State Department of Education; and official bibliographer, Modern Language Association of America.

JOHANNES RIEDEL served as chairman, Commission on Research, Lutheran Society for Worship, Music, and the Arts; associate editor, *Response*; contributing editor, *Jahrbuch fur Liturgik und Hymnologie*; and contributing editor, *Notable American Women, 1607-1950*.

ARNOLD M. ROSE served as chairman, Minnesota Planning Committee, and chairman, Minnesota Delegation, White House Conference on Aging; member, Governor's Citizens Council on Aging; member, Mississippi River Parkway Planning Committee; associate editor, *American Sociological Review*, associate editor, *Journal of Health and Human Behavior*; advisory editor, *The American Review*; president, Midwest Sociological Society; member, Executive Committee, Society for the Study of Social Problems; member, Executive Committee, Industrial Relations Research Association; member, Social Science Research Committee, International Association of Gerontology; chairman, Psychiatric Sociology Section, International Sociological Association; member, Executive Committee, Midwest Council for Social Research on Aging; co-chairman, Centenary Celebration of the Emancipation Proclamation, Wayne State University; and president, Marshall High School PTA. He also received a Rockefeller Foundation research grant.

EPHRAIM ROSEN served as consultant, Veterans Administration. He also received a National Institute of Mental Health research grant.

MORDECAI ROSHWALD received a McKnight Foundation Award.

RALPH ROSS delivered the Maurice Falk Lecture, Carnegie Institute of Technology.

WALLACE A. RUSSELL served as program chairman, Annual Meeting, Minnesota Psychological Association. He also received a National Institute of Mental Health research grant.

DARRETT B. RUTMAN received a McKnight Foundation award and an American Council of Learned Societies grant.

H. ETTA SALOSHIN served as member, Governor's Commission on Children and Youth, Social Services Committee; member, Governor's Commission on Aging, Community Organization Committee; member, Board of Directors, and chairman, Research Advisory Committee, Community Health and Welfare Council of Hennepin County; member, Board of Directors, and chairman, J. S. Joseph Scholarship Committee, Social Work Subcommittee, Minneapolis Federation of Jewish Welfare; and member, Executive Committee, Southern Minnesota Chapter, National Association of Social Workers.

ROY SCHUESSLER was elected fellow, American Institute of Vocal Pedagogy.

SMITH SCHUNEMAN served as member, National Board of Directors, Kappa Alpha Mu; and special correspondent, *Quill*.

LYNDELL SCOTT served as representative, Family and Child Welfare Committee, Hennepin County Community Health and Welfare Council; member, Sub-committee on Educational Qualifications for Social Workers in Public Health Programs, American Public Health Association; member, Committee on Recruitment, Southern Minnesota Chapter, National Association of Social

Workers; and member, Personnel Committee, Home Service Advisory Committee, Hennepin County Chapter of the American Red Cross.

ROBERT L. SCOTT served as member, Legislative Assembly, Speech Association of America; and contributing editor, *Quarterly Journal of Speech*.

KARL L. SELIG served as editor, *Bulletin of the Comediantes*; member, Research Committee, and member, Publication Committee, Special Committee, Modern Language Association of America; and fellow, Belgian American Educational Foundation. He also received American Philosophical Society and American Council of Learned Societies grants.

LLOYD M. SHORT served as president, Midwest Conference of Political Scientists; and member, Board of Directors, Citizens League of Minneapolis and Hennepin County.

MULFORD Q. SIBLEY served as member, National Fellowship Council, Danforth Foundation; member, Board of Directors, Minnesota Memorial Society; member, Regional Board, American Friends Service Committee. He delivered the Coe Lecture, Macalester College.

GERALD M. SIEGEL served as member, Program Committee, American Speech and Hearing Association; and member, Special Conference, President's Panel on Mental Retardation.

PHILIP SIEGELMAN received Hill Foundation and American Institute of Indiana Studies grants.

JOHN CAMERON SIM served as conference manager, Associated Collegiate Press; conference manager, National Scholastic Press Association; and editor, *Business Review*, Associated Collegiate Press.

WESLEY SIMONTON served as secretary-treasurer, Association of American Library Schools; and chairman, Committee on Award of the Margaret Mann Citation, American Library Association.

R. E. SLOAN received Hill Family Foundation and National Science Foundation grants.

DONALD K. SMITH served as member, Legislative Assembly, chairman, Advisory Committee to Discussion Interest Group, and member, Public Address Interest Group, Speech Association of America; member, Advisory Committee, Central States Speech Association; member, Language Arts Advisory Committee, Minnesota State Department of Education; consultant, Veterans Administration Hospital Administration Institutes; and associate director, "Project English Research Center."

TIMOTHY L. SMITH served as member, Executive Board, History of Education Society; and member, Committee on the Role of Education in American History. He also received a Fund for the Advancement of Education grant.

FRANCIS J. SORAUF, JR. served as member, Program Committee, Midwest Conference of Political Scientists. He also was co-winner of the Atherton Prize, American Political Science Association.

ROBERT F. SPENCER served as editor, *Minnesota Proceedings*, Academy of Science; and member, Governor's Human Rights Commission.

NELSON T. SPRATT, JR. served as member, Developmental Sciences Training Panel, and consultant, National Institutes of Health; director, Embryology Course, Marine Biological Laboratory, Woods Hole; and treasurer, American Society of Naturalists. He also received research grants from the National Science Foundation.

CLARK D. STARR served as member, Professional Advisory Committee, Minnesota Society for Crippled Children and Adults; consultant, Elizabeth Kenny Institute; and member, Advisory Committee on Children's Hearing Problems, Minnesota State Department of Education.

THEOFANIS G. STAVROU served as chairman, Minnesota Region, Midwestern Conference on Slavic Studies. He also received a Ford Foundation research grant.

BURTON STEIN served as member, Committee on South Asia, Association of Asian Studies; and member, Committee on South Asian History, American Historical Association. He also received a Fulbright grant.

MARTIN STEINMANN, JR. served as member, Committee on Censorship, National Council of Teachers of English.

GROVER C. STEPHENS received United States Public Health Service grants.

GREGORY P. STONE served as chairman, Section on Social Differentiation, American Sociological Association meetings; consultant, Outdoor Recreation Resources Review Commission; and consultant on Suburban Development, Institute of Engineers, Puerto Rico.

FREDERICK M. SWAIN served as secretary-treasurer, Minnesota Chapter, Sigma Xi; and member, Matson Award Committee, member, Business Committee, and regional representative, North Central Region, American Association of Petroleum Geologists. He also received research grants from the Petroleum Research Fund, American Chemical Society, and the National Science Foundation.

ALLEN TATE served as member, Award Jury for the Bollingen Prize in Poetry, Yale University. He also received the Brandeis University Medal Award; and the honorary degree of Doctor of Letters, University of Kentucky.

DAVID W. THOMPSON served as critic-judge, Minnesota State High School League; member, Program Committee, Central States Speech Association; associate editor, *Drama Survey*; and associate editor-elect, *Speech Monographs*.

JOHN E. TURNER received grants from the Fulbright Commission, the American Philosophical Society, the Winton Fund, and the Weyerhaeuser Memorial Fund.

JAMES C. UNDERHILL received a National Science Foundation grant.

LOUIS UNGER served as advisory editor, *College English*; editor, University of Minnesota Pamphlets on American Writers; and visiting professor, Duke University.

JOGINDAR SINGH UPPAL served as chairman, Orientation and Membership Committee, International Student's Council; and secretary, Graduate Economic Club. He also received a Case Institute of Technology grant.

ARAM VARTANIAN served as chairman, Science and Literature Group, Modern Language Association; and received a Fulbright grant.

FRANKLIN G. WALLACE served as consultant, Veterans Hospital. He also received National Institutes of Health and National Science Foundation grants.

BROM WEBER served as secretary-treasurer and vice president, Minnesota and Dakotas, American Studies Association; secretary and chairman, Contemporary Literature, Modern Language Association of America; member, Advisory Editorial Board, *The Lovingood Papers*; and associate, American Council of Learned Societies. He was also awarded a McKnight Foundation award.

GERHARD H. WEISS served as secretary, and vice-president, Lambda Alpha Psi; and director, National Defense Education Act Foreign Language Summer Institute.

FRANK M. WHITING served as member, Overseas Touring Committee, American Educational Theatre Association; member, Board of Directors, Minnesota Theatre Company Foundation. He also received the Eaves Award.

DANIEL WIENER served as member, Governor's Citizens' Committee on Mental Health; member, Executive Council, Minnesota Psychological Association; and consultant, State Civil Service Commission and State Mental Health Program.

DAVID H. WILLSON served as member, Committee to Award the Robert Livingston Schuyler Prize, American Historical Association; and member, Program Committee, Midwest Conference of British Historical Studies.

HAROLD W. WILSON served as chairman, Graphic Arts Committee, Association for Education in Journalism; and business manager, *Journalism Quarterly*. He also received a grant from the Newspaper Fund, Inc.

JOHN B. WOLF served as chairman, Honorary Membership Committee, American Historical Association. He also received a Guggenheim grant.

FRANK H. WOOD served as member, Research Committee, Arthur Schnitzler Gesellschaft; and member, Hoelderlin Gesellschaft.

H. E. WRIGHT served as editor, *International Quaternary Congress*; and secretary, Executive Committee, and member, Advisory Panel, Geomorphology Group, Geological Society of America. He also received National Science Foundation, Hill Family Foundation, and Office of Naval Research grants.

WILLIAM E. WRIGHT was awarded a Fulbright grant; and received a McKnight Foundation award.

HELEN J. YESNER served as member, Health Section Program, Committee for Minnesota State Welfare Conference.

SARAH YOUNGBLOOD served as assistant editor, *Abstracts of English Studies*.

TIBOR ZOLTAI received grants from the Research Corporation and the National Science Foundation.

Minnesota Geological Survey

PAUL K. SIMS served as member, State Mapping Advisory Board.

Institute of Agriculture

RICHARD ABELL presented a one-man exhibition, Chicago Art Institute; and received the Award of Merit, 5th Midwest Biennial Designer Craftsman Exhibition.

ROLAND H. ABRAHAM served as grand director, Epsilon Sigma Phi member, Land-Grant College Association Extension Subcommittee on Marketing; and received a scholarship to the National Agricultural Extension Center for Advanced Study, University of Wisconsin.

CLYDE H. BAILEY served as honorary president, International Association for Cereal Chemistry; adviser in Agriculture and Veterinary Medicine, Seoul National University of Korea Cooperative Project; and as chairman, Administering Committee, Fleischmann Foundation Research Fund, American Institute of Baking. He was also elected honorary member, Alumni Association, American Institute of Baking.

SHERWOOD O. BERG served as consultant, Agency for International Development; consultant, United States Department of Agriculture; member, United States Department of Agriculture 1961 Distinguished Service Awards Committee; member, Governor's Executive Committee on Agriculture; chairman, Agricultural Policy Workshop, International Conference of Agricultural Economists, Cuernavaca, Mexico; member, United States Council, International Association of Agriculture Economics; and vice president, American Farm Economic Association.

GEORGE R. BLAKE served as vice chairman, Agriculture Faculty Biology Club; and received grants from the Texaco Company, the National Science Foundation, and the National Defense Education Act.

MARGUERITE C. BURK served as member, Public Service Advisory Committee, Food and Drug Administration, United States Department of Health, Education and Welfare; member, United States Department of Agriculture Feed Grain and Wheat Advisory Committee; and president, National Council on Consumer Information.

CHARLES R. BURNHAM served as visiting professor, Purdue University.

WILLARD W. COCHRANE served as adviser, United States Secretary of Agriculture; and Director of Agricultural Economics, United States Department of Agriculture.

CLARENCE L. COLE served as assistant secretary, Minnesota Dairy Industry Committee; director, and chairman, Research Committee, National Milking Shorthorn Association; director, National Dual Purpose Cattle Research Foundation; official judge, Ayrshire, Guernsey, and Milking Shorthorn Associations; official judge, Nebraska State Fair; official judge, Michigan and Nebraska State Fairs; and was awarded a grant from the United States Department of Agriculture.

RALPH E. COMSTOCK served as member, Committee to Evaluate Fellowship Applications, National Academy of Sciences; member, Evaluation of Research Proposals Panel, National Science Foundation; member, Eastern North America Regional Committee, Biometric Society; chairman, Program Committee, Animal Breeding Section, American Society of Animal Science; and chairman, NCR-21 Regional Committee. He also received research grants from the National Science Foundation.

SAMUEL T. COULTER served as member, Research and Development Associates, Food and Container Institute for the Armed Forces; member and chairman, Section 1, Committee on Creamery Records and Overrun, and consultant, Milk Advisory Committee, Minnesota Department of Agriculture; secretary and member, Executive Board, Minnesota Dairy Industry Committee; member, Board of Directors and vice president, American Dairy Science Association; and received research grants from the American Dairy Association.

THEODORE H. FENSKE served as member, National Board of Charities, American Lutheran Church; president, Alpha Gamma Rho, national agricultural fraternity; chairman, Committee on Agriculture and Conservation, Kiwanis International; and vice-president, Central Section, Indianhead Council, Boy Scouts of America.

LESTER E. HANSON was member, Committee on Animal Nutrition, National Academy of Sciences—National Research Council; chairman, Subcommittee on Feed Additives; and vice president, American Society of Animal Science.

ALFRED L. HARVEY served as manager, Horse Show, Minnesota State Fair. He was also elected honorary fellow, American Society of Animal Science, and member, Livestock Hall of Fame, Minnesota Livestock Breeders Association.

ROBERT JENNESS served as associate editor, *Journal of Dairy Science*; and received a Fulbright Research scholarship.

ELTON L. JOHNSON served as vice president, Minnesota Poultry Improvement Board; chairman, Membership Committee, Minnesota Poultry Industry Council; member, Foreign Mission to Italy, Israel, and Spain, Foreign Agricultural Service, United States Department of Agriculture; and chairman, Membership Committee, Poultry Science Association.

FRANK H. KAUFERT served as alternate member, President's Agricultural Panel, Science Advisory Committee; member, Minnesota Natural Resources Council; president, Keep Minnesota Green, Inc.; chairman, Committee for the Advancement of Forestry Education, Society of American Foresters; and was awarded the Outstanding Achievement Award, New York State College of Forestry.

THOR KOMMEDAHL was awarded a Guggenheim Fellowship.

WALTER O. LUNDBERG served as member, State Board of Education; president, Minnesota Academy of Science; secretary, American Oil Chemists' Society; representative of American Chemical Society, Advisory Group to Food Protection Committee, National Academy of Sciences; member, Advisory Committee on Food Stability, Quartermaster Research and Development, United States Army; co-editor, *Progress in the Chemistry of Fats and Other Lipids*; editor, *Autoxidation and Antioxidants*; and received the following grants: American Heart Association, Archer Daniels Midland Co., Abbott Laboratories, Minnesota Heart Association, National Institutes of Health, Oscar Mayer & Co., United States Army Quartermaster Corps, Food and Container Institute, United States Department of the Interior, Fish and Wildlife Service, and United States Department of Agriculture.

HAROLD MACY served as member, Advisory Board, National Agricultural Extension Center for Advanced Study; and member, Governing Board, Agricultural Research Institute; vice-chairman, State Soil Conservation Committee; member, Executive Committee, Minnesota Safety Council; member, Advisory Committee, Quetico-Superior Wilderness Research Center; member, Hormel Institute Board; member, Research Institute Committee, Upper Midwest Research and Development Council; president, Dairy Council of the Twin Cities; advisory member, St. Paul Chamber of Commerce Agriculture Committee; and received life membership, American Dairy Science Associa-

tion. He also received an award from the Minnesota Chapter, Soil Conservation Society of America.

WILLIAM H. MARSHALL received research grants from the National Science Foundation, the Minnesota Department of Conservation, and the Sather Cookie Company. He also received a Fulbright scholarship.

WILLIAM P. MARTIN served as consulting editor, *Soil Science*; collaborator, Corn Belt Branch, Soil and Water Conservation Research Division, Agricultural Research Service, United States Department of Agriculture; chairman, Organization and Policy Committee, chairman, Committee on Relations with the Chemical Industry, and member, Resolutions Committee, American Society of Agronomy; member, Professional Standing Committee, and member, Conservation Research Committee, Soil Conservation Society; and member, Quality of Papers Committee, Soil Science Society of America. He received research grants from Archer-Daniels-Midland and the Texaco Company.

GERALD R. MCKAY served as member, St. Paul High School Building Planning Committee; and secretary-treasurer, Twin Cities United States Department of Agriculture Club. He received 2 "Excellent" ratings and 2 "Good" ratings from the American Association of Agricultural College Editors and the Superior Service Award from the United States Department of Agriculture.

MERLE P. MEYER was granted a Fulbright Lectureship to the School of Forestry, Agricultural College of Norway.

MATTHEW B. MOORE served as consultant, Alaska Agricultural Experiment Station.

WILL M. MYERS served as member, Agricultural Sub-Panel, Life Sciences Panel, President's Science Advisory Committee; consultant, Deputy Director for Operations, International Cooperation Administration; adviser, Assistant Administrator for Latin America, Agency for International Development; chairman, Advisory Committee on Agricultural Science, United States Department of Agriculture; member, Agricultural Board, Division of Biology and Agriculture, National Academy of Sciences—National Research Council; member, Board of Consultants, Rockefeller Foundation; member, Board of Directors, and member, Executive Committee, and member, Certification Committee, Minnesota Crop Improvement Association; member, General Certification Committee, International Crop Improvement Association; member, Committee on Seed Trade Relations, Crop Science Society of America; member, Committee on Nomination of Officers, American Society of Agronomy; and received an Atomic Energy Commission research grant.

RALPH G. NICHOLS served as president and member, Administrative Council, Speech Association of America; member, Committee on Language Arts and Related Humanities, Minnesota State Board of Education; and member, Editorial Advisory Committee, Thorndike-Barnhart International Dictionaries.

JOSEPH C. OLSON, JR. served as member, Research and Development Associates, Food and Container Institute for the Armed Forces; consultant, United States Public Health Service, R. A. Taft Sanitary Engineering Center; consultant, Milk Advisory Committee, Minnesota Department of Agriculture; adviser, Minneapolis and St. Paul Quality Control Committee; member, Public Health Committee, American Dairy Science Association; member, Committee on Applied Laboratory Methods, International Association of Milk and Food Sanitarians; member, Publication Board, and associate editor, *Journal of Milk and Food Technology*; and received research grants from the Minneapolis and St. Paul Quality Control Committee and the National Institutes of Health.

LUTHER J. PICKREL served as chairman, National Task Force, National Policy Committee, Farm Foundation; consultant, Federal Extension Service, United States Department of Agriculture; and visiting professor, Iowa State University.

PHILIP M. RAUP served as consultant, and member, Editorial Committee United States Department of the Interior; member, Committee on Indirect Effects of Highway Improvements, Highway Research Board, National Academy of Sciences—National Research Council; consultant, Land and Water Development Division, Food and Agriculture Organization, United Nations;

Technical Secretary, Land and Water Use Subcommittee, European Commission on Agriculture; consultant, Economic Development Institute, International Bank for Reconstruction and Development; member, Editorial Board, *Journal of Land Economics*; member, Executive Committee, Agricultural History Society; and received a research grant from the Minnesota State Highway Department.

ERNEST H. RINKE served as consultant, Food and Agriculture Organization, United Nations-Eucarpia-International European and Mediterranean Maize Conference; and received a Pioneer Hi-Bred Corn Company research grant.

SKULI RUTFORD served as chairman, Board of Trustees, American Institute of Cooperation; and member, Farm Foundation Advisory Committee on Public Policy Education.

ARTHUR E. SCHNEIDER was awarded an honorary Doctor of Laws degree from Seoul National University, Suwon, Korea.

ROBERT N. SHOFFNER received a Fulbright Award.

HUBERT J. SLOAN served as chairman, North Central Directors; and vice chairman, Experiment Station Committee on Organization and Policy.

FRED SMITH received research grants from the Department of the Army, the Brewing Industries Research Institute, the Corn Industries Research Foundation, and the United States Public Health Service. He also received the Claude S. Hudson Award, ACS Division of Carbohydrate Chemistry.

LLOYD L. SMITH, JR. served as vice-president, American Institute for Fishery Research Biologists; consultant, United States Public Health Service; editor, *Transactions of the American Fisheries Society*; and received a National Institutes of Health research grant.

LEON A. SNYDER received a Rockefeller Foundation study grant.

ELVIN C. STAKMAN served as consultant, Rockefeller Foundation; visiting professor, Colegio de Post-Graduados, National School of Agriculture, Chapingo, Mexico; consultant, Universidad Agraria, LeMolina, Peru; coordinator, V. Reunion de Fitotecnica, Buenos Aires; member, Organizing Committee, Asociacion Latinoamericana de Fitotecnica; collaborator, United States Department of Agriculture; member, Committee on International Cooperation, American Phytopathological Society; member, Council, American Association for the Advancement of Science; member, International Relations Committee, American Institute of Biological Sciences; and consulting editor, *Encyclopedia of Science and Technology*. He was also elected to honorary membership in the Caribbean Division, American Phytopathological Society; Mexican Phytopathological Society; Sociedad Nuevoleonesa de Historia Natural, Mexico; and the Chilean Plant Pathology Society.

Institute of Technology

NEAL R. AMUNDSON served as member, Governor's Advisory Committee on the Electronics Industry. He received the William H. Walker Award, American Institute of Chemical Engineers; and delivered the Humble Oil and Refining Lecture. He also received a National Science Foundation grant.

ALVIN G. ANDERSON was awarded the Norman Medal, American Society of Civil Engineers.

D. E. ANDERSON received an Air Force grant.

L. T. ANDERSON received a National Science Foundation grant.

RUTHERFORD ARIS received a Research Corporation of America grant.

DONALD G. ARONSON received a National Science Foundation grant.

HENRY A. BENT served as member, Honors Program Outside Examiner, Oberlin College; and consultant, National Academy of Sciences—National Research Council. He was also elected to the New York Academy of Sciences.

GUST BITSIANES served as member, Minerals Task Force Committee, Minnesota Natural Resources Council.

PERRY L. BLACKSHEAR, JR. received a Fulbright grant.

ROBERT BLISS served as member, Shorewood Village Planning Commission; member, Board of Minnesota State Art Society; member, Board, Minneapolis Chapter, American Institute of Architects; and member, National Board, Association of Collegiate Schools of Architecture.

ROBERT C. BRASTED served as member, Visiting Scientists Panel and Advisory Committee; member, National Advisory Council on College Chemistry; series editor, *Comprehensive Inorganic Chemistry*; editor, *Science and Engineering Handbook*; and treasurer, Visiting Scientists Program. He also received National Science Foundation and Fulbright grants.

J. DOYLE BRITTON received an Army Research Office grant.

W. F. BROWN received a National Science Foundation grant.

STANLEY BRUCKENSTEIN received Army Research Office and National Science Foundation grants.

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

P. E. CARTWRIGHT served as chairman, State Guidance Committee, Engineers Council for Professional Development; and member, General Council, American Society for Engineering Education.

BROOKS CAVIN served as member, Architects Counseling Committee, St. Paul; and chairman, Planning and Zoning Committee, Prospect Park and East River Road Improvement Association.

NORMAN H. CEAGLSKE served as member, Program Committee, and member, Process Control Committee, American Institute of Chemical Engineers; member, Chemical Engineering Committee, Technical Association Pulp and Paper Industry; and member, Scholarship Committee for Area 6 (Midwest), Instrument Society of America.

K. S. CHAMPLIN received an Air Force Office of Scientific Research grant.

E. R. CHENETTE served as member, Semiconductor Electronics Education Committee.

CLIFFORD J. CREMERS was elected associate, Sigma Xi.

JOHN S. DAHLER received a National Science Foundation grant.

CARL N. DE SILVA received a National Science Foundation grant.

RAYMOND M. DODSON served as member, Endocrinology Study Section, National Institutes of Health; and was elected to the New York Academy of Science. He also received National Institutes of Health, American Chemical Society, G. D. Searle and Co., and Smith, Kline and French grants.

ERNEST R. G. ECKERT served as consultant, Office of Scientific Research, United States Air Force; member, Office of Ordnance Research Committee, National Academy of Science; and chairman, Editorial Board, *International Journal of Heat and Mass Transfer*. He also received the Max Jakob Model and Award; and received National Science Foundation, United States Air Force, United States Atomic Energy Commission, and Fulbright grants.

CHARLES FAIRHURST served as co-chairman, Program Planning Committee, Rock Mechanics Symposium; member, Board of Directors, International Society of Rock Mechanics; and regional editor, *International Journal of Rock Mechanics and Mining Sciences*.

STUART W. FENTON served as member, Cooperative Fellowship Panel; and member, High Ability Secondary School Training Program Panel, National Science Foundation; councillor, Minnesota Section, American Chemical Society; and visiting associate, Committee on Professional Training, and member, Council Committee on Education, American Chemical Society.

EDWARD A. FLETCHER was elected to the Minnesota Academy of Science; and senior member, American Rocket Society.

ARNOLD G. FREDRICKSON received a Petroleum Research Fund, American Chemical Society grant.

GEORGE D. FREIER received a National Science Foundation grant.

LAWRENCE E. GOODMAN received National Science Foundation grants.

LEON W. GREEN received a National Science Foundation grant.

AUGUST R. HANSON received a National Science Foundation grant.

HELMUT G. HEINRICH received a United States Air Force grant.

NORTON M. HINTZ served as consultant, Los Alamos Scientific Laboratory.

FULTON HOLTBY received a certificate of award, American Society for Metals and a certificate of award and bronze medallion, Lincoln Electric Company.

C. C. HSIAO received a United States Atomic Energy Commission grant.

WARREN E. IBELE served as member, Standing Committee on Thermo-physical Properties, American Society of Mechanical Engineers; member, Committee on Admissions, Minnesota Chapter, Sigma Xi; and consultant, Theater L'Homme Dieu, Alexandria, Minnesota. He also received a National Science Foundation grant.

HERBERT S. ISBIN served as member, Advisory Committee on Radiation Safety, Minnesota State Department of Health; member, Nuclear Engineering Committee, Associated Midwest Universities; and member, Objective Criteria Committee, Nuclear Engineering Education, American Nuclear Society—American Society for Engineering Education. He also received United States Atomic Energy Commission and National Science Foundation grants.

HENRY S. JERABEK served as treasurer, Minnesota Section, American Society for Engineering Education. He also delivered the Dr. Oscar Harder Memorial Lecture, American Society for Metals.

WALTER K. JOHNSON received a National Institutes of Health grant.

RICHARD C. JORDAN served as chairman, Division of Engineering and Industrial Research, National Academy of Science—National Research Council; chairman, Committee on Engineering for the Developing Countries, and chairman, Committee on Engineering and the Social Sciences, National Research Council; consultant, National Committee on Engineering Graphics, National Science Foundation; chairman, United States National Committee, and vice president, Executive Committee, International Institute of Refrigeration; delegate, World Power Conference; member, Minnesota State Committee on Electronics Industry; member, Council, Association for Applied Solar Energy; member, Advisory Board, and chairman, Technical Advisory Committee on Solar Energy Utilization, American Society of Heating, Refrigerating, and Air-Conditioning Engineers; and member, Solar Energy Committee, American Society of Mechanical Engineers. He also received National Science Foundation and National Institutes of Health grants.

PAUL J. KELLOGG served as director, International Geophysical Year Data Center A, Archives for Cosmic Rays.

MILES S. KERSTEN served as member, National Advisory Committee, chairman, Data Analyses Panel, member, Performance Rating Panel, member, Review Subcommittees for Reports One and Five, A.A.S.H.O. Road Test; chairman, Department of Soils, Geology, and Foundations, and member, Advisory Panel on Beneficiation of Aggregates, Highway Research Board; and member, Local Road Research Board, State of Minnesota.

E. KINNEN received a United States Air Force grant.

IZAAK M. KOLTHOFF served as chairman, Committee on Analytical Chemistry, National Research Council; member, Committee on Nomenclature, and member, Committee on Electrochemical Data, Analytical Chemistry Section, International Union of Pure and Applied Chemistry. He received the Minnesota Award, American Chemical Society, and the Anachem Award. He also received Air Force Office of Scientific Research, National Science Foundation, and United States Public Health Service grants.

F. R. LAMBERT received National Science Foundation and United States Air Force grants.

MICHAEL L. LARSON received a Portland Cement Association grant.

WALTER M. LAUER served as president, Minnesota Section, Sigma Xi. He also received a United States Atomic Energy Commission grant.

BENJAMIN J. LAZAN served as member, Materials Advisory Board, National Research Council—National Academy of Sciences; member, Advisory Committee on Low-Cycle Fatigue, Bureau of Ships, United States Department of

the Navy; member, Committee E-9 on Fatigue, and member, Executive Committee, Materials Sciences, American Society for Testing and Materials; member, Executive Committee, member, Financial Committee, and member, Journal Advisory Committee, Society for Experimental Stress Analysis; and chairman, Committee S2-W33, American Standards Association. He also received a United States Air Force grant.

SAHO-CHUNG LEE was elected to Sigma Xi.

EDWARD LEETE served as member, Medicinal Chemistry Study Section, National Institutes of Health. He also received Alfred Sloan Foundation and National Science Foundation grants.

SANFORD LIPSKY received United States Air Force and United States Atomic Energy Commission grants.

BENJAMIN Y. H. LIU was elected to Sigma Xi and Pi Tau Sigma.

ROBERT LIVINGSTON served as representative, Faraday Society; and member, Editorial Advisory Board, *Photochemistry and Photobiology*. He also received United States Army Research Office and United States Public Health Service grants.

RUFUS W. LUMRY served as consultant, Federal World's Fair Commission, Century 21 Exposition; and visiting professor, University of Osaka, Japan. He also received United States Atomic Energy, National Science Foundation, United States Public Health Service, and Office of Naval Research grants.

THOMAS S. LUNDGREN received a United States Air Force grant.

LAWRENCE MARKUS served as editor, *SIAM Journal*; editor, *Contributions for Nonlinear Differential Equations*; consul member, American Mathematical Society; University of Minnesota representative, International Congress for Mathematicians; visiting professor, University of California; and visiting professor, Yale University. He also received a National Science Foundation grant.

STUART T. MCCOMAS was elected associate member, Sigma Xi.

G. W. McELRATH served as member, Nominating Committee, vice chairman, Midwest Conference Board, member, College Relations Committee, chairman, Midwest Conference Board, and vice president, National American Society for Quality Control. He was also elected to Sigma Xi.

C. ALDEN MEAD received an Air Force Office of Scientific Research grant.

WILLIAM C. MEECHAM served as member, Division of Fluid Dynamics, American Physical Society; and fellow, Acoustical Society of America. He also received a United States Department of the Navy grant.

EDWARD J. MEEHAN received a National Science Foundation grant.

THEODORE J. MENTAL received an Office of Naval Research grant.

WOLODYMYR MINKOWYCZ was elected associate member, Sigma Xi.

H. M. MOONEY received Air Force Office of Scientific Research and United States Coast and Geodetic Survey grants.

A. H. MORRISH received National Science Foundation and United States Air Force grants.

ALBERT MOSCOWITZ received a Fulbright grant.

THOMAS E. MURPHY served as president, Twin City Section, and member, Board of Directors, Twin City Section, American Rocket Society; and journal field editor, Twin City Section, Society of Automotive Engineers.

NORMAN C. NAGLE served as chairman, Loring Park Redevelopment Committee, Minneapolis Downtown Council.

EDWARD P. NEY served as member, Panel on the Year of the Quiet Sun, Geophysics Research Board, National Science Foundation; member, Ad Hoc Committee for Man in Space, National Aeronautics and Space Administration; and member, Committee on High Altitude Rocket and Balloon Research, Space Science Board. He also received Office of Naval Research, National Aeronautics and Space Administration, and United States Steel Company Astrophysics Research Fund grants.

MORRIS E. NICHOLSON served as member, Independent School Board, School District 623, Ramsey County; chairman, Education Committee, Metallurgical

Society, and member, Committee 5, Materials Advisory Board, American Institute of Metallurgical Engineers; chairman, Student Affairs Committee, Minnesota Chapter, member, Development Committee, and member, Education Committee, American Society for Metals. He also received United States Atomic Energy and Navy Department grants.

ALFRED O. C. NIER served as chairman, Advisory Committee, Argonne National Laboratory; member, Board of Directors, Midwest Universities Research Association; University of Minnesota representative, Council of Midwest Universities; member, Board of Trustees, Science Museum, City of St. Paul; president, Section on Volcanology, Geochemistry and Petrology, American Geophysical Union; member, Commission on Nuclidic Masses and Related Constants, International Union of Pure and Applied Physics; member, Advisory Committee on Radiological Safety, Minnesota State Board of Health; member, Advisory Committee to Nuclear Physics Branch, Office of Naval Research; and member, Fellowship Advisory Committee, American Institute of Physics. He also received Office of Naval Research and National Science Foundation grants.

WAYLAND E. NOLAND received United States Public Health Service and National Science Foundation grants.

JEROME L. NOVOTNY received a Standard Oil Foundation grant.

W. NUNN was elected to Sigma Xi.

PAUL R. O'CONNOR served as director, CHEM Study Institute, National Science Foundation.

REUBEN M. OLSON received a National Science Foundation grant.

H. J. OSKAM received Office of Naval Research, Air Force Office of Scientific Research, USAF Aeronautical System Division, and Air Force Systems Command grants.

JOHN OVEREND received United States Air Force and Army Research Office grants.

WILLIAM E. PARHAM served as member, Board of Editors, *Organic Syntheses*; consultant, United States Surgeon General; chairman-elect, Organic Division, American Chemical Society, 1960; and visiting associate, California Institute of Technology. He also received a Guggenheim grant.

W. T. PERIA received United States Air Force grants.

E. P. PFLEIDER served as co-chairman, Program Planning Committee, Rock Mechanics Symposium; chairman, Minnesota Section; chairman, Minerals Task Force, Minnesota Natural Resources Council; and chairman, Mining Engineering Education Committee, American Institute of Mining Engineers.

ROBERT PLUNKETT served as member, Review Board, Naval Engineering Experiment Station; and vice-chairman, Committee on Random Vibration; and member, Executive Committee, Applied Mechanics Division, American Society for Mechanical Engineers. He also received Department of the Navy and American Chemical Society grants.

STEPHAN PRAGER served as secretary, Minnesota Section, American Chemical Society. He also received a United States Air Force grant.

GEORGE W. PRECKSHOT served as chairman, Engineering Review Panel, Undergraduate Science Education Program, National Science Foundation; consultant, St. Louis Park High School Career Day; member, Education Projects Committee, American Institute of Chemical Engineers. He also received a United States Army Research Office grant.

WILLIAM P. RANEY served as chairman, Committee of Sonic and Ultrasonic Engineering, Acoustical Society of America; and associate editor, *Journal of the Acoustical Society of America*.

WILLIAM E. RANZ received an American Chemical Society grant.

RALPH RAPSON served as member, Committee on Education; and vice president, American Institute of Architects.

JOHN RAUMA served as member, Nicollet Avenue Committee, and member, Loring Park Neighborhood Committee, Downtown Council of Minneapolis; assistant chairman, Urban Development Committee, Minneapolis Chamber of

Commerce; chairman, Urban Design and Housing Committee, Minneapolis Chapter, American Institute of Architects; and chairman, Annual Honor Awards Committee, Minnesota Society of Architects.

WARREN L. REYNOLDS received United States Atomic Energy Commission and National Science Foundation grants.

JAMES J. RYAN served as member, Board of Registration for Architects, Engineers, and Land Surveyors, State of Minnesota; faculty adviser, Student Branch, and president, Professional Engineers in Government, Minnesota Society of Professional Engineers; and vice chairman and secretary, Minnesota Section, and member, National Committee for Honors, and representative, Region 7, American Society of Mechanical Engineers.

T. MICHAEL SANDERS received a United States Air Force grant.

GEORGE J. SCHROEPFER served as chairman, Constitution and By-Laws Committee, Water Pollution Control Federation; consultant, United States Public Health Service; consultant, City of Rio de Janeiro and State of Guanabara, Brazil; advisory consultant, Minneapolis-St. Paul Metropolitan Area; and was elected honorary member, Brazilian Section, Inter-American Sanitary Engineering Society. He received National Institutes of Health and Minneapolis-St. Paul Sanitary Districts grants. He also received the Radebaugh Award, Central States Water Pollution Control Association; and the Past Chairman's Plaque, North Central Section, American Water Works Association.

L. EDWARD SCRIVEN received the Allan P. Colburn Award, American Institute of Chemical Engineers.

JAMES B. SERRIN, JR. served as member, Board of Editors, *Archive of Rational Mechanics and Analysis*; member, Board of Editors, *International Journal of Engineering Science*, member, Board of Editors, *Journal of Mathematics and Mechanics*. He also received United States Air Force grants.

PATARASP R. SETHNA received a United States Air Force grant.

W. G. SHEPHERD served as chairman, Engineering Science Panel, National Science Foundation; chairman, Selection Board for National Science Foundation Fellows, National Academy of Science; member, Advisory Group on Electron Devices, and member, Working Group for Planning and Requirements, United States Department of Defense; chairman, Governor's Committee on Electronic Industry; member, Board of Directors, Institute of Radio Engineers; and international chairman, Commission on Radio Electronics, International Scientific Radio Union. He also received United States Air Force grants.

PETER SIGNER received a National Science Foundation grant.

EDWARD SILBERMAN served as vice president, Northwestern Section, American Society of Civil Engineers.

JOHN M. SILVERTSEN served as member, Committee on Alloy Phases, Institute of Metals Division, American Institute of Mining Engineers.

ATHELSTAN SPILHAUS served as member, Commission, United States Science Exhibit, Seattle World's Fair; chairman, Advisory Panel on General Sciences, Assistant Secretary of Defense; member, Research and Development Advisory Council, United States Army Signal Corps; chairman, Committee on Oceanography, chairman, Committee on Natural Resources, and member, Committee on Polar Research, National Academy of Sciences—National Research Council; member, Advisory Panel on Specialized Biological Facilities, National Science Foundation; chairman, American Editorial Board, *The Commonwealth and International Library of Science, Technology, and Engineering*; chairman, Scientific Advisory Board, American Newspaper Publishers Association; member, Honorary Editorial Advisory Board, *Planetary and Space Physics*; member, Board of Trustees, and member, Scientific Advisory Committee, Woods Hole Oceanographic Institution; member, Board of Trustees, International Oceanographic Foundation; member, Board of Award, Louis W. Hill Award, Institute of the Aerospace Sciences; member, Panel on Development of Educational Motion Pictures and Lantern Slides in Meteorology, American Meteorological Society; member, National Committee for the Florence Agreement; member, Public Information Conference, National Safety Council; member, Advisory

Board, Space and Science Train, U. S. A., Inc.; member, Advisory Board, *The Princeton Report*; member, Editorial Board, *The Underwater Yearbook*; member, Visiting Committee on the Earth Sciences, Massachusetts Institute of Technology; member, Board of Trustees, and member, Museum Committee, St. Paul Institute; and member, Study Committee, Upper Midwest Research Institute. He also received the honorary degree of Doctor of Science, Coe College.

MARVIN L. STEIN served as member, Advisory Committee for Data Processing, State Department of Employment Security; and president, Computer Association of Minnesota. He also received a National Science Foundation grant.

LORENZ G. STRAUB served as member, Permanent Council, International Association for Hydraulic Research; member, United States Beach Erosion Board; member, United States Committee on Large Dams; member, Editorial Advisory Board, *Underwater Technology*; consultant, Missouri River Sediment Advisory Board; consultant, Arkansas River Sediment Advisory Board; consultant, Board on Control of Lower Mississippi River; consultant, United States Waterways Experiment Station; consultant, Colombian government; consultant, Pakistan government; consultant, Venezuelan government; consultant, Surinam government; consultant, Iraq government; consultant, Philippine Island government; and consultant, Saskatchewan government. He also received Army Corps of Engineers; Bureau of Ships, Office of Naval Research, Bureau of Yards and Docks; Public Utility District, Grant County, Washington; Pearl River Valley Reservoir District, Mississippi; and United States Department of Agriculture grants. He also received the Norman Medal, American Society of Civil Engineers.

RICHARD A. SWALIN served as member, Publications Committee, chairman, Mathewson Gold Medal Award Committee, and chairman, Division Meeting, Metallurgical Society.

R. STUART TOBIAS received a National Science Foundation grant.

HENRY M. TSUCHIYA served as member, Executive Committee, Division of Microbial Chemistry and Technology, American Chemical Society; and consultant, Panel on Biomedical Facilities, National Science Foundation. He also received National Aeronautics and Space Administration and National Institutes of Health grants.

HUGH L. TURRITTIN served as University of Minnesota representative, International Congress for Mathematicians. He also received a National Science Foundation grant.

FRANK VERBRUGGE served as member, Commission on College Physics; member, Executive Committee, and president, American Association of Physics Teachers; member, Advisory Committee on Education, American Institute of Physics; member, Editorial Board, *Physics Today*; member, Board of Trustees, Saint Paul Institute; and member, Evaluation Panels for Special Projects in Science Education, National Science Foundation.

WALTER VIVRITT served as technical director, White House Conference on Aging; and consultant, Housing and Home Finance Agency.

HENRY H. WADE served as chairman, Minnesota Section, American Institute of Mining, Metallurgical and Petroleum Engineers.

CLIFFORD N. WALL served as associate editor, *American Journal of Physics*.

W. H. WARNER received a United States Department of the Navy grant.

GEORGE F. WEATON, JR. served as section delegate, Minnesota Section, and senior area representative, North Central Area, American Institute of Mining Engineers.

JAMES H. WERTZ, JR. served as member, Committee for the Second Minnesota Industry-Education Conference; and regional counselor, Minnesota, American Institute of Physics and American Association of Physics Teachers. He also received a United States Air Force grant.

JOHN E. WERTZ received National Science Foundation, Office of Ordnance Research, United States Air Force, and Advanced Research Projects Agency grants.

KENNETH T. WHITBY served as member, Contract Revision Committee, Atomic Energy Commission; and member, Executive Committee, Minnesota Chapter, American Society for Testing Materials. He also received United States Public Health Service grants.

JOHN H. WILLIAMS served as member, General Advisory Committee, United States Atomic Energy Commission; vice president, American Physical Society; and was elected to National Academy of Sciences. He also received a United States Atomic Energy Commission grant.

JOHN RANDOLPH WINCKLER served as member, Committee Eight, Physics of Fields and Particles in Space, Space Science Board, National Academy of Science; member, Subcommittee on Particles and Fields, Space Sciences Steering Committee, National Aeronautics and Space Administration; corresponding member, Basic Sciences of the International Academy of Astronautics; member-at-large, United States National Committee for URSI; member, Subcommittee of Space Science Board, Man in Space Committee; and member, Editorial Board, *Space Science Review*. He also received Office of Naval Research, National Science Foundation, National Aeronautics and Space Administration grants.

EDGAR R. F. WINTER was elected to Sigma Xi. He also received United States Air Force and National Aeronautics and Space Administration grants.

D. H. YARDLEY received a National Science Foundation grant.

DONALD R. YENNIE received a National Science Foundation grant.

A. VAN DER ZIEL received United States Army Signal Corps and United States Air Force grants.

WILLIAM ZIMMERMANN, JR. received a United States Air Force grant.

College of Veterinary Medicine

ROBERT K. ANDERSON served as president, Minnesota Public Health Association; chairman, Council in Public Health, American Veterinary Medical Association; chairman, Committee on Public Health, Minnesota Veterinary Medical Association; member, Executive Board, National Conference, Public Health Veterinarians; consultant, United States Public Health Service; and consultant, United States Department of Agriculture. He also received research grants from the United States Department of Agriculture and the Atomic Energy Commission.

JOHN P. ARNOLD served as adviser, College of Veterinary Medicine, Seoul National University.

DONALD M. BARNES received a United States Public Health postdoctoral Fellowship.

WILLIAM J. BEMRICK was elected honorary member, Phi Zeta.

JAMES E. BREAZLE was awarded a postdoctoral Fellowship from the National Institutes of Health.

RICHARD E. DIERKS received a postdoctoral Fellowship from the National Institutes of Health.

HAROLD E. DZIUK received a research grant from the National Institutes of Health.

THOMAS F. FLETCHER was awarded a postdoctoral Fellowship by the National Institutes of Health.

ARCHIE L. GOOD received a research grant from the United States Department of Agriculture.

PAUL B. HAMMOND served as member, Toxicology Study Section, National Institutes of Health; and received a research grant from the National Institutes of Health.

JOHN M. HIGBEE served as member, Infectious Disease Committee, and member, Advisory Committee to the President, Minnesota Veterinary Medical Association; member, Advisory Committee for Zoning in West Lakeland Town-

ship, Washington County; and alternate Delegate to District Eleven Planning Commission, West Lakeland Township, Washington County.

HARVEY H. HOYT received a grant from the United States Public Health Service.

DONALD W. JOHNSON served as president, Suburban Veterinary Medical Association.

RALPH L. KITCHELL served as member, Anatomy and Physiology Panel, Research Fellowships Branch, National Institutes of Health; member, Research Council, American Veterinary Medical Association; and member, Committee on Animal Products, Advisory Board on Quartermaster Research and Development, National Research Council.

ROBERT K. LINDORFER received a research grant from the United States Public Health Service.

DONALD G. LOW received a research grant from the National Institutes of Health.

GEORGE W. MATHER served as editor, Section of Toxicology, *Current Therapy in Canine Medicine*; and scientific collaborator, Brookhaven National Laboratory, Upton, Long Island, New York.

HARLEY W. MOON received a research fellowship.

GLEN H. NELSON served as chairman, Program Committee, Minnesota Veterinary Medical Association.

JOHN A. NEWMAN received a postdoctoral research fellowship from the United States Public Health Service.

BENJAMIN S. POMEROY served as consultant, Poultry Division, Inspection Branch, United States Department of Agriculture; consultant, Breeder Hen Committee, Minnesota Turkey Growers Association; chairman, North Central Regional Technical Committee on Respiratory Diseases of Poultry; associate editor, *Avian Diseases*; treasurer, Minnesota Veterinary Medical Association; and received grants from the United States Department of Agriculture, the United States Public Health Service, Salsbury Laboratories, American Cyanamide, and Hess and Clark.

FRANK J. SICCARDI received research grants from the Ghostley Farms and the National Turkey Federation.

DALE K. SORENSEN served as co-editor, *Symposium of Hog Cholera*; and received a research grant from the Atomic Energy Commission.

FRANCIS A. SPURRELL received a research grant from the National Institutes of Health.

CLARENCE M. STOWE served as member, Membership Committee, American Society of Veterinary Physiologists and Pharmacologists; and received grants from Hoffmann-LaRoche and the Food and Drug Administration.

WILLIAM T. S. THORP served as member, National Advisory Council for Health Research Facilities, United States Public Health Service; member, Visiting Committee, Medical Department, Brookhaven Laboratory; member, Lobund Advisory Board; member, Secretary of Agriculture's "Agricultural Science Advisory Committee"; president, National Board of Veterinary Medical Examiners; secretary-treasurer, National Society of Medical Research; member, Advisory Group, Radiological Health Division, United States Public Health Service; and chairman, Animal Facilities Survey, Institute of Laboratory Animal Resources, National Research Council.

WALLACE M. WASS served as editor, *Minnesota Veterinarian*.

ALVIN F. WEBER served as secretary-treasurer, American Association of Veterinary Anatomists; and chairman, Section on Electron Microscopy, Cytology and Histochemistry, Conference of Research Workers in Animal Diseases.

College of Education

GERTRUDE M. BAKER served as chairman, Committee to Plan and Process Scholarships in Physical Education for Girls, American Association of Health,

Physical Education, and Recreation; and was elected a fellow of the American Academy of Physical Education.

BRUCE BALOW served as member, Advisory Committee on School Psychologists; member, Evaluation Committee, State School for the Deaf; member, Advisory Committee, Bar-None Ranch Educational Program for Emotionally Disturbed Boys, Division of Special Education, State Department of Education; member, Executive Committee, Minnesota School Psychologists; member, Board of Directors, Minnesota Association for the Brain Injured; member, Legislative Liaison, chairman, Program Committee, and president, Minnesota Reading Association; and received a National Institute of Mental Health grant.

EMMA M. BIRKMAIER served as consultant and member, Committee on Research and Studies Unit, Language Development Section, United States Office of Education; member, Committee on Russian Materials, Modern Language Materials Center, Modern Language Association; acting chairman, Steering Committee, and member, National Advisory Committee, Modern Language TV Project, Massachusetts Council for Public Schools "Parlons Francais" and the Heath-DeRochemont Educational Film Corporation; member, Board of Directors, Department of Foreign Languages, National Education Association; editor, *Department of Foreign Languages Bulletin*; member, National Advisory Committee, Modern Languages Materials Development Center; member, Commission on Coordinating Educational Resources, American Association for Supervision and Curriculum Development; chairman, Advisory Committee on Foreign Languages, editor, *Annual Report*, and chairman, Curriculum Bulletin on Modern Languages Committee, State of Minnesota; delegate to the National Federation of Modern Languages Teachers Association, Central States Modern Language Teachers Association; chairman, Project for Development and Evaluation of Programs for the Teaching of German in the Elementary School, American Association of Teachers of German; member, Committee on the Teaching of Russian in the Secondary Schools, American Association for the Teaching of Slavic and Eastern European Languages; member, Advisory Panel for Research in Foreign Language Teaching, American Institute for Research; and consultant, Center for Applied Linguistics and Teaching Film Custodians.

CLARENCE H. BOECK served as member, Executive Committee, chairman, Nominating Committee, member, Science Education Digest Committee, member, Constitution Revision Committee, and president, National Association for Research in Science; member, Film Research and Production Advisory Board, Research Committee, National Science Teachers Association; chairman, Nominating Committee, American Association of Teachers of Science; adviser, Vocational Agriculture Facilities Commission; member, Subcommittee on Preparation of Junior High School Teachers, State Advisory Committee on Teacher Education; and member, Editorial Advisory Committee, Minnesota Academy of Science.

MARJORIE BROWN served as consultant, Home Economics Division, State Department of Education.

ARNOLD CASWELL served as consultant, America House, Munich, Germany; province governor, Phi Mu Alpha Sinfonia, National Men's Professional Music Fraternity; and member, Fine Arts Advisory Board, Minnesota State Department of Education.

THEODORE CLYMER served as chairman, Studies and Research Committee, chairman, Research Session, Annual Conventions, guest editor, *The Reading Teacher*, International Reading Association; and member, English Advisory Sub-Panel and consultant, United States Office of Education.

RAYMOND O. COLLIER served as treasurer, Twin Cities Chapter, American statistical Association; and member, Research Advisory Committee, Phi Delta Kappa.

JAMES CURTIN served as member, Advisory Committee, Educational Policies Commission; member, Executive Committee, State Elementary School Principals Association; member, Board of Directors, Highcroft Country Day School; and member, Board of Directors, Twin Cities Diabetes Association.

OTTO E. DOMIAN served as member, Executive Committee, National Conference of Professors of Educational Administration; and member, Board of Directors, Minnesota Society for the Study of Education.

WILLIS E. DUGAN served as member, Executive Council, and president, American Personnel and Guidance Association; chairman, National Study of Counselor Education Standards, and president, Association for Counselor Education and Supervision; and member, Advisory Committee on Guidance, Minnesota State Department of Education.

RUTH E. ECKERT served as member, Committee on College Teaching, American Association of University Professors; member, Advisory Committee, Office of Statistical Information and Research, American Council on Education; member, Standing Committee on Research, Educational Testing Service; member, Board of Trustees, Lilly Endowment Study of Pre-Seminary Education; and received the honorary Doctor of Letters degree from Houghton College, New York.

WILLIAM H. EDSON served as consultant, *New Horizons in Teacher Education*, Teacher Education and Professional Standards; member, Committee on Professional Preparation and Standards, American Personnel and Guidance Association; and consultant, Student Personnel Association for Teacher Education.

DEWEY FORCE, JR. served as member, Board, St. Paul Association for Retarded Children; member, Nominating Committee, Council for Exceptional Children; president, Minnesota Council on Special Education; and consultant, National Board of Education, Methodist Church.

ROXANA FORD served as member, State Advisory Board for Vocational Education and consultant, Home Economics Division, State Department of Education.

WILLIAM E. GARDNER served as member, Board of Directors, and editor, the *Bulletin*, Minnesota Council for the Social Studies; and chairman, History Subcommittee, Advisory Committee on the Social Studies, State Department of Education.

CLIFTON GAYNE served as chairman, Professional Standards Committee, College Teachers Section, National Art Education Association; member, Program Planning Committee, College Teachers Section, Western Arts Association; member, Policies Committee, and representative to the State Department, Minnesota Art Education Association; chairman, Advisory Committee on the Fine Arts, Minnesota State Board of Education; consultant, State Department of Education; member, Education Committee, Minneapolis Institute of Arts; member, Planning Committee, and consultant, St. Paul Gallery and School of Art; and consultant, Minnesota Rural Artists Association.

HELEN P. HAUPTFUEHRER served as vice president, and chairman, Division of Professional Preparation, Minnesota State Association for Health, Physical Education, and Recreation.

AMY JEAN HOLMBLADE served as consultant, Home Economics Division, State Department of Education.

CLIFFORD P. HOOKER delivered the Lotus Delta Coffman Lecture; and received a Johnson Service Company research grant.

CYRIL J. HOYT served as consultant, Minneapolis Public Schools; consultant, St. Paul Public Schools; consultant, Minneapolis Citizens Committee on Public Education; and member, Local Arrangements Committee, American Statistical Association.

PAUL IVORY served as member, Committee on Research, Music Educators National Conference; and member, Editorial Committee, and editor, Book Review Department, *Journal of Research in Music Education*.

ELOISE M. JAEGER served as chairman, Research Section, National Association of Physical Education of College Women; chairman, Teacher Education Section, and member, Legislative Council, Minnesota State Association for Health, Physical Education, and Recreation; co-director, Student Services, American Association of Health, Physical Education, and Recreation; and chairman, Sub-Committee on the Improvement of Instruction in Physical

Education; chairman, "Survey on the Status of Women Physical Education Teachers," and member, Committee on Revision of the State Course of Study in Physical Education, State Department of Education, Minnesota.

DONOVAN A. JOHNSON served as editor, *Achievement in Mathematics*, and chairman, Publications Committee, National Council of Teachers of Mathematics; member, State Advisory Committee on Science and Mathematics, Minnesota State Board of Education; member, Board of Directors, Central Association of Science and Mathematics Teachers; and member, Committee on Facilities for Mathematics Department, Conference Board of the Mathematical Sciences.

BJORN KARLSEN served as member, Board of Directors, Opportunity Workshop; member, Board of Directors, Minnesota Epilepsy League; member, Board of Directors, Minneapolis Association for Retarded Children; and consultant, State Department of Education.

WILLIAM KAVANAUGH served as consultant, Vocational Division, State of Minnesota; and visiting professor, Iowa State University.

STANLEY B. KEGLER served as member and vice chairman, Advisory Committee to the State Board of Education on Language Arts and Related Humanities; member, Curriculum Coordinating Council, Minneapolis Public Schools; chairman, Committee on Design and Equipment of English Classroom, National Council of Teachers of English; member, Committee on the Profession, member, Committee of Junior Memberships and Affiliate; and executive secretary, Minnesota Council of Teachers of English; contributing editor, and editor of "Junior Book Roundup," *English Journal*.

ROBERT J. KELLER served as chief investigator, Closed Circuit Television in Teaching Education, and chairman, Educational Research Panel, United States Office of Education and the American Institute of Research; chairman, Committee on Curriculum Development and Planning, National Association of Secondary School Principals; member, Commission on Research, College Entrance Examination Board; member, National Advisory Committee, Co-operative Project on Guidance and Admissions, and member, Resolutions Committee, Association for Higher Education, National Education Association; member, Minnesota State Committee, and member, Commission on Secondary Schools, North Central Association of Colleges and Secondary Schools; member, Commission on Colleges and Universities; chairman, Committee on Publications and Information Service, and co-chairman, Six State Regional Conference on Educational Uses of Television; chairman, Committee on Sixth Year Program, chairman, Winter Workshop Committee, member, Executive Committee, member, High School-College Relations Committee, and member, Minnesota Council for the Improvement of Secondary Education, Minnesota Association of Secondary School Principals; member, Junior College Advisory Committee, Minnesota State Board of Education; member, Nominating Committee, Association of Minnesota Colleges; chairman, Editorial Board, *High School-College Relations Newsletter*; president, Westminster Foundation, Synod of Minnesota; secretary, Department of Ministerial Relations, and member, Committee on the Church and Higher Education, Presbyterian General Assembly; and member, Board of Trustees, and chairman, Curriculum Committee, Northrop Collegiate School, Minneapolis.

JEANNE KENMORE served as chairman, Membership Committee, American Association of Instructors of the Blind; chairman, Committee on Coordinating Services to Visually Handicapped Children; chairman, Music Section, National Braille Club; member, Educational Program Development Committee, and member, Braille and Sight-Saving School Survey Committee, Minnesota State Department of Education; member, Governor's Advisory Board on Special Education; member, Teacher Education Committee, American Foundation for the Blind; member, Ad Hoc Committee on Multiply Handicapped Children, State Department of Public Welfare; and member, Committee on Research, and member, Committee on Services to Visually Handicapped People, United States Office of Education. She also received grants from the Minnesota State Department of Public Welfare, Seeing Eye, Inc., and the American Foundation for the Blind.

R. PAUL MARVIN served as secretary, Minnesota State Young Farmer Development Committee; chairman, District #12 School Board, Circle Pines, Minnesota; and assistant superintendent, Education Department, Minnesota State Fair.

WARREN G. MEYER served as consultant, Distributive Education Service, United States Office of Education; member, Advisory Council, Distributive Education Service, State Department of Education; member, Special Committee on Distributive Education, President's Panel on Vocational Education; regional representative, Distributive Education Policy and Planning and Steering Committees, American Vocational Association; chairman, Distributive Education Research Committee, American Vocational Association; chairman, Constitution Committee, Council of Distributive Teacher Educators; member, Distributive Education Curriculum Committee, National Association of Business Teacher Educators; member, Board of Trustees, Minnesota Diversified Vocations Clubs; sponsor, Minnesota Vocational Coordinators' Association; editor, Distributive Occupations Section, *Business Education Forum*; and assistant editor, *Delta Pi Epsilon Journal*. He was awarded the Outstanding Service Award, Distributive Education Clubs of America; Honor Award, Minnesota Diversified Occupations Club; and Outstanding Service Award, Minnesota Vocational Coordinators Club; and received grants from the Sears Roebuck Foundation and the State Department of Education.

GORDON M. A. MORK served as editor, *Yearbook*, Association for Student Teaching; and consultant, Minnesota Commission on Teacher Educations and Professional Standards. He also received a Fulbright scholarship.

HOWARD F. NELSON served as president, Minnesota Vocational Association; representative, American Vocational Association, Central Region Trade and Industrial Association; and member, Research Committee, American Industrial Arts Association.

STANLEY W. NELSON served as program officer, UNESCO.

NORINE ODLAND served as member, Elementary Section Committee, National Council of Teachers of English.

ROBERT ORLANDO served as member, President's Panel on Mental Retardation; consultant, American Association on Mental Deficiency; received research grants from the Minnesota Association for Retarded Children and the Minnesota State Department of Education.

NEVILLE P. PEARSON served as chairman, Local Draft Board 122, Wheaton, Minnesota; chairman, New Media Committee for Minnesota; chairman, Audio-Visual Facilities Committee, School Facilities Council of Minnesota; chairman, Outdoor Education Section, Minnesota Education Association; chairman, Program National Audio-Visual Education Forum; chairman, Committee on Management, University YMCA; chairman, Audio-Visual Board, National Committee, Augustana Lutheran Church; and member, Department of Audio-Visual Instruction, Committee on Teacher Education, National Education Association.

MIL0 J. PETERSON served as president and member, Executive Committee, American Vocational Association; member, Board of Directors, Minnesota Citizens Committee on Public Education; member, State Coordinating Committee on Education; member, Governor's Committee on School Aids and Formula; superintendent, Education Department, Minnesota State Fair; consultant, Department of Labour, Canada; editor, *The Visitor*; secretary, Executive Committee, American Association of Teacher Educators in Agriculture, and editor, *Journal of American Association of Teacher Educators in Agriculture*; member, Minnesota Young Farmer Development Committee; and trustee, Minnesota Future Farmers of America Foundation.

SAMUEL H. POPPER served as member, Governor's Coordinating Council on Alcoholism; member, Junior High School Committee, and member, Board of Directors, Minnesota Association of Secondary School Principals; member, Board of Directors, Minnesota Citizens Committee on Public Education; president and member, Board of Directors, Minnesota School Facilities Council; and member, Board of Directors, Minnesota Chapter, National School Public Relations Association.

RAY G. PRICE served as secretary, Minnesota State Council on Economic Education; member, Advisory Committee on Economic Education, State Board of Education; co-chairman, Publications Commission, Council on Consumer Information; and national director, Research and Service Projects, Delta Pi Epsilon, National Honorary Graduate Fraternity in Business Education.

MAYNARD C. REYNOLDS served as chairman, Minnesota State Advisory Board on Handicapped, Gifted and Exceptional Children; chairman, State Advisory Committee on Four County Project; chairman, Governor's Advisory Committee on Mental Retardation; member, Professional Advisory Committee, Minnesota Society for Crippled Children and Adults; member, Board of Sponsors, Minnesota Association for Retarded Children; member, School Psychology Screening Committee, State Department of Education; member, Governor's Advisory Committee on Services for the Blind; member, State Advisory Committee on Voluntary Mental Health Services; member, Legislative Interim Commission on Handicapped and Gifted Children; member, State Advisory Committee, State Diagnostic and Reception Center for Juvenile Delinquents; member, Executive Council, Minnesota Psychological Association; member, Board of Directors, Minnesota Council for the Gifted; member, Board of Directors, Minnesota Council for Exceptional Children; editor, Special Publications, member, Board of Governors, member, Committee on Research Monographs, member, Committee on Legislation, member, Committee on Professional Standards, member, Committee on Publications, member, Committee on Emotionally Disturbed, and member, Program Committee, Council for Exceptional Children, National Education Association; member, Publications Committee, and chairman, Local Arrangements Committee, American Association on Mental Deficiency; resource person, White House Conference on Children and Youth; member, Professional Advisory Committee, United Cerebral Palsy of Minneapolis; and chairman, Minneapolis Community Health and Welfare Council Committee on Mental Retardation.

HELEN M. SLOCUM served as secretary, Elementary School Health Education Section, member, Committee on Fellow Member, member, Committee on the Selection and Recruitment of Women Physical Education Teachers, American Association of Health, Physical Education, and Recreation; vice president, Health Education, Central District Association for Health, Physical Education, and Recreation; editor, *Newsletter*, and member-at-large, Central Association of Physical Education for College Women; president-elect, chairman, Constitution Committee, and member, Legislative Council, Minnesota State Association for Health, Physical Education and Recreation; member, State College Health Workshop Committee, State Department of Education, Minnesota; and member, Executive Board, Association for the Advancement of Instruction for Alcohol and Narcotics.

GORDON I. SWANSON served as member, Board of Directors, and president-elect, Phi Delta Kappa International; member, Research Committee, Agriculture Section, American Vocational Association; member, Special Editorial Committee, *Review of Educational Research*; and program officer, UNESCO. He was elected a Fellow in the American Association for the Advancement of Science, and delivered the Phi Delta Kappa Convocation at Kansas State Teachers College.

SUZANNE TINKER served as member, Board of Directors, Minnesota Camping Association.

E. PAUL TORRANCE served as member, Study Section on Nursing Research, Division of Awards and Grants, National Institutes of Health; member, Advisory Committee to the Disaster Research Group, National Academy of Sciences—National Research Council; member, Steering Committee, National Research Conference on Identification of Creative Scientific Talent; consultant, Agency for International Development, Department of State; consultant, Mental Hygiene Clinic and Vocational Division of Veterans Administration; member, Editorial Board, *Gifted Child Quarterly*; and co-editor, *Studies in Minnesota Education*; secretary-treasurer, Minnesota Society for the Study of Education; fellow, Educational Psychology Division, American Psychological Association; and received research grants from the United States Office

of Education; and delivered the Distinguished Visiting Scholar Lecture, University of Delaware.

EDITH WEST served as chairman, Advisory Committee on the Social Studies, State Board of Education; member, Advisory Committee on Teacher Education, sub-committee on the Preparation of Junior High School Teachers; consultant, Committee on Curriculum Planning and Development, National Association of Secondary School Principals.

MARJORIE U. WILSON served as member, Research Committee, Physical Fitness Committee, State of Minnesota; chairman, Legislative Committee, Central Association of Physical Education for College Women; and chairman-elect, Research Council, American Association for Health, Physical Education, and Recreation.

ARNOLD S. WOESTEHOFF served as consultant, American Council on Education and consultant, United States Office of Education; chairman, Committee on College Placement, National Institutional Teacher Placement Association; and vice president, Minnesota Institutional Teacher Placement Association.

GILBERT WRENN served as project director, Commission on Guidance in American Schools; member, Executive Council, American College and Personnel Association; member, Council of Representatives, and member, Executive Council, Division of Counseling Psychologists, American Psychological Association; editor, *Journal of Counseling Psychology*; and consultant, Veterans Administration.

Institute of Child Development

FRANK B. W. HARPER served as chairman, 14th Annual Public Discussion Television Series Program Planning Committee, Graduate Research Center.

SHIRLEY G. MOORE served as member, Board, Midwestern Association for Nursery Education; and chairman, Publications Committee, National Association for Nursery Education.

MERRILL F. ROFF served as principal investigator, United States Air Force School of Aviation Medicine, National Institute of Mental Health, United States Army Research and Development Command, and United States Office of Education.

BRITTON K. RUEBUSH served as member, Committee for Reorganization, State Services for Children; and member, Interest Group for Clinical Child Psychology, American Psychological Association.

HAROLD W. STEVENSON served as member, President's Panel on Mental Retardation; member, Governor's Committee on Mental Retardation; member, Council, American Psychological Association; member, Council, Society for Research in Child Development; chairman, Committee on Comparative-Developmental Behavior, and member, Committee on Intellective Processes, Social Science Research Council.

MILDRED C. TEMPLIN served as member, Consultative Committee for the Speech, Hearing, and Language Examinations, National Institute of Neurological Diseases and Blindness; and chairman, Advisory Committee, Hard of Hearing and Handicapped.

JOHN C. WRIGHT served as consultant, Project on Communication of Child Rearing Information, Laboratory of Human Development and Institute for Communications Research, and National Test Panel of the School Mathematics Study Group, Stanford University; and co-editor, *Proceedings of the Conference*, Committee on Intellective Processes Research, Social Science Research Council.

College of Medical Sciences

PAUL ADAMS served as chairman, Section of Pediatric Cardiology, American Academy of Pediatrics; president, Minnesota Society for Study of Diseases of Heart and Circulation; member, American Board of Pediatric Cardiology;

and chairman, Cardio-pulmonary Section of Society for Pediatric Research Meetings.

RAY AMBERG served as member, National Health Council; member, International Hospital Federation, delegate, International Union for Health Education; chairman, Committee on Licensure and Standards, Minnesota State Department of Health, chairman, Committee on Hospital Construction (Hill-Burton), State of Minnesota, member, Committee on Hospital Administrator Registration, member, Northwest Guides Association; and was awarded the Kiwanis Distinguished Service Award.

ELEANOR M. ANDERSON served as member, Advisory Board, and member, Editorial Board, *Cardiovascular Renal Disease*.

GAYLORD W. ANDERSON served as member, Advisory Committee on Medical Research, Pan American Health Organization; member, Committee on Environmental Health Problems, United States Public Health Service; chairman, Poliomyelitis Advisory Committee, Minnesota State Department of Health; member, Executive Committee, Minneapolis United Hospital Fund; member, Capital Long Range Improvement Committee, Minneapolis General Hospital; and member, Committee on International Health, American Public Health Association.

JOHN A. ANDERSON served as member, Board of Directors, Minneapolis Association for Retarded Children; member, Membership Committee, Minnesota Heart Association; member, Public Health Committee, Minnesota Medical Association, board member, Human Genetics League; member, Committee on Genetics, and member, Poliomyelitis Advisory Committee, Minnesota State Board of Health; member, Wyeth Fellowship Committee; associate editor, *Advances in Pediatrics*; editor, *American Lecture Series*; member, Examining Board, American Board of Pediatrics; chairman, Committee on Pediatric Residency Review, American Medical Association; member, National Physicians' Council; and was awarded a Commonwealth Fellowship.

JOSEPH T. ANDERSON served as member, Editorial Board, *Journal of Nutrition*; and member, Editorial Board, *Biological Abstracts*.

RICHARD W. ANDERSON served as chairman, Medical Policy Directional Committee on Mental Health, Department of Public Welfare, State of Minnesota; and member, Governor's Citizens' Mental Health Survey Committee.

J. BRADLEY AUST served as section editor, *Yearbook of Cancer*; presented the Sigma Xi Lecture, University of Buffalo; and received an American Cancer Society research grant.

DR. ELIA AYOUB received a Helen Hay Whitney Research Fellowship and an American Heart Association research grant.

MARY ANN L. BAAS served as member, Nominating Committee, Minnesota League for Nursing; and was elected to Sigma Theta Tau (National Scholarship Society in Nursing).

MARVIN BACANER received a Consolidated Electrodynamics Corporation grant.

A. B. BAKER served as vice president, and chairman, Residency Review Committee, American Board of Psychiatry and Neurology; and member, Public Health Service National Advisory Council, National Institute of Neurological Diseases and Blindness.

ANNIE LAURIE BAKER served as member, Governor's Committee on Aging; member, Governor's Committee on Youth; member, Mental Health Review Board, and member, Mental Health Volunteer Activities Advisory Board, Minnesota State Department of Welfare; secretary, Minnesota Epilepsy League; member, Executive Board, chairman, United Fund Committee, chairman, Reception Committee, and member, Finance Committee, Minnesota Welfare Association; member, Nominating Committee, member, Medical Social Work Section, chairman, Nominating Committee, and chairman, Institute Committee, Southern Minnesota Chapter, National Association of Social Workers; member, Hennepin County Mental Health Board; member, Hennepin County Mental Health Professional Advisory Board; member, Health Committee, Minneapolis United Fund and Community Council; member, Combined Nursing Service

Referral Committee, and member, Nursing Home Volunteer Committee, Greater Minneapolis Council of Churches.

JACOB E. BEARMAN served as member, Research Advisory Committee, Community Welfare Council, Minneapolis and Hennepin County; member, Advisory Committee on Epidemiology and Biometry, General Medical Sciences Division, National Institutes of Health; member, Committee on Professional Education, American Public Health Association; member, Ad Hoc Advisory Committee on Data Processing and Computers, California State Department of Health; member, Research Committee, Minnesota Tuberculosis and Health Association; consultant, University Group Diabetes Program; adviser, "Architectural Barriers Statewide Investigation," Minnesota Society for Crippled Children and Adults; and chairman, Directors of Biometry Training Programs, National Institutes of Health. He also received a National Heart Institute grant.

TITUS P. BELLVILLE served as member, Governor's Committee for the Employment of the Handicapped.

ELLIS S. BENSON served as member, Board of Schools of Medical Technology; consultant, United States Public Health Service; consultant, Veterans Administration; advisory member, Council on Clinical Chemistry, American Association of Clinical Pathologists; and chairman, Committee on Medical Laboratory Assistants, Minnesota Society of Clinical Pathologists. He also received research grants from the National Institutes of Health and the Minnesota Heart Association.

CLARE L. BLANCHARD served as member, Planning Committee, Minnesota State Department of Health; member, Membership Committee, Minnesota League for Nursing; and member, Joint Committee for Directors and Supervisors of Public Health Nursing, Minnesota State Department of Health—Minnesota League for Nursing.

LAWRENCE R. BOIES served as president, American Otolological Society; president, American Academy of Ophthalmology and Otolaryngology; and vice president, American Board of Otolaryngology.

S. GAYLEN BRADLEY served as member, Subcommittee on Actinomycetes, American Society for Microbiology; member, Editorial Board, 1960 Conference on Antimicrobial Agents; member, Committee on Meetings, chairman, Program Committee, Society for Industrial Microbiology; member, National Membership Committee, Society for Experimental Biology and Medicine; and received research grants from the United States Public Health Service, Office of Naval Research, Commercial Solvents Corporation, and the Upjohn Company.

K. GERHARD BRAND received a United States Public Health Service research grant.

JOHN P. BRANTNER served as member, Mayor's Advisory Committee on the Minneapolis Workhouse; member, Professional Advisory Committee, Minnesota Association for Mental Health; member, Committee of Management, University Branch YMCA; member, Committee on Alcoholism, Community Health and Welfare Council, Minneapolis; and editor, *Minnesota Psychological Association's Newsletter*.

FLORENCE M. BRENNAN served as consultant, Methodist-Kahler School of Nursing, Rochester, Minnesota; and consultant, College of St. Teresa, Winona, Minnesota.

ROBERT A. BRIDGES served as director, and member, Scientific Advisory Committee, Minnesota Chapter, Arthritis and Rheumatism Foundation; and received Arthritis and Rheumatism Foundation, National Institutes of Health, and Minnesota Heart Association research grants.

BYRON W. BROWN, JR. served as consultant, Committee on Lesions, Council on Arteriosclerosis, American Heart Association; consultant, Minnesota State Department of Public Welfare; member, Arrangements Committee, member, Nominating Committee, and secretary, Twin Cities Chapter, American Statistical Association; member, Committee for Re-examination of the Institute, and chairman, Teller Committee for National Elections, Institute for Mathematical Statistics; and chairman, Minnesota Section, American Society for Quality Control. He was also elected to Sigma Xi.

JAMES B. CAREY, JR. served as secretary-treasurer, Minnesota Academy of Medicine; secretary, Minneapolis Society of Internal Medicine; and received United States Public Health Service and Merck Sharp & Dohme research grants.

H. MEAD CAVERT received United States Public Health Service and Minnesota Heart Association grants.

JOHN I. COE served as member, National Panel on Sudden Unexpected Death in Infants *Excerpta Medica*; and scientific editor, *Minnesota Medicine*.

MAYNARD M. COHEN served as member, Training Grant Committee, National Institute of Neurological Diseases and Blindness.

NANCY L. COOK served as member, Committee on Guidance and Evaluation, Minnesota League for Nursing.

C. D. CREEVY served as president, Clinical Society of Genitourinary Surgeons; and member, Board of Editors, *Urological Survey*. He also received a United States Public Health Service research grant.

EDWARD C. DEFOE, JR. received a United States Public Health Service research grant.

FRANCES E. DUNNING served as treasurer, Sigma Theta Tau (National Scholarship Society in Nursing); member, Advisory Committee to School of Nursing, Swedish Hospital, Minneapolis; and chairman, Nominating Committee, Epsilon Chapter, Pi Lambda Theta (National Honor Society for Women in Education).

CHARLES EDWARDS received a United States Public Health Service grant.

JESSE E. EDWARDS served as member, Pathology Study Section, National Institutes of Health; member, Board of Editors, *Circulation* and *Laboratory Investigation*; vice president and president-elect, Minnesota Heart Association; chairman, Advisory Committee, Cardiovascular Registry; president, International Association of Medical Museums; consultant, Surgeon General, United States Army. He also delivered the Roger Morris Memorial Lecture, University of Cincinnati; received the Philadelphia Book Clinic Book Award and a National Institutes of Health research grant.

GERALD T. EVANS received a research grant from the National Institutes of Health.

ROBERT L. EVANS served as president-elect and president, Minnesota Academy of Science. He also received a United States Public Health Service grant.

I. J. FOX received a United States Public Health Service grant.

IVAN D. FRANTZ, JR. served as member, Metabolism Study Section, National Institutes of Health; member, Executive Committee, Credentials Committee, and member, Research Study Committee, Arteriosclerosis Council, American Heart Association; member, Board of Directors, member, Executive Committee, and chairman, Research Allocations Committee, Minnesota Heart Association; and chairman, Minnesota Chapter, Society for Experimental Biology and Medicine. He received research grants from the National Institutes of Health, the Life Insurance Medical Research Fund, and the Minnesota Heart Association.

DELPHIE FREDLUND served as chairman, Public Health Nursing Section, Minnesota Nurses Association; and member, Board of Directors, Minnesota Nurses Association.

LYLE A. FRENCH served as member, Executive Council, and president, Minneapolis Academy of Medicine; professor pro tem, Western Reserve University, Cleveland, Ohio; consultant, United States Army; member, Executive Council, Neurosurgical Society of America; and member, American Board of Neurological Surgery.

EDNA L. FRITZ served as member, Board of Directors, and member, Mary M. Roberts Fellowship Committee, *American Journal of Nursing*; member, Nominating Committee, Department of Baccalaureate and Higher Degree Programs, and member, Accrediting Team, National League for Nursing; chairman, Advisory Committee on Nursing, Minnesota Department of Health; and member, Board of Directors, Minnesota League for Nursing.

DOROTHY P. GEIS served as member, Public Relations Committee, and chairman, Committee on Personnel Policies, Minnesota Nurses Association.

GERTRUDE M. GILMAN served as member, Committee on Nursing, American Hospital Association; member, Hospital Nursing Service Liaison Committee, member, Advisory Committee of Study to Project Future Needs for Nursing in Hospitals, and member, Committee on Nursing Service and Education in National Defense, and member, Committee on Careers, National League for Nursing; member, Joint Committee of the American Hospital Association and American Dietetic Association; trustee, Twin City Regional Hospital Council; member, Chaplaincy Committee, Greater Minneapolis Council of Churches; and member, Health Committee, Community Health and Welfare Council of Hennepin County.

FREDERICK C. GOETZ served as secretary, Central Clinical Research Club; and member, Council, American Diabetes Association. He also received a United States Public Health Service grant.

LORRAINE M. GONYEA received a research grant from the Minnesota Heart Association.

ROBERT A. GOOD served as member, Central Research Committee, American Heart Association; chairman, Medical and Scientific Committee, Minnesota Chapter, Arthritis and Rheumatism Foundation; chairman, Rheumatic Fever Committee, Minnesota Heart Association; consultant, Minneapolis General Hospital; member, Research Advisory Board, Children's Hospital Research Foundation, Cincinnati; member, Advisory Editorial Board, *Blood*; and member, Council, American Society for Clinical Investigation. He delivered the Clifford Sweet Lecture at Oakland, California; the Walter B. Seelye Lecture, Seattle; and received a Parke, Davis Award for excellence in research.

MARGARET F. GRAINGER served as member, Finance Committee, Minnesota League for Nursing; member, Board of Directors, Minnesota Nurses Association; and member, Committee on Inter-group Relations, and chairman, Nominating Committee, Third District Minnesota Nurses Association.

EUGENE GRIM served as member, Editorial Board, *American Journal of Physiology* and *Journal of Applied Physiology*. He also received United States Public Health Service and Minnesota Heart Association grants.

RUTH E. GROUT served as temporary regional adviser, World Health Organization.

A. JACK HAFNER received a National Institute of Mental Health research grant.

FRAZ HALBERG served as chairman, International Commission on Nomenclature; vice president, International Society for Study of Biological Rhythms; member, Panels of National Academy of Sciences; member, Research Planning Committee, Section on Medicine, American Association on Mental Deficiency; and member, Editorial Board, *Fortschritte der Medizin*. He also received a research career award from the United States Public Health Service.

HELEN B. HANSEN served as member, Membership Committee, and second vice president, Third District Minnesota Nurses Association; member, Steering Committee, Division of Nursing Education, Minnesota League for Nursing; and consultant, Testing Service, National League for Nursing.

ISABEL HARRIS served as chairman, Technical Committee, American Nurses' Foundation; and member, Expert Advisory Committee for the Professional Nurse Traineeship Program, Division of Nursing, United States Public Health Service.

JOHN E. HARRIS served as member, Sensory Diseases Study Section, National Institutes of Health; chairman, Preschool Medical Survey of Vision and Hearing; adviser, Eye Bank Committee, Minnesota Lions; trustee, Association for Research in Ophthalmology; and editor, *Investigative Ophthalmology*.

RODNEY B. HARVEY received a United States Public Health Service grant.

DONALD W. HASTINGS served as member, Steering Committee, Advisory Panel on Medical Sciences, Office of Director of Defense; member, Program Committee, American Psychiatric Association; and member, Hennepin County Mental Health Board.

STARKE R. HATHAWAY served as chairman, Board of Professional Affairs, American Psychological Association; and member, Council of Representatives, American Psychological Association.

GORDON T. HEISTAD received a research grant from the National Institutes of Health.

HERBERT M. HIRSCH lectured at the Czechoslovak International Medical Congress, Czech Academy of Science and Ministry of Health; and received research grants from the United States Public Health Service and the American Cancer Society.

CLAUDE R. HITCHCOCK served as member, Cancer Committee, Minnesota State Medical Association; member, Professional Education Committee, Minnesota Cancer Society; scientific editor, *Minnesota Medicine*; president, Minneapolis General Hospital Research Foundation, Inc.; representative from the Minnesota Cancer Society, to the Fact Finding Committee, United Fund; and received research grants from the National Institutes of Health, Minnesota Cancer Society, and the Western Foundation.

RUTH F. HOVDE delivered the Warner-Chilcott Lectureship, North American Conference of Medical Laboratory Technologists; and served as member, National Education Advisory Committee, Alabama Project on Improvement of School in Medical Technology, National Committee on Careers in Medical Technology.

ROBERT B. HOWARD served as member, Research Career Award Committee, National Institutes of Health, and member, Surgeon General's Advisory Committee on Indian Health, United States Public Health Service; and chairman, Committee on Continuing Education, Association of American Medical Colleges.

EDWARD W. HUMPHREY served as Chief of the Surgical Service, Minneapolis Veterans Administration Hospital.

JOHN A. JOHNSON received United States Public Health Service, Louis W. and Maud Hill Family Foundation, and Minnesota Heart Association grants.

FLORENCE J. JULIAN served as adviser, University of Seoul, Korea Hospital and School of Nursing, Korean Project, International Cooperation Administration; member, Advisory Committee, Vocational High School, Minneapolis; and member, Committee on Continuity of Patient Care, Visiting Nurse Service, Minneapolis.

B. J. KENNEDY served as member, Program-Project Committee, United States Public Health Service; member, Cancer Committee, American College of Physicians; consultant, Council on Pharmacy and Chemistry, American Medical Association; and received research grants from the National Cancer Institute and the American Cancer Society.

JOSEPH T. KING received United States Public Health Service and Minnesota Heart Association grants.

CARL D. KOUTSKY served as consultant, Veterans Administration; vice president, chairman, Professional Advisory Committee, member, Planning Committee, and member, Executive Board, Minnesota Association for Mental Health; and alternate delegate to the National Psychiatric Association, Minnesota Psychiatric Association.

WILLIAM KRIVIT served as member, Central Society for Clinical Research; board member, Minnesota Division of American Hemophiliac Society; and was awarded research grants from the United States Public Health Service; Minnesota Division, Arthritis and Rheumatism Foundation; Minnesota Division, American Cancer Society; and Kosmas Leukemia Research Fund.

FRANK M. LASSMAN served as member, Speech, Language, and Hearing Sub-Group, Perinatal Research Branch, National Institutes of Health; consultant, Veterans Administration; member, Advisory Committee, and member, Steering Committee, Minneapolis Area Program for the Deaf, Minneapolis Board of Education; member, American Boards of Examiners; and editorial consultant, *Journal of Speech and Hearing Disorders*.

CECELIA R. LEDIGER served as chairman, Committee on Allied Nursing Personnel, and chairman, Conference Group on Psychiatric Nursing Practice,

American Nurses Association; consultant, Veterans Administration; and member, Committee on Nurse Practice, and member, Executive Committee, Educational Administrators, Consultants and Teachers Section, Minnesota Nurses Association.

J. S. LEE received United States Public Health Association and Minnesota Heart Association grants.

NATHAN LIFSON received United States Public Health Service and Minnesota Heart Association grants.

C. WALTON LILLEHEI served as member, Surgery Study Section, and member, General Medical Research Program-Project Committee, United States Public Health Committee; member, Central Advisory Committee, Cardiovascular Surgery Council, American Heart Association; member, Postgraduate Overseas Educational Program Committee, vice president, and governor, American College of Cardiology; associate editor, *Excerpta Medica*; associate editor, *Angiology*; and was elected to honorary membership in the Royal Society of Medicine, Great Britain; and the Royal Society of Science, Sweden. He delivered the Hunterian Lecture, London, England; the New York Cardiovascular Society Address; and the Alpha Omega Alpha Lecture, University of New York Medical Center; and received the "Officer of the Order of Leopold," Belgium; and the Rogers Memorial Award, Wisconsin Heart Association. He also received research grants from the Minnesota Heart Association, the Life Insurance Medical Research Fund, the American Heart Association, and the United States Public Health Service.

RICHARD C. LILLEHEI presented the Adolph Sachs Memorial Lecture, Creighton University Medical School, Omaha, Nebraska; and received a John and Mary R. Markle scholarship. He also received research grants from the National Institute of Arthritis and Metabolic Diseases, the National Heart Institute, the Minnesota Heart Association, and the Minnesota Tuberculosis Association.

VICTOR LORBER received Minnesota Heart Association, National Science Foundation, and American Heart Association grants.

DAVID T. LYKKEN served as consultant, Institute for Defense Analysis; consultant, Veterans Administration Hospital, Fort Snelling; and received a research grant from the National Institutes of Health.

CARLOS MARTINEZ served as member, Editorial Board, *Transplantation*. He also received United States Public Health Service and American Cancer Society grants.

RICHARD B. McHUGH served as adviser, Research Unit, Hastings State Hospital; manuscript referee, *Plant Physiology*; member, Advisory Board, Minnesota Center for the Philosophy of Science; research proposal reviewer, National Science Foundation; and member, Advisory Board, Biometric Society.

LEROY C. McLAREN received a United States Public Health Service research grant.

MANFRED J. MEIER received a Research Career Development Award, Division of Neurological Diseases and Blindness, National Institutes of Health; and served as consultant, Family and Children's Service, Minneapolis.

MARION MURPHY served as member, Reorganization Committee, Minneapolis Combined Nursing Service; member, Board, Minneapolis Visiting Nurse Association; chairman, Certification Committee on Public Health Nursing, Minnesota State Department of Health; member, Steering Committee, Department of Baccalaureate and Higher Degree Programs, and member, Interim Committee on Accreditation Policies, National League of Nursing; and member, Committee on Professional Education, and vice-chairman, Conference on Public Health Training, American Public Health Association.

M. JOHN MURRAY received United States Public Health Service and Minnesota Heart Association research grants.

ERLAND R. NELSON served as member, Council, American Association of Neuropathologists; and secretary-treasurer, Minnesota Society of Neurology and Psychiatry.

ARTHUR R. PAGE served as member, American Society for Pediatric Research; and was awarded a United States Public Health Service Career Development Award.

HAROLD J. PAULUS served as member, Board of Directors, American Industrial Hygiene Association; and member, Education and Training Committee, Air Pollution Control Association.

RUTH F. PENNEBAKER served as member, Accreditation Team, National League for Nursing; and alternate member, Collegiate Board of Review, National League for Nursing.

L. O. PILGERAM received United States Public Health Service, American Heart Association, and Minnesota Heart Association grants.

RICHARD RAILE served as a member, Grant Evaluation Committee, United Fund; and medical adviser, Viking Council, Boy Scouts of America.

VERNA L. RAUSCH served as member, Medical Laboratory Assistant Certification Board, Minnesota Society of Clinical Pathologists and Minnesota Society of Medical Technology, Inc.; adviser, Vocational Education Division, State Department of Education; and editor, *Teaching Technologist*, a publication of Education Committee of the American Society of Medical Technologists.

JOHN REYNOLDS served as consultant, Interdepartmental Committee on Nutrition for National Defense, National Institutes of Health, and assistant director, Nutrition Survey on two Montana Indian Reservations, Interdepartmental Committee on Nutrition for National Defense and the Division of Indian Health, United States Public Health Service; appointed director, Nutrition Survey of Uruguay, Interdepartmental Committee on Nutrition for National Defense and the Ministry of Public Health, the Republic of Uruguay; and was awarded a research grant by the United States Public Health Service.

YOSHIO SAKO received an American Heart Association research grant.

BURTRUM C. SCHIELE received a National Institute of Mental Health research grant; and served as president-elect, Minnesota Psychiatric Society; and director, *Journal-Lancet* series, Psychiatry for the General Physician.

EDWIN L. SCHMIDT served as vice president, Division III, Soil Science Society of America; and received a National Science Foundation research grant.

LEONARD M. SCHUMAN served as member, National Cancer Control Committee, chairman, Epidemiology-Biometry Panel, and consultant, United States Public Health Service; member, Advisory Committee, National Cooperative Leukemia Study; member, Oral Polio Vaccine Advisory Committee, Minnesota State Department of Health; member, Committee on Evaluation and Standards, American Public Health Association; member, Greater St. Paul Area Health Council; consultant, California State Department of Health; and chairman, Council on Research, American College of Preventive Medicine. He also received National Institutes of Health, Health Research Inc., National Heart Institute, and United States Public Health Service grants.

VALATRICE E. SHRIMPSON served as president, Zeta Chapter, Sigma Theta Tau (National Scholarship Society in Nursing); first vice president, and member, Executive Committee, Minnesota Nurses Association; adviser, Minnesota Nursing Students Association; and member, Governor's Commission on the Improvement of Patient Care.

ERNEST SIMONSON served as member, Editorial Board, *American Heart Journal*; chairman, Editorial Board, *Translation Project*, Federation of the American Societies for Experimental Biology; and vice president and chairman, Clinical Section, Gerontological Society.

WESLEY W. SPINK served as member, Allegrity and Immunology Study Section, National Institutes of Health; member, Food and Drug Administration Committee, National Academy of Science; member, American Board of Microbiology; president-elect, American College of Physicians; editor, *Bulletin*, Hennepin County Medical Society. He also received grants from the United States Public Health Service; and delivered the Hare Lecture, Jefferson Medical College, Philadelphia.

JOHN SPIZIZEN served as editor, *Journal of Bacteriology*; and received United States Public Health Service and National Foundation research grants.

LEE D. STAUFFER served as deputy health officer, Coon Rapids, Minnesota; chairman pro tem, Board of Trustees, North Suburban Sanitary Sewer District, Minnesota; secretary, Environmental Health and Safety Section, American College Health Association; treasurer, Minnesota Public Health Association; and member, Food Protection Committee, American Public Health Association.

R. DOROTHY SUNDBERG served as member, Editorial Board, *Blood*; and was elected "Fellow" of the New York Academy of Sciences and Corresponding Member of the European Society of Hematology. She also received a National Institutes of Health research grant.

EUGENIA R. TAYLOR served as member, Steering Committee, Council on Practical Nursing, National League for Nursing; and member, Careers Committee, Third District Minnesota Nurses Association.

HENRY L. TAYLOR served as member, Research Committee, member, Committee on Epidemiology; member, Executive Committee, Council on Community Service; member, Community Service, Education and Development Fund, and member, Research Study Committee, American Heart Association.

CARLOS TERZUOLO served as member, Editorial Board, *American Journal of Physiology* and *Journal of Applied Physiology*; and member, International Brain Research Organization, UNESCO. He also received United States Public Health Service grants.

DOROTHY E. TITT served as member, Career Committee, Minnesota Nurses Association.

LOUIS TOBIAN, JR. served as member, Council for High Blood Pressure Research; and member, Society for Experimental Biology and Medicine. He also gave the Simmons and McBride Lectureship, University of British Columbia, Vancouver, Canada; and received research grants from the National Heart Institute, American Heart Association, Minnesota Heart Association, and the Cargill Foundation.

MARIAN J. TOWN was elected to Sigma Theta Tau (National Scholarship Society in Nursing).

ROBERT A. ULSTROM served as member, Council of Midwest Pediatric Research Society; representative of the Society for Pediatric Research to the National Research Council; and received research grants from the United States Public Health Service.

RICHARD L. VARCO served as member, Committee on Metabolism in Trauma, Surgeon General, United States Army; member, Committee on Trauma, Division of Medical Science, National Academy of Sciences—National Research Council; and president, Minnesota Heart Association. He delivered the John Auer Lecture, St. Louis; and the Henry Jackson Lecture, Boston; and received research grants from the National Science Foundation, the United States Public Health Service, and the Minnesota Heart Association.

ROBERT VERNIER served as president, Independent School Board No. 286; was elected to affiliate membership, Royal Society of Medicine; and received the Mead Johnson Award.

M. B. VISSCHER received the First Distinguished Service Award, Minnesota Medical Foundation; and delivered the Annual Honorary Lecture, Albany Medical College and the Lilly Lecture, Lilly Research Laboratories.

R. W. VON KORFF served as member, Committee on Biological Chemistry, and chairman, Subcommittee on Enzymes, National Academy of Sciences, National Research Council.

HANNAH K. WALSETH served as first vice president, Third District Minnesota Nurses Association; chairman, Research and Studies, Minnesota Nurses Association; member, Citizen's Committee on Public Education; and consultant, St. Cloud Veterans Administration Hospital.

YANG WANG served as member, Board of Directors, Minnesota Heart Association; and received research grants from the National Institutes of Health and the Minnesota Heart Association.

OWEN H. WANGENSTEEN was elected to the Hellenic Surgical Association, and the Royal College of Surgeons.

LEWIS W. WANNAMAKER served as career investigator, chairman, Committee on Prevention of Rheumatic Fever and Bacterial Endocarditis, member, Executive Committee, Council on Rheumatic Fever and Congenital Heart Diseases, and member, Committee on Epidemiological Studies, Council on Community Service and Education, American Heart Association; member, Commission on Streptococcal and Staphylococcal Diseases, Armed Forces Epidemiological Board, and consultant, Surgeon General, Department of the Army; member, Program-Project Site Visit, National Institutes of Health; member, Research Allocations Committee, and member, Rheumatic Fever Committee, Minnesota Heart Association; member, Committee on Fellowships, Arthritis and Rheumatism Foundation; member, Board of Editors, *Proceedings*, Society for Experimental Biology and Medicine; and president, Midwest Society for Pediatric Research. He delivered the Murphy Lecture, University of Utah; and received research grants from the National Institutes of Health, the American Heart Association, the Minnesota Heart Association, and the Research and Development Command, Department of the Army.

WARREN WARWICK served as consultant, Minnesota Chapter, and member, Sub-committee on Medical Care, National Cystic Fibrosis Research Foundation; member, Board of Editors, *Minnesota Medicine*; and was awarded a United States Public Health Service Career Development Award.

C. J. WATSON served as chairman, Medical Fellowship Board, National Research Council; chairman, Board of Medical Councillors, National Institute of Arthritis and Metabolic Diseases, United States Public Health Service; consultant, Surgeon General; member, Ad Hoc Committee, National Academy of Sciences; president, Association of American Physicians; president, Association of Professors of Medicine; and vice president, American Clinical and Climatological Association. He delivered the Hanau W. Loeb Lecture, St. Louis University Medical School; the Chester Jones Lecture, Massachusetts General Hospital, Boston; the Louis A. Bloomfield Lecture, Western Reserve, Cleveland; the Hector Ducci Memorial Lecture, Santiago, Chile; and was awarded the James F. Bell Distinguished Service Award, Minnesota Medical Foundation; the M. D. honoris causa, Johannes Gutenberg University, Mainz, Germany; and the Order of Merit, Republic of Chile. He also received research grants from the United States Public Health Service and the Research and Development Command, Department of the Army.

DENNIS W. WATSON served as member, Office of Naval Research Microbiology Advisory Panel; councilor-at-large, American Society for Microbiology; member, Board of Directors, Minneapolis War Memorial Blood Bank; chairman, Society for Experimental Biology and Medicine, Minnesota Section; and presented the Noble P. Sherwood Lectureship, Kansas City, Kansas.

LEE W. WATTENBERG served as councilor, Histochemical Society; and received a Guggenheim fellowship. He also received research grants from the United States Public Health Service; the American Cancer Society; the Minnesota Division, American Cancer Society; the Minnesota Heart Association; and the Atomic Energy Commission.

GEORGE WERMERS received a United States Public Health Service grant.

ELIZABETH A. WHITNEY served as chairman, Legislative Committee, Minnesota Nurses Association; and adviser, Zeta Chapter, Sigma Theta Tau (National Scholarship Society in Nursing).

School of Dentistry

HERMAN T. AEZIMAN was elected to Omicron Kappa Upsilon, National Honorary Society.

WILLIAM F. BRAASCH was elected to Associate Membership, American Academy of Denture Prosthetists; and membership, American Academy of Restorative Dentistry.

WILLIAM BRANSTAD served as secretary-treasurer, American Academy of Restorative Dentistry; and chairman, Section on Periodontics, American Dental Association.

HENRY B. CLARK, JR. served as member, Editorial Board, *Practical Dental Monographs*.

WILLIAM H. CRAWFORD was elected to honorary membership in the Minnesota Prosthodontic Society.

THEODORE H. DEDOLPH served as president, West Central District Dental Society.

RUDOLPH B. DELTON was elected a member of Omicron Kappa Upsilon, National Honorary Society.

THOMAS T. EDBLOM served as vice president and trustee, *Minnesota Dental Foundation*.

ROBERT J. GORLIN was awarded Fulbright and Guggenheim fellowships and was named a Fellow, International Academy of Oral Pathology.

AMBERT B. HALL was elected to honorary membership in the Minnesota Prosthodontic Society.

ANNA T. HAMPEL served as secretary-treasurer and president, Minnesota Section, International Association of Dental Research; and secretary-treasurer, Beta Beta Chapter, Omicron Kappa Upsilon, National Honorary Society.

LEE C. HERMANN served as president, Central Association of Dentists and Physicians.

MELLOR R. HOLLAND served as member, Program Committee, Minneapolis District Dental Society; and president, Minnesota Society of Oral Surgeons.

NORMAN O. HOLTE served as member, Program Committee, Minneapolis District Dental Society; and secretary, Minnesota Society of Oral Surgeons.

IONE M. JACKSON served as vice president, Sigma Phi Alpha, National Honorary Society.

JAMES R. JENSEN served as consultant, Council on Federal Services, American Dental Association; and dental coordinator, Unicom Division 2, Minnesota Civil Defense.

ODIN M. LANGSJOEN served as program chairman, Minnesota State Dental Association.

GEORGE C. LAWTHORP was elected a member of Omicron Kappa Upsilon, National Honorary Society.

GEORGE D. MACGIBBON was elected a member of Omicron Kappa Upsilon, National Honorary Society.

MAURICE W. MEYER was elected a member of the International Association of Dental Research.

ANDREW T. MORSTAD served as vice president, Minnesota Prosthodontic Society.

HAROLD J. PANUSKA served as chief, Dental Staff, Methodist Hospital, Minneapolis; consultant in Oral Surgery, Anoka and Cambridge State Hospitals; and was elected a member of Omicron Kappa Upsilon, National Honorary Society.

EUGENE E. PETERSEN served as chairman, Committee on Radiation, Minnesota State Dental Association.

ALLAN D. PETERSON served as program chairman, Minnesota Prosthodontia Society; and was elected a member of Omicron Kappa Upsilon, National Honorary Society.

WILLIAM M. TRYGSTAD was elected a member of Omicron Kappa Upsilon, National Honorary Society.

JOHN W. WAKELY served as president, Beta Beta Chapter, Omicron Kappa Upsilon, National Honorary Society; and member, Executive Council, Minneapolis District Dental Society.

DOUGLAS H. YOCK served as president, Minnesota Dental Foundation; and vice president, American Academy of Crown and Bridge Prosthodontics.

Law School

CARL A. AUERBACH served as member, Joint Committee on Political Science and Administrative Law, Association of American Law Schools and the American Political Science Association; and staff director, Committee on Internal Organization and Procedure, Administrative Conference of the United States.

JESSE H. CHOPER served as law clerk to the Honorable Earl Warren, Chief Justice of the United States.

JOHN J. COUND served as member, Governor's Constitutional Revision Committee.

JOHN R. ELLINGSTON served as executive secretary, Legislative Interim Commission on Juvenile Delinquency, Adult Crime and Corrections; executive secretary, Committee for the Revision of Minnesota's Criminal Laws; chairman, Policy Committee, Mayor Naftalin's Committee for Delinquency Control; member, Executive Committee, Governor's Advisory Committee on Children and Youth; member, Governor's Crime Commission; member, Juvenile Detention Study Committee, Community Health and Welfare Council of Hennepin County; and member, Review Panel, National Juvenile Court Institute Planning Project, National Council of Juvenile Court Judges.

BRUNO H. GREENE served as member, Committee on Comparative Law, Association of American Law Schools; and was awarded a Ford Foundation grant.

JAMES L. HETLAND, JR. served as member, Executive Committee, and president, Citizen's League of Minneapolis and Hennepin County; member, Minneapolis Charter Commission; vice-chairman, Governor's Committee on Highway Right-of-way Acquisition; member, Minnesota Supreme Court Advisory Committee on Civil Procedure; reporter, Uniform Jury Instruction Guide; member, Board, Legal Aid Society, Hennepin County; member, Board, Opportunity Workshops, Inc.; member, Committee of Management, University YMCA; member, Ethics Committee, co-chairman, Continuing Education of the Bar Committee, and member, Executive Committee, Hennepin County Bar Association; chairman, Legal Aid Committee, Association of American Law Schools; and vice chairman, Hennepin County Republican Committee.

YALE KAMISAR served as member, Advisory Committee to Revise the Criminal Law of Minnesota; member, Public Safety Committee, Minneapolis Citizens League; consultant, Attorney General of Minnesota; and was elected a Fellow, Social Science Research Council.

STANLEY V. KINYON served as member, Uniform Commercial Code Committee, Minnesota State Bar Association; editorial co-director, Minnesota Uniform Commercial Code Project; chairman, Committee on Scholastic Eligibility, Big Ten Conference; and member, Committee on Audio-Visual Aids, Association of American Law Schools.

ROBERT J. LEVY served as chairman, Committee on Cooperation with the Behavioral and Social Sciences, Family Law Section, American Bar Association; assistant to staff director, Committee on Internal Organization and Procedure, Administrative Conference of the United States; member, Juvenile Court Committee, Governor's Advisory Council on Children and Youth; and received a grant from the National Council on Legal Clinics.

WILLIAM B. LOCKHART served as member, Executive Committee, Association of American Law Schools; member, Council, American Law Institute; member, Board of Trustees, Drake University; and chairman, Wage Panel for City Employees, City of Duluth.

ROBERT C. McCLURE served as director, Minnesota Branch, American Civil Liberties Union; member, Governor's Human Rights Commission; member, Mayor's Liquor License Advisory Committee; and member, Governor's Constitutional Decision Committee.

ALLAN H. MCCOD served as chairman, Advisory Committee, Minnesota State Labor Conciliator; secretary, Labor Law and Social Security Section, Minnesota State Bar Association; adviser, Reporter of the Restatement of the Law, Second, Torts, American Law Institute; and chairman, Torts Round

Table Council, chairman, Committee on Law and Medicine, Association of American Law Schools.

MAYNARD E. PIRSIG served as member, Advisory Committee on Federal Rules of Criminal Procedure; chairman, Committee on Restoration of Civil Rights, and member, Minnesota Commission on Uniform State Laws; member, Governor's Committee on Defective Delinquents Annex; Reporter to Committee on Revision of the Criminal Code of Minnesota, Minnesota Commission on Juvenile Delinquency and Adult Crimes and Correction; referee, Juvenile Court, Hennepin County; and vice-president, Minneapolis Legal Aid Society. He also delivered the Harris Lecture, University of Indiana Law School, Indianapolis, Indiana.

THOMAS L. WATERBURY served as chairman, Advisory Committee on the Inheritance and Gift Tax Regulations, State of Minnesota.

College of Pharmacy

FRANK E. DIGANGI served as chairman, and member, Committee on United States Pharmacopeia and National Formulary Revision, Minnesota State Pharmaceutical Association; and member, Committee on Individual Memberships, American Association of Colleges of Pharmacy.

OLE GISVOLD served as chairman, Section of Teachers of Graduate Instruction, and member, Committee on Graduate Programs, American Association of Colleges of Pharmacy. He also received a research grant from the National Institutes of Health and the American Pharmaceutical Association Foundation Award in Natural Products.

WILLARD J. HADLEY served as member, Committee on Code of Ethics, and secretary, Minnesota State Pharmaceutical Association.

GEORGE P. HAGER served as chairman, Committee on Modern Methods of Handling Chemical Information, and member, Advisory Committee on Cardiovascular Literature Project, National Academy of Sciences—National Research Council; member, Medicinal Chemistry Study Section, National Institutes of Health; member, Advisory Committee on Antiradiation Drug Program, Walter Reed Army Institute of Research; member, Editorial Advisory Board, *Journal of Pharmaceutical Sciences*; member, National Formulary Advisory Panel; member, Scientific Advisory Council, Institute for Advancement of Medical Communication; member, Executive Committee, member, Committee on Curriculum, and member, Committee on Educational Policy, American Association of Colleges of Pharmacy; member, Committee on Pharmaceutical Research, and chairman, Committee on Research Achievement Awards, American Pharmaceutical Association; member, President's Advisory Board, member, Committee on Pharmaceutical Education, member, Committee on Student Loan Fund, member, Committee on United States Pharmacopeia and National Formulary Revision, member, Committee on Professional Relations, and chairman, Committee on Code of Ethics, and chairman, Intraprofessional Relations Committee, Minnesota State Pharmaceutical Association; vice-chairman, Committee of Management, University Branch YMCA; and member, White House Panel on Narcotic Addiction.

HUGH F. KABAT served as member, Interprofessional Relations Committee, Southern Minnesota Society of Hospital Pharmacists.

ROBERT H. MILLER served as chairman, Committee on Research, and member, Committee on Pharmaceutical Education, Minnesota State Pharmaceutical Association; and consultant, Minnesota Mining and Manufacturing Company, and consultant, Minneapolis Veterans Administration Hospital. He received Lederle Laboratories Pharmacy Faculty Award.

CHARLES V. NETZ served as chairman, Committee on Publications, and member, Committee on Pharmaceutical Education; and editor, *Proceedings of the Minnesota State Pharmaceutical Association*, Minnesota State Pharmaceutical Association.

TAITO O. SOINE served as member, National Pharmacy Week Committee and chairman, United States Pharmacopeia and National Formulary Revision Committee, Minnesota State Pharmaceutical Association; consultant, Rowell

Laboratories, Inc.; member, United States Pharmacopeia Revision Committee, and he received a Lederle Laboratories Pharmacy Faculty Award.

WALLACE F. WHITE served as a member of the Committee on Research, Minnesota State Pharmaceutical Association.

Summer Session

CLARA KANUN served as editor, *Monthly Newsletter*, Minnesota Chapter, American Association of University Professors; editor, *Inform*; and member, Youth Work Committee, Midway Branch, YMCA, St. Paul.

E. W. ZIEBARTH served as president, Association of Deans and Directors of Summer Sessions; member, Board of Directors, Midwest Educational Television Corporation; member, Board of Directors, Hennepin County Tuberculosis Association; chairman, Mariette Scholarship Committee (Hennepin County Committee); member, Committee on Problems in Teaching the Mass Media, Speech Association of America; consultant, St. Paul Public Schools; member, Board of Directors, Radio and Television Council; member, Program Committee, KTCA Channel 2 Corporation; consultant, Midwest Radio-Television Corporation; and editor, *Tapes for Teaching*, International Affairs Series. He also received the KUXL Award.

Graduate School

THEODORE C. BLEGEN was elected a research fellow, Minnesota Historical Society; and received the Outstanding Achievement Award, University of Minnesota. He also received an honorary Doctor of Literature degree from Macalester College, St. Paul.

FRANCIS M. BODDY served as consultant, Minnesota Commissioner of Taxation; member, Governor's Committee on Electronics Industries; chairman, Committee on Academic Freedom and Civil Liberties, American Economics Association; member, Library Committee, Citizens League of Minneapolis; director, Naval Reserve Officers School, Naval Air Station, Minneapolis; national councilman, Reserve Officers Association; and University representative, National Bureau of Economic Research.

BRYCE CRAWFORD, JR. served as member, Divisional Review Committee, Argonne National Laboratory; member, Advisory Committee, Air Force Office of Scientific Research; member, Advisory Panel for Chemistry, member, Advisory Committee for Institutional Programs, and member, Divisional Committee for Scientific Personnel and Education, National Science Foundation; member, Advisory Committee, Office of Ordnance Research, United States Army; chairman-elect, Division of Physical Chemistry, American Chemical Society; member, Commission on Optical Data and Commission on Molecular Spectroscopy, International Union of Pure and Applied Chemistry; member, Committee on the Gordon Conference on Infrared Spectroscopy; member, American Association of Advanced Science; member, National Academy of Sciences; member, Membership Committee, Council of Graduate Schools in the United States; member, Governor's Committee on Electronics Industries; member, Steering Committee, Chemical Education Material Study; editor, *Modern Concepts in Chemistry* series; and was awarded research grants from the United States Army Research Office and the National Science Foundation.

Mayo Foundation of Medical Education and Research

R. W. P. ACHOR served as member, Council for Study of Arteriosclerosis, American Heart Association, and program chairman, Zumbro Valley Medical Society.

E. ACKERMAN served as editor, *Newsletter*, Society for Social Responsibility in Science.

ALEXANDER ALBERT served as chairman, Endocrinology Study Section, National Institutes of Health; consulting editor, *American Journal of Physi-*

ology; editor-in-chief, *Journal of Clinical Endocrinology*; and president, American Goiter Association. He was awarded an honorary Doctor of Science degree, Bard College, and delivered the Mossman Lecture, University of Nebraska Medical School, and a guest lecture, Pan American Congress of Endocrinology, Lima, Peru.

HOWARD A. ANDERSEN served as vice president, Minnesota Chapter, American College of Chest Physicians; member, Pulmonary Disease Committee, Minnesota State Medical Association; and secretary-treasurer, Alumni Association of the Mayo Foundation.

M. W. ANDERSON served as associate editor, *Diseases of the Chest*; member, Committee on Electrocardiography, American College of Chest Physicians; and secretary-treasurer, Minnesota Society for the Study of Diseases of the Heart and Circulation.

ARCHIE H. BAGGENSTOSS served as assistant secretary, Section on Pathology and Physiology, American Medical Association; and member, editorial board, *Gastroenterology*.

GEORGE S. BAKER served as member, Executive Committee, and chairman, Membership Committee, American Academy of Neurological Surgery.

EDWARD J. BALDES served as member, Advisory Editorial Board, *Aerospace Medicine*, and member, Resolutions Committee, Aerospace Medical Association; member, Editorial Board, *American Journal of Physiology* and *Journal of Applied Physiology*; member, Advisory Panel on Science and Technology, House of Representatives Committee on Science and Astronautics; and member, Aero Space Medical Panel, Advisory Group for Aeronautical Research and Development, North Atlantic Treaty Organization.

EDWARD A. BANNER served as member, Executive Council, Continental Gynecologic Society; and member, Advisory Board, Minnesota Obstetrical and Gynecological Society.

N. W. BARKER served as member, Council on Arteriosclerosis, and member, Council on Circulation, American Heart Association.

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

LLOYD G. BARTHOLOMEW served as member, Membership Committee, Southern Minnesota Medical Association.

JAMES A. BASTRON served as secretary-treasurer, American Association of Electromyography and Electrodiagnosis.

OLIVER H. BEAHR served as past president, Minnesota Surgical Society.

KENNETH G. BERGE served as member, Council on Arteriosclerosis, American Heart Association; consultant, National Advisory Heart Council on Joint Cooperative Clinical Trial of Anti-atherosclerotic Drugs; alternate delegate, Minnesota State Medical Association; and member, Committee on Poliomyelitis, Zumbro Valley Medical Society.

JOSEPH R. BERKSON served as member, Committee on Statistical Research, American Cancer Society; member, Subcommittee of Committee on Growth, National Research Council; member, United States Subcommittee on Hospital Statistics, World Health Organization; and consultant, School of Aviation, United States Army Air Force Medical Department.

WILLIAM H. BICKEL served as examiner and chairman, Residency Review Committee, American Board of Orthopedic Surgery; chairman, Auditing Committee, Advisory Board for Medical Specialties; member, Committee on Podiatry, member, Committee on Graduate Education, Committee on Advancement of Automobile Safety, American Academy of Orthopedic Surgeons; member, Committee on Graduate Education, Committee on Trauma, Advisory Council, American College of Surgeons; and consultant, Surgical Consultant Branch, United States Army.

REGINALD G. BICKFORD served as member, Board of Certification in Electroencephalography; examiner, Board of Qualifications, American Electroencephalography Society; and chairman, Committee on Instrument Specifications.

B. M. BLACK delivered the Vincent Park Williams Memorial Lecture, Kansas City, and the Camp Memorial Lecture, Illinois State Medical Society, Chicago.

CHARLES M. BLACKBURN served as member, Executive Committee, Cooperative Breast Cancer Group, and member, Hormone Evaluation Committee, Clinical Studies Panel, National Cancer Institute.

DAVID A. BOYD, JR. served as member, Residency Review Committee for Psychiatry and Neurology, American Medical Association; executive secretary, American Board of Psychiatry and Neurology; member, Council, American Psychiatric Association; president, Minnesota Psychiatric Society; and vice president, St. John's Mental Health Institute.

ROBERT O. BRANDENBURG served as member, Committee on Community Program, and member, Executive Council, Council on Community Service and Education, American Heart Association; and member, Board of Directors, Minnesota Heart Association.

T. L. BRANNICK served as program chairman, Minnesota State Psychiatric Society.

A. E. BROWN served as delegate, Minnesota State Medical Association.

JOE R. BROWN served as member, Medical Advisory Board, National Multiple Sclerosis Society; trustee, member, Editorial Board, *Neurology*, and chairman, Membership Committee, American Academy of Neurology; consultant, Veterans Administration; chairman, Neurological Sciences Research Training Grant Committee, National Institute of Neurologic Disease and Blindness; and member, Medical Advisory Board, Ability Building Center of Rochester.

LOUIS A. BRUNSTING served as member, Editorial Board, *Archives of Dermatology*; representative to American Board of Dermatology, American Academy of Dermatology; United States representative, International Committee, XII International Congress of Dermatology; associate editor, *Dermatologica*; member, Advisory Editorial Board, *Journal of Investigative Dermatology*; member, Advisory Panel on Dermatology, United States Pharmacopeia; and chairman, Committee on Syphilis and Social Disease, Minnesota State Medical Association.

A. H. BULBULIAN served as associate editor, *Journal of Prosthetic Dentistry*. He also received an Award of Merit from the American Association of Inhalation Therapists and the Billing's Gold Medal, three Certificates of Merit, and an Honorable Mention from the American Medical Association for exhibits.

HOWARD B. BURCHELL served as member, Medical Advisory Heart Council, and member, Heart Council, National Heart Institute, National Institutes of Health. He also delivered the Gerlinger Memorial Lecture.

E. OMER BURGERT served as member, School Health Committee, Minnesota Chapter, Academy of Pediatrics.

HUGH R. BUTT served as vice chairman, American Board of Internal Medicine; governor, American College of Physicians; president, American Gastroenterological Association, member, Editorial Board, *American Medical Association Archives of Internal Medicine*; president, American Association for the Study of Liver Diseases; and chairman, Board of Scientific Counselors, National Cancer Institute. He also served as visiting professor, Harvard University and University of Washington.

JAMES C. CAIN served as member, Minnesota State Board of Medical Examiners.

H. C. CARLSON received a Noble Foundation Award.

DAVID T. CARR served as chairman, Committee on Guidance of TB Program, and member-at-large, Board of Directors, National Tuberculosis Association; member, Committee on Research, American Thoracic Society; president, Minnesota Thoracic Society; member, Board, Olmsted County Tuberculosis and Health Association; and member, Executive Board, Minnesota Tuberculosis and Health Association.

HADDON M. CARRYER served as member, Audio-Visual Committee, and member, Undergraduate and Graduate Committee, American Academy of Allergy; and president and chairman, Scientific Assembly Committee, Minne-

sota State Medical Association; and member, Executive Committee, Zumbro Valley Medical Society.

E. T. CARTER served as member, Advisory Council for Research, Civil Air Surgeon, Federal Aviation Agency; and consultant, Human Factors, North American Aviation, Inc.

DONALD S. CHILDS, JR. served as member, Board of Trustees, and chairman, Committee for Therapeutic Radiology Residency, American Board of Radiology; representative to American Board of Radiology, American Radium Society; member, Commission on Education, American College of Radiology; member, Committee on Medical Uses of Isotopes, Atomic Energy Commission; and member, Committee on Cancer, Minnesota State Medical Association.

O. THERON CLAGETT served as chairman, Board of Thoracic Surgery; vice president, and president, American Association for Thoracic Surgery; member, Board of Governors, American College of Surgeons; and member, Editorial Board, *Journal of Thoracic and Cardiovascular Surgery*. He was awarded an honorary Doctor of Science degree from the University of Colorado.

EDWARD C. CLARK served as secretary and president, Central Society for Neurological Research.

C. F. CODE served as member, Physiology Study Section, National Institutes of Health; editor-in-chief, *Physiological Reviews* and member, Editorial Board, *Gastroenterology*; and vice president, American Gastroenterological Association.

D. C. CONNOLLY was appointed Fellow, American College of Physicians.

K. B. CORBIN served as representative, Residency Review Committee of Psychiatry and Neurology, American Medical Association.

MARK B. COVENTRY served as member, Membership Committee, American Orthopedic Association; editor, *Bulletin*, American Academy of Orthopedic Surgery; and member, Medical Advisory Committee, Minnesota State Medical Association.

ORMOND S. CULP served as governor, American College of Surgeons; member, Registry of Genito-Urinary Pathology, member, Legislative Committee, and representative to American College of Surgeons, American Urological Association; representative, Residency Review Committee, American Association of Genito-Urinary Surgeons; and member, Editorial Board, *Urological History of World War II*.

DAVID C. DAHLIN served as member, Cytology Committee, Minnesota Society of Clinical Pathology.

F. L. DARLY served as editor, *Monographs*, member, Professional Services Board, American Boards of Examiners in Speech Pathology and Audiology, American Speech and Hearing Association; and consultant in speech pathology, Army Audiology and Speech Center, Walter Reed Army Hospital, Washington, D.C.

GEORGE D. DAVIS served as member, House of Delegates, chairman, Committee on Reference on Miscellaneous and Economic Reports, and chairman, Committee on Hospital and Professional Relations, Minnesota State Medical Association.

W. H. DEARING served as chairman, Executive Committee, and chairman, Section of Gastroenterology, American Medical Association.

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

G. ROY DIESSNER served as member, Executive Committee, and delegate to Minnesota State Medical Association, Zumbro Valley Medical Society; president, Southern Minnesota Medical Association; and member, Medical Committee on Rehabilitation, and member, Reference Committee, Minnesota State Medical Association.

M. B. DIVERTIE was awarded a Billings Bronze Medal by the American Medical Association for an exhibit.

MALCOLM B. DOCKERTY served as chairman, Tumor Registry, Central Association of Obstetrics and Gynecologists; consultant, Armed Forces Institute of Pathology; counsellor, Minnesota Society of Clinical Pathologists; chairman, Tumor Seminar Committee, Minnesota Society of Clinical Pathologists. He was awarded a certificate of Merit and Honorable Mention by the American Medical Association and an Honorable Mention by the American Roentgen Ray Society for exhibits.

FRANCIS E. DONOGHUE served as member, Committee on Public Health Education, Minnesota State Medical Association.

BRUCE E. DOUGLASS served as chairman, Education Committee, Minnesota Thoracic Society.

JAMES W. DUSHANE served as chairman, Sub-Board of Pediatric Cardiology, American Board of Pediatrics; member, Board of Directors, Minnesota Heart Association; member, Poliomyelitis Advisory Committee, State Board of Health; and chairman, Advisory Committee to Regional Cardiac Program, Crippled Children's Services.

EARL C. ELKINS served as chairman, Residency Review Committee, Secretary, Section of Physical Medicine, member, Advisory Committee on Physical Therapy Education, and member, Ad Hoc Committee for Physical Therapy, American Medical Association; chairman, Credentials Committee, and secretary-treasurer, American Board of Physical Medicine and Rehabilitation; member, Advisory Committee for Advancement of Physical Medicine and Rehabilitation, American Academy of Physical Medicine and Rehabilitation; chairman, Committee on Constitution and By-Laws, American Congress of Physical Medicine and Rehabilitation; chairman, American Registry of Physical Therapists; consultant, Office of the Surgeon General, Department of the Army; chairman, Medical Committee on Rehabilitation, Minnesota State Medical Association; member, Medical and Scientific Committee, Minnesota Chapter, Arthritis and Rheumatism Foundation; and member, Advisory Council on Hospital Construction, Division of Hospital Services, Minnesota Department of Health.

F. HENRY ELLIS, JR. served as member, Committee on Aging, Minnesota State Medical Association; and member, Research Allocations Committee, Minnesota Heart Association. He was awarded a Motion Picture Award by the American College of Surgeons and delivered the Adrian Ehler Memorial Lecture, Albany Medical College, Union University.

JOHN L. EMMETT served as member, Board of Editors, *Journal of Urology*, and chairman, National Committee on Graduate Instruction, American Urological Association.

JOHN B. ERICH served as member, American Board of Plastic Surgery; and regional vice president, American Fracture Association.

DONALD J. ERICKSON served as president, American Congress of Physical Medicine and Rehabilitation; consultant, Physical Medicine and Rehabilitation, Veterans Administration; and member, Medical Advisory Board, Minnesota United Cerebral Palsy.

JOHN E. FABER served as chairman of District VI, chairman, Committee on Legislation, and member, Executive Committee, American College of Obstetrics and Gynecology.

J. F. FAIRBAIN, II served as associate editor, *Angiology*; and member, Professional Education Committee, Minnesota Heart Association. He received a Certificate of Merit from the American Medical Association for an exhibit.

ALBERT FAULCONER served as director of board, chairman, Committee on Credentials and Residency, and chairman, Joint Committee on Residency Accreditation, American Board of Anesthesiology; member, Committee on Anesthesiology, National Research Council; and consultant, Surgeon General, United States Army.

DEWARD O. FERRIS served as member, Minnesota Board of Governors, and member, Committee on Applicants for District 2 of Minnesota, American College of Surgeons; chairman, Membership Committee, and member, Board of

Directors, Minnesota Surgical Society; and member, Board of Governors, Mayo Foundation Alumni Association.

EUNICE V. FLOCK served as member, Award Committee, American Chemical Society; and was appointed a Fellow, New York Academy of Sciences.

R. S. FONTANA served as member, Sub-Board in Pulmonary Diseases, American Board of Internal Medicine.

WARD S. FOWLER served as consultant, Committee on Medical Rating of Physical Impairment, American Medical Association; member, Editorial Committee, *American Journal of Physiology*; member, Editorial Committee, *Journal of Applied Physiology*; member, Editorial Committee, *Handbook of Physiology, Vol. 3*; member, Physiology Training Committee, National Institutes of Health; and member, Committee on Pulmonary Disease, Minnesota State Medical Association.

CLIFFORD F. GASTINEAU served as member, Committee on Information for Diabetics, American Diabetes Association.

J. E. GERACI served as member, Antibiotic and Chemotherapy Committee, American College of Chest Surgeons; and received a Certificate of Merit from the *Minnesota Medical Journal* for medical writing.

J. A. GIBILISCO served as member, Editorial Advisory Board, *Journal of Dental Research*; member, Dental Study Section, and chairman, International Symposium, National Institutes of Health; consultant, Dental Research, United States Air Force; and member, University Relations Committee, member, Dental Radiation Committee, and member, Grant-in-Aid Committee, Minnesota State Dental Association; and member, Grant-in-Aid Committee, Minnesota Dental Foundation.

C. ALLEN GOOD served as member, Board of Trustees, American Board of Radiology; member, Program Committee, member, Executive Council, and secretary, American Roentgen Ray Society; received the Caldwell Medal and a Certificate of Merit from the American Roentgen Ray Society and the American Medical Association for exhibits. He also delivered the Hickey Lecture, Detroit Roentgen Ray and Radium Society and Wayne County Medical Society; the Carman Lecture, Minnesota Radiological Society; and the Caldwell Lecture, American Roentgen Ray Society.

ROBERT J. GORES served as chairman, Membership Committee, Minnesota Society of Oral Surgeons; chairman, Government Services Committee, Minnesota State Dental Association; and president, Minnesota Section, International Association for Dental Research.

LAURENCE F. GREENE served as consultant, Council on Drugs, American Medical Association; and delivered the George C. Taylor Lecture, University of Oklahoma.

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

O. E. HALLBERG served as diplomate, American Board of Otolaryngology; and member, Otosclerosis Study Group, American Academy of Ophthalmology and Otolaryngology.

G. A. HALLENBECK served as member, Editorial Board, *Journal of Surgical Research*; and secretary-treasurer, Steering Committee, Gastroenterology Research Group.

N. O. HANSON served as chairman, Medical Advisory Committee, Olmsted County Welfare Board.

L. E. HARRIS served as official board examiner, American Board of Pediatrics; and member, Committee on Child Health and Immunizations, Minnesota State Medical Association.

ALVIN B. HAYLES served as member, Special Committee, Minnesota State Medical Association; and president, Zumbro Valley Medical Society.

LEROY D. HEDGECOCK served as member, Committee on Liaison Between Otolaryngology and Audiology, American Speech and Hearing Association; member, Site Visit Committee, Division of Research Grants, National Institutes of

Health; and member, Minnesota Advisory Board on Handicapped, Gifted, and Exceptional Children.

E. D. HENDERSON served as chairman, Committee on Infection, American Academy of Orthopedic Surgeons; associate editor, *Journal of Orthopedics*; consultant, United States Fifth Army; and member, Committee on Athletic Injuries.

JOHN W. HENDERSON served as first vice chairman, Midwestern Section, Association for Research in Ophthalmology; and section editor, *Survey of Ophthalmology*.

LOWELL L. HENDERSON served as member, Allergy Sub-Board of Internal Medicine, American Board of Internal Medicine; member, Committee on Airborne Allergens, American Academy of Allergy; member, Board of Regents, American College of Allergists; member, Committee on Pulmonary Diseases, Minnesota State Medical Association; and president, North Central Allergy Society.

NORMAN G. HEPPER served as representative councilor from Minnesota, American Thoracic Society; and secretary-treasurer, Minnesota Thoracic Society.

CORRIN H. HODGSON served as director, First Councilor District, NUHOPE; vice president, Zumbro Valley Medical Society; vice president, Minnesota Medical Foundation; chairman, Tuberculosis Mortality Committee, and member, Insurance Liaison Committee, Minnesota State Medical Association.

J. R. HODGSON served as vice president, member, Program Committee, Radiological Society of North America; and member, Committee on Radiological Fees, member, Committee on ACR Fellows Nominations, and vice president, Minnesota Radiological Society.

ROBERT W. HOLLENHORST served as associate examiner, American Board of Ophthalmology; head, Section of Perimetry and Neuro-Ophthalmology of Home Study Course; chairman, Committee on Ophthalmology, and member, Board of Directors, Preschool Medical Survey of Vision and Hearing, Minnesota State Medical Association; president, Minnesota Academy of Ophthalmology and Otolaryngology; and consultant, Services for the Blind, Minnesota Department of Public Welfare.

C. B. HOLMAN served as member, Publications Committee, Neurosurgical Society of America; and member, Executive Committee, and chairman, Finance Committee, American Roentgen Ray Society. He received the Billings Gold Medal from the American Medical Association and the Bronze Medal from the American Roentgen Ray Society for exhibits.

ARTHUR B. HUNT served as associate examiner, American Board of Obstetrics and Gynecology; and member, Historical Committee, and member, Committee on Physician Assistance, Minnesota State Medical Association.

JOHN C. IVINS served as member, Trauma Committee, American College of Surgeons; and member, Military and Veterans Affairs Committee, and member, Civil Defense and Civilian Disaster Committee, Minnesota State Medical Association.

RAYMOND J. JACKMAN was appointed an honorary member, Argentina Proctologic Society. He also served as member, State Health Relations Committee, and member, House of Delegates, Minnesota State Medical Association; and member, State Board of Health.

JOSEPH N. JANES served as member, Committee on Scientific Investigation, American Board of Orthopedic Surgery, and received an Orthopedic Research Society research grant.

VICTOR JOHNSON served as member, Board of Directors, American Medical Education Foundation; member, Board of Directors, National Society for Medical Research; member, Research Institute Committee, Upper Midwest Research and Development Council; member, Scientific Advisory Council, Institute for Advancement of Medical Communication; member, Board of Trustees, Shirmer College, Mount Carroll, Illinois; director, Alpha Omega Alpha Medical Honor Society; consultant, Personnel and Training, Surgeon

General, United States Army; and consultant, Surgeon General, United States Air Force.

ROBERT R. JONES served as consultant, Surgeon, United States Fifth Army; and president, Minnesota Society of Anesthesiologists.

EDWARD S. JUDD served as member, District Advisory Committee, member, State and Regional Credentials Committee, member, Advisory Committee on Arrangements, and member, Program Committee, Society for Surgery of the Alimentary Tract; and recorder, Central Surgical Association.

J. L. JUERGENS served as member, Nominating Committee, American Heart Association; and member, Professional Education Committee, and member, Board of Directors, Minnesota Heart Association.

ALFRED G. KARLSON served as member, Editorial Board, *American Journal of Veterinary Research*; secretary-treasurer, Conference of Research Workers in Animal Diseases; section editor, *Biological Abstracts*; member, Committee on Research, American Thoracic Society; associate member, Committee on Tuberculosis, Minnesota State Medical Association; secretary, Olmsted County Tuberculosis and Health Association; and chairman, Committee on Research, and member, Board of Directors, Minnesota Tuberculosis and Health Association.

F. R. KEATING, JR. served as consultant, Radiation Branch, and member, Protocol Committee, National Radioiodine Review Study, United States Public Health Service.

H. M. KEITH served as examiner, American Board of Pediatrics.

P. J. KELLY served as member, Committee to Study Osteoporosis, American Medical Association, associate editor, *Journal of Bone and Joint Surgery*; and member, Program Committee, Orthopedic Research Society. He received research grants from the Orthopedic Research Society and the National Institutes of Health.

J. M. KIELY served as member, Residency Review Committee, American Medical Association.

ROBERT R. KIERLAND served as member, Advisory Committee on Dermatologic Vehicles, member, International Congress Committee, and secretary-treasurer, American Academy of Dermatology, Inc.; associate editor, *Dermatologia Tropica*; consultant, United States Public Health Service; and consultant, Surgeon, United States Fifth Army.

T. J. KIRBY, JR. served as consultant, Division of Indian Health, United States Public Health Service; and member and chairman, Council, Minnesota Academy of Ophthalmology and Otolaryngology.

JOHN W. KIRKLIN served as member, Membership Committee, American Association for Thoracic Surgery; member, Executive Committee, member, Program Committee, member, Council on Cardiovascular Surgery, member, Central Advisory Committee, Cardiovascular Section, member, Committee on Congenital Cardiac Defects, and member, Research Study Committee, American Heart Association; member, Editorial Board, *Circulation*; member, Editorial Board, *Yearbook of Cardiovascular Disease*; member of Scientific Committee, *Journal*, French Society of Thoracic Surgery. He also served as visiting professor, UCLA Medical Center, and received an honorary Doctor of Medicine degree, University of Munich.

DONALD W. KLASS served as secretary-treasurer, Central Association of Electroencephalographers.

GILES A. KOELSCH served as member, Committee on Allergy, American College of Chest Physicians; member, Finance Committee, chairman, Board of Directors, and president, American College of Allergists; member, Scientific and Educational Council, member, Steering Committee, and member, Medical Education Sub-Committee, Allergy Foundation of America; and regional consultant, Children's Asthma Research Institute and Hospital, Denver.

FRANK H. KRUSEN served as treasurer, American Congress of Physical Medicine and Rehabilitation; president, International Federation of Physical Medicine; member, Advisory Council, National Society for Crippled Children and Adults; member, Advisory Council, Association of Rehabilitation Centers;

vice chairman, Board of Directors, United States Commission to Interest Society for the Rehabilitation of the Disabled; member, President's Committee on Employment of the Physically Handicapped; member, Scientific Committee, National Better Business Bureau; state regent, American Medical Authors Society; member, National Advisory Council, School for Social Development; chairman, Rehabilitation and Retraining Groups Liaison Committee, American Gerontological Society; member, Committee to Study Future, American Academy of Physical Medicine and Rehabilitation; member, Committee on Rehabilitation, Minnesota State Medical Association; and consultant, Minnesota Society for Crippled Children and Adults. He received the Gold Medal Award of the Connecticut Society of Physical Medicine and the Goodwill Industries of America, Inc., award, and was also appointed a Fellow, Royal Society of Medicine, London, England.

WALTER F. KVALE served as member, Central Advisory Committee, American Heart Association; and received a Gold Medal from the American Medical Association for an exhibit.

EDWARD H. LAMBERT served as member, Terminology Committee, member, Council, American Association of Electromyography and Electrodiagnosis; member, Advisory Board, and member, Grants Committee, Myasthenia Cravis Foundation; member, Commission for Electromyography; and member, Committee for Electromyography Terminology, and member, Committee for Electromyography Instrumentation, International Federation for Electroencephalography and Clinical Neurophysiology.

W. R. LANEY served as member, Membership Committee, and member, Fee Committee, American Academy of Maxillofacial Prosthetics; and member, Program Committee, Rochester Dental Society.

PAUL R. LIPSCOMB served as member, Exchange Fellowship Committee, American Orthopedic Association; and chairman, Instructional Course Committee, and sectional editor, *Journal of Bone and Joint Surgery*, American Academy of Orthopedic Surgery.

EDWARD M. LITIN served as consultant, Peace Corps; consultant, Ability Building Center; consultant, Mary E. Swift Tumor Clinic and Foundation; and delegate to American Psychiatric Association, Minnesota Psychiatric Society.

GEORGE B. LOGAN served as member, Editorial Board, *American Journal of Diseases of Children*; member, Sub-Board of Allergy, American Board of Pediatrics; member, Council on Allergy, Advisory Board of Medical Specialties; member, Committee on Allergy, American Academy of Pediatrics; member, Scientific and Educational Council, Allergy Foundation of America; member, Committee on Child Health and Immunization, Minnesota State Medical Association; and president, Minnesota Chapter, American Academy of Pediatrics.

J. GRAFTON LOVE served as president, Harvey Cushing Society; president, Society of Neurological Surgeons; and president, Minnesota Society of Neurology and Psychiatry.

STANLEY A. LOVESTEDT served as member, Examining Committee, American Academy of Oral Roentgenology; regent, American College of Dentists; member, Committee on Research, American Society of Oral Surgeons; diplomate, National Board of Dental Examiners; member, Committee in Hospital Dental Service, Minnesota State Dental Association; member, Minnesota Division Liaison Committee, American Cancer Society; and president, Minnesota Society of Oral Surgeons.

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

COLLIN S. MACCARTY served as member, Executive Committee, and chairman, Nominating Committee, Neurological Society of America.

F. T. MAHER served as vice president, Minnesota Section, Society for Experimental Biology and Medicine.

T. G. MARTENS served as member, Armed Forces Committee on Vision, National Research Council; delegate, and member, Board of Directors, Pre-school Medical Survey of Vision and Hearing, Minnesota State Medical Asso-

ciation; and member, Council, Minnesota Academy of Ophthalmology and Otolaryngology.

GORDON M. MARTIN served as member, Committee on By-Laws, member, Program Committee, and member, Executive Council, American Congress of Physical Medicine and Rehabilitation; and consultant, Division of Chronic Disease, United States Public Health Service.

HAROLD L. MASON served as section editor, *Chemical Abstracts*, American Chemical Society; president-elect, Endocrine Society; member, Board of Directors, Minnesota Academy of Science; and member, Board of Directors, Rochester Methodist Hospital.

DON R. MATHIESON served as member, Planning Committee, and inspector, Inspection and Accreditation Program, American Association of Blood Banks; chairman, Committee on Laboratory Reports, American Society of Clinical Pathologists; and member, Board of Directors, Minnesota Association of Blood Banks.

VERNON R. MATTOX served as member, Medical Policy Directional Committee on Mental Health for Minnesota; and member, Editorial Board, *Journal of Clinical Endocrinology and Metabolism*.

J. G. MAYNE served as member, Committee of Editors, *Rheumatism Review*.

CHARLES W. MAYO served as member, Advisory Council, Student American Medical Association, member, Medical Advisory Board, African Research Foundation Inc., trustee, MEDICO; trustee, University of Pennsylvania; chairman, Board of Medical Education and Research, University of Pennsylvania; editor-in-chief, *Post-Graduate Medicine*; member, Editorial Board, *Surgery*; member, Editorial Board, *The American Surgeon*, member, Advisory Board, *Diseases of the Colon and Rectum*; member, Editorial Board, *Military Medicine*; member, Editorial and Advisory Boards, the Elsevier Press; member, Board of Directors, Minnesota Tuberculosis and Health Association; elector, Hall of Fame; chairman, Board of Regents, University of Minnesota; member, Board of Trustees, Carleton College; member, Advisory Board, Gideon Seymour Memorial Lecture Series; medical adviser, Northwest Airlines; honorary president and member, Board of Directors and Executive Committee, American Association for United Nations; and member, Committee for World Health Day, World Health Organization. He received the honorary Doctor of Laws degree from Gonzaga University, Spokane, Washington, and the honorary Doctor of Humane Letters degree from Nebraska Wesleyan University. He also received the Humanitarian Award, Beth Israel Synagogue, Omaha, Nebraska; the Trimble Medallion, Medical and Chirurgical Faculty, State of Maryland; Service to Mankind Award, Sertoma Club, Minnesota; and Golden Plate Award, Academy of Achievement, Monterey, California. He was also appointed honorary member of the following societies: Sociedad de Cirujanos de Chile; Fundacion Lucas Sierra, Vina del Mar, Chile; and Sociedad Colombiana de Cirujanos.

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

WALLACE A. MERRITT served as member, Committee of Interprofessional Relations, Minnesota State Medical Association.

RONALD D. MILLER served as member, General Committee for Exhibits, Section on Diseases of the Chest, American Medical Association; chairman, Section on Pulmonary Function Testing, American College of Chest Physicians; and chairman, Midwest Section, American Federation for Clinical Research.

J. GORDON MILLICHAP served as assistant examiner, American Board of Psychiatry and Neurology; secretary, Section of Child Neurology, American Academy of Neurology; consultant, Surgeon General, and member, Neurological Sciences Research and Training Committee, National Institute of Neurological Diseases and Blindness, United States Public Health Service; and member, Olmsted County Committee, Association for Mentally Retarded Children.

CLARK H. MILLIKAN served as assistant secretary, American Neurological Association; chairman, Ad Hoc Advisory Committee, member, Advisory Council, and member, Intercouncil Subcommittee on Cerebrovascular Disease, National Institute of Neurological Diseases and Blindness; visiting professor, Louisiana State University; visiting professor, University of Texas, Southwestern Medical School; and visiting lecturer, Royal Society of Medicine, London, England. He also delivered the Lewis A. Conner Memorial Lecture, American Heart Association.

GEORGE D. MOLNAR served as member, Postgraduate Committee, American Board of Internal Medicine; abstractor, *Diabetes*, American Diabetes Association; and member, Nursing Research Study Section, National Institutes of Health.

D. W. MULDER served as consultant, Lackland Air Force Base Hospital; and chairman, Program Committee, Minnesota Neuropsychiatric Association.

DONALD R. NICHOLS served as member, Residency Review Committee, American College of Physicians.

KENNETH N. OGLE served as member, American Committee on Optics and Visual Physiology, American Medical Association; member, Educational Advisory Committee, Educational Foundation in Ophthalmic Optics, American Board of Opticianry; member, Committee on Basic and Clinical Research, National Society for the Prevention of Blindness; member, Organizing Committee, International Visual Science Association; member, Armed Forces Committee of Vision, National Research Council; member, Sensory Diseases Study Section, National Health Institutes; president, Mayo Foundation Chapter, Sigma Xi; associate editor, *Journal of the Optical Society of America*; associate editor, *Investigative Ophthalmology*; honorary editor, *Vision Research*; and member, Adolph Lomb Medal Award Committee; and chairman, Ives Medal Committee, and member, Nominating Committee for National Medal of Science, Optical Society of America. He was appointed a fellow of the American Psychological Association and received the honorary Doctor of Medicine degree from the University of Uppsala, Sweden. He also received the Certificate of Award, American Academy of Ophthalmology and Otolaryngology; and the Proctor Medal, Association for Research in Ophthalmology.

ARTHUR M. OLSEN served as chairman, Pulmonary Sub-Board, American Board of Internal Medicine; member, Committee on Bronchoesophagology, and chairman, Board of Regents, American Council of Chest Physicians; secretary-treasurer, vice president, and president, American Society for Gastrointestinal Endoscopy; and chairman, Medical Advisory Committee, member, Budget and Finance Committee, member, Executive Board, and vice president, Minnesota Tuberculosis and Health Association.

A. L. ORVIS served as member, Program Committee, Central Chapter, Society for Nuclear Medicine; and member, Advisory Committee, Radiological Society, Minnesota State Board of Health.

PHILLIP J. OSMUNDSON served as member, Membership and Nominating Committee, Minnesota Heart Association.

CHARLES A. OWEN, JR. served as member, Committee on Radiation, Minnesota State Medical Association; vice president, Minnesota Society of Clinical Pathology; member, Editorial Board, *American Journal of Clinical Pathology*; member, Editorial Board, *Journal of Laboratory and Clinical Medicine*; and member, Editorial Board, *American Journal of Physiology and Journal of Applied Physiology*.

ROBERT L. PARKER served as chairman, Sub-Committee on Pamphlets and Monographs, and member, Committee on Professional Education, American Heart Association; and member, Nominating Committee, Minnesota Heart Association.

JOHN S. PEARSON served as member, Advisory Committee on Human Genetics, Minnesota Department of Health; director, Minnesota Human Genetics League; and Director, Minnesota Council for Gifted.

G. L. PEASE served as member, Council on Hematology, American Society of Clinical Pathologists.

HAROLD O. PERRY received a Bronze Medal from the Southern Minnesota Medical Association for a report.

GUSTAVUS A. PETERS served as chairman, Board of Public Health and Welfare, Rochester, Minnesota; member, Committee on Drugs, American College of Allergy; member, Committee on College Essay, American College of Chest Physicians; and member, Editorial Board, American Association for the Study of Headache.

HOWARD F. POLLEY served as president, National Society of Clinical Rheumatologists; second vice president, chairman, Committee on Postgraduate Study, member, Executive Committee, member, Exhibit Committee, member, Committee on Opportunities in Rheumatology, and member, Honorary Membership Committee, American Rheumatism Association; and associate editor, *Arthritis and Rheumatism Journal*.

JAMES T. PRIESTLY served as vice chairman, Board of Regents, chairman, Program Committee, member, Board of Directors of the Franklin H. Martin Memorial Foundation, member, Executive Committee, member, Committee on Building, member, Committee on Museum and Library, and associate editor, *Surgery, Gynecology and Obstetrics*, American College of Surgeons; president, Interstate Postgraduate Medical Association of North America; member, Executive Committee, Western Surgical Association; and was elected to the Association of Surgeons of Great Britain and Ireland. He delivered the following special lectures: Arthur G. Sullivan Memorial Lecture, Interstate Postgraduate Medical Association of North America; Joseph M. Donald Memorial Lecture, American College of Surgeons; Moynihan Lecture, Royal College of Surgeons, London, England; and Sir Thomas and Lady Edith Dixon Memorial Lecture, Belfast, Ireland. He also received the Medical Achievement Award, Golden Slipper Square Club; and the Award for Distinguished Service, Hawthorne Surgical Society, Graduate School of Medicine, University of Pennsylvania.

R. J. REITMEIER served as member, Residency Review Committee, American Medical Association.

W. H. REMINE served as consultant, Surgeon General, United States Army; member, Program Committee, and member, Executive Committee, Minnesota Surgical Society; and member, Program Committee, Southern Minnesota Medical Association. He also received the American College of Surgeons Movie Award.

B. L. RIGGS, JR. received a *Minnesota Medicine* award for medical writing.

HOWARD P. ROME served as secretary and chairman, Section on Nervous and Mental Diseases, American Medical Association; president, Mental Health Film Board, Central Neuropsychiatric Association; chairman, Mental Health Film Board, Association for Research in Nervous and Mental Diseases; member, Council, American Psychiatric Association; chairman, Coordinating Committee, member, Reference Committee, and member, Awards Committee, American Psychiatric Association; chairman, Special Medical Advisory Group, Veterans Administration; consultant, Surgeon General United States Navy—United States Army—National Security Agency; member, Council, member, Clinical Research Centers Committee, National Institute of Mental Health; member, Senior Research Fellowship Committee, National Institutes of Health; president, Minnesota Psychiatric Society; vice president and president, Minnesota Society of Neurology and Psychiatry; chairman, Council, Minnesota Mental Health Advisory Board; member, Governor's Mental Health Survey Committee; and member, Board of Directors, and chairman, Council, Minnesota Mental Health Association.

ROBERT Q. ROYER served as member, House of Delegates, member, Reference Committee on Research and Therapeutics; vice chairman and chairman, Section on Anesthesiology; member, Council on Dental Education, and member, Committee on Internships and Residencies, American Dental Association; member, Advisory Committee, and director, American Board of Oral Surgery; member, Constitution and By-Laws Committee, and member, Reference Committee on Graduate Education, American Society of Oral Surgeons; and

member, Program Committee, chairman, Board of Trustees, and president, Minnesota State Dental Association.

C. WILBUR RUCKER served as member, Editorial Board, *Archives of Ophthalmology*, American Medical Association; chairman, American Board of Ophthalmology; and member, Council, chairman, Committee on Theses, and chairman, Committee on Museum of Ophthalmic History, American Ophthalmological Society.

J. G. RUSHTON served as member, Committee on Nervous and Mental Diseases, Minnesota State Medical Association.

E. H. RYNEARSON received the honorary Doctor of Science degree from the University of Pittsburgh.

WILLIAM G. SAUER served as member, Committee on Committees and Procedures, American Gastroenterological Association; and member, Insurance Liaison Committee, Minnesota State Medical Association. He received a Certificate of Merit from the American Medical Association for an exhibit.

HERBERT W. SCHMIDT served as member, Council, American Bronchoesophagological Association; and member, Board of Regents, St. Olaf College.

THOMAS H. SHELDON served as member, Board of Trustees, International Anesthesia Research Society, editor, *Anesthesia and Analgesia—Current Researches*; chairman, Committee on Anesthesiology, and chairman, Committee on Blood and Blood Banks, Minnesota State Medical Association; and state chief, Whole Blood Program, State Civil Defense, Health, Medical and Special Weapons Defense Service.

JOHN T. SHEPHERD served as member, Advisory Board of the Council on Circulation, American Heart Association; and member, Executive Committee, member, Board of Directors, and chairman, Research Allocations Committee, Minnesota Heart Association. He also received a National Academy of Sciences Travel Grant.

R. M. SHICK served as diplomate, American Board of Internal Medicine; and member, Advisory Board of Section of Circulation, American Heart Association.

R. G. SIEKERT served as member, Editorial Board, *Minnesota Medicine*, Minnesota State Medical Association.

K. M. SIMONTON served as member, Committee on Conservation of Hearing, American Academy of Ophthalmology and Otolaryngology; and member, Committee on Conservation of Hearing, and member, Board of Directors, Preschool Medical Survey of Vision and Hearing, Minnesota State Medical Association.

C. H. SLOCUMB served as member, Medical and Scientific Committee, Arthritis and Rheumatism Foundation; chairman, Subsection on Arthritis and Rheumatic Diseases, Minnesota State Medical Association; and chairman, Medical and Scientific Committee, Minnesota Arthritis and Rheumatism Foundation.

LUCIAN A. SMITH served as diplomate, American Board of Internal Medicine.

R. A. SMITH served as chairman, Program Committee, Minnesota Obstetrical and Gynecological Society.

E. H. SOULE served as diplomate, American Board of Pathology.

J. A. SPITTELL served as member, Council on Arteriosclerosis, American Heart Association.

RANDALL G. SPRAGUE served as member, Editorial Board, *Diabetes*; member, Editorial Board, *Metabolism*; president, Mayo Foundation Chapter, Sigma Xi; and consultant, National Institutes of Health.

R. M. STEINHLEB served as member, Committee on Public Relations, Association for Research in Nervous and Mental Diseases; secretary-treasurer and editor of *Newsletter*, Minnesota Psychiatric Society; member, Community Mental Health Services; co-editor, *Psychiatric Research Report*, and member, Standards and Policies of Hospitals and Clinics Committee, American Psychiatric Association; member, Committee on the Congress of Mental Illness and

Health, American Psychiatric Association—American Medical Association; and representative to scientific exhibit, Section of Nervous and Mental Diseases, American Medical Association.

G. B. STICKLER served as guest editor, *American Journal of Diseased Children*, American Medical Association.

J. M. STICKNEY served as Minnesota delegate, American Medical Association; member, Medical Services Committee, American Society of Internal Medicine; and investigator, Acute Leukemia Group B, National Institutes of Health.

C. F. STROEBEL served as member, Executive Committee, Southern Minnesota Medical Association.

G. K. STILLWELL served as chairman, Committee on Legislation, American Congress of Physical Medicine and Rehabilitation; member, Medical Advisory Committee, American Occupational Therapy Association; member, Awards Committee, and member, Committee on Area Meetings, National Rehabilitation Association; member, Editorial Board, *Archives of Physical Medicine and Rehabilitation*; member, Medical Committee, American Rehabilitation Foundation; member, Advisory Committee, Division of Vocational Rehabilitation; and member, Board of Trustees, and president, First Universalist-Unitarian Church, Rochester.

CHARLES R. SULLIVAN served as regional representative, Scientific Assembly, American Medical Association.

W. H. J. SUMMERSKILL delivered the Merck, Sharpe, and Dohme Lecture, St. Lukes Hospital, San Francisco.

H. J. SVIEN served as secretary, Harvey Cushing Society.

HAROLD J. C. SWAN served as member, Advisory Council, Section of Circulation, American Physiological Society.

W. M. SWENSON served as member, Minnesota State Board of Examiners for Psychologists; and member, Board of Directors, Senior Citizens Services, Rochester.

W. NEWLON TAUXE served as member, Council on Isotopes, American Society of Clinical Pathology.

H. R. TERRY, JR. served as member, House of Delegates, American Society of Anesthesiologists; and secretary, Commission of Neuroanesthesia, World Federation of Neurology.

GERSHOM J. THOMPSON served as chairman, Section of Urology, member, Executive Council, and president, International College of Surgeons.

JAN H. TILLISCH served as chairman, Committee on Aerospace Medicine, member, Council on Occupational Health, and member, Editorial Board, *Archives of Environmental Medicine*, American Medical Association; member, American Board of Preventive Medicine; member, Medical Committee, International Air Transport Association; member, Advisory Editorial Board, *Aerospace Medicine*; consultant, Surgeon General, United States Air Force; member, Board of Visitors, Air University; member, Advisory Medical Council, Civil Air Surgeon Association, Federal Aviation Agency; and member, Judicial Committee, Minnesota State Medical Association.

ALFRED E. UHLEIN served as member, Program Committee, American Academy of Neurological Surgery; member, Organization Committee, Minnesota Association for Mental Health; and delivered the Sir Hugh Cairns Memorial Lecture, Society of British Neurological Surgeons, Derby, England. He also received the Billings Gold Medal from the American Medical Association for an exhibit.

JOHN A. ULRICH served as member, Public Health and Medical Mycology, American Board of Microbiology; and chairman, Bacteriology and Mycology Section, National Institutes of Health.

LAURENTIUS O. UNDERDAHL served as member, Subcommittee on Survey of Diabetes Abstract Coverage, Committee on Scientific Publications, chairman, Subcommittee on Fund-Raising Criteria, chairman, Committee on Constitution and By-Laws, member, Executive Committee, member, Council, and secretary,

American Diabetes Association; delegate, chairman, Committee on Diabetes, and member, Committee on Scientific Program, Minnesota State Medical Association; member, Program Committee, and member, Executive Committee, Minnesota Society of Internal Medicine; and member, Executive Committee, Zumbro Valley Medical Society.

D. C. UTZ served as delegate to state convention, Zumbro Valley Medical Society.

MARTIN VAN HERIK served as member, Publications Committee, American Radium Society; member, Subcommittee on Radiation Therapy, United States Public Health Service; member, Medical Services Committee, Minnesota State Medical Association; and member, Relative Value Committee, and member, Blue Shield Committee, Minnesota State Radiological Society.

KHALIL G. WAKIM served as member, Editorial Board, *American Journal of Physical Medicine*; member, Circulation Section, American Physiological Society; and consultant, Army Medical Center, Walter Reed Hospital; and consultant, Surgeon General, United States Army.

EMMERSON WARD served as member, Editorial Policy Committee, American Rheumatism Association; and member, Executive Committee, Society of Clinical Rheumatologists.

CHARLES H. WATKINS served as member, Advisory Board, National Foundation for Leukemia; and assistant editor, *Cancer Yearbook*.

JOHN M. WAUGH served as member, Residency Review Committee for General Surgery, American Medical Association; member, Board of Trustees, and president, Association for Surgery of the Colon; member, Editorial Board, *Cancer and Surgical Abstracts*; member, Editorial Advisory Board, *Journal of Diseases of the Colon and Rectum*; president, Mayo Foundation Chapter, Sigma Xi; member, Council, Minnesota State Medical Association; chairman, Board of Directors, Tarkio College, Missouri; elder, First Presbyterian Church, Rochester; and member, Board of Directors, Rochester YMCA.

LYLE A. WEED served as member, Council on Microbiology, American Society of Clinical Pathologists; member, Editorial Board, *American Journal of Clinical Pathology*; diplomate, American Academy of Microbiology; and consultant, Biological Warfare Laboratories, United States Army.

W. E. WELLMAN served as member, Finance Committee, member, Committee on Aging, and councilor, 1st District, Minnesota State Medical Association; member, Executive Committee, Zumbro Valley Medical Society; and member, Governor's Council on Aging.

H. L. WILLIAMS served as member, Committee on Conservation of Hearing, and associate editor, *Transactions of the Academy*; president, American Otological Society; member, Editorial Board, *Annals of Allergy*; member, Editorial Board, *Laryngoscope*; member, Editorial Board, American Association for the Study of Headache; and research consultant, Deafness Research Foundation.

MARVIN M. D. WILLIAMS served as member, Committee to Recommend Requirements for Approval of Radiation Therapy Training, guest examiner, and secretary, Physics Credentials Committee, American Board of Radiology; member, Council, Associated Midwest Universities, Argonne National Laboratories; member, Subcommittee 6, National Committee on Radiation Protection; chairman, Physics Committee, American Roentgen Ray Society; and member, Board of Directors, chairman, Constitution Review Committee, and vice president, American Association of Physicists in Medicine.

ROBERT B. WILSON served as member, Membership Committee, Central Association of Obstetricians and Gynecologists; and chairman, Industrial Exhibits Committee, American College of Obstetricians and Gynecologists.

RICHARD K. WINKLEMAN served as member, Program Committee, and member, Board of Directors, Society for Investigative Dermatology; associate editor, *Journal of Investigative Dermatology*; member, Committee on Cutaneous System, National Research Council; and was elected an honorary member, Brazilian Dermatologic Society. He received a Gold Medal from the American Academy of Dermatology and a Certificate of Merit from the American Medi-

cal Association for exhibits. He also received a United States Public Health Service research grant.

ERIC E. WOLLAEGER served as consultant, Council on Drugs, American Medical Association; and member, Education Committee, American Gastroenterological Association. He received second prize, Ames Award Contest, *American Journal of Gastroenterology*.

EARL H. WOOD served as member, Executive Committee, Circulation Group, American Physiological Society; member, Executive Committee, Basic Science Council, American Heart Association; member, Editorial Board, *Circulation*; member, Publications Committee, Council on Circulation, and career investigator, American Heart Association; Armed Forces Committee on Bioastronautics, National Research Council; member, Working Group on Gaseous Environment, Man in Space Committee, National Academy of Science; member, President's Scientific Advisory Committee, White House Bioastronautics Panel; member, Anatomy and Physiology Fellowship Review Panel, National Institutes of Health; member, Special Committee on Life Sciences, National Aeronautics and Space Administration; member, Board of Directors, Minnesota Heart Association; and member, Membership Committee, Minnesota Chapter, Society for Experimental Biology and Medicine.

LEWIS B. WOOLNER served as consultant, International Academy of Gynecological Cytology; councilor, American Society of Clinical Pathology; councilor, Minnesota Society of Clinical Pathology; and visiting faculty, Johns Hopkins University.

H. H. YOUNG served as member, Executive Committee, Orthopedic Section, American Medical Association; area consultant, Residency Review Committee, American Board of Orthopedic Surgery; assistant editor, *Yearbook of Orthopedic Surgery*; and member, Board of Trustees, *Journal of Bone and Joint Surgery*.

School of Business Administration

R. GLEN BERRYMAN served as member, Accounting and Auditing Procedures Committee, Minnesota Society of Certified Public Accountants; and member, Examining Committee, Minneapolis Civil Service Commission.

FRANCIS M. BODDY served as consultant, Minnesota Commissioner of Taxation; member, Governor's Committee on Electronics Industry; chairman, Committee on Academic Freedom and Civil Liberties, American Economic Association; member, Library Committee, Citizens League of Minneapolis; director, Naval Reserve Officers School, Naval Air Station, Minneapolis; and national councilman, Reserve Officers Association.

ARTHUR BORAK served as vice-president, Minnesota Chapter, Phi Beta Kappa.

MARTIN BRONFENBRENNER served as member, Committee on Honors and Awards, member, Editorial Board, chairman, Panel on Distribution Theory, chairman, Panel on Monetary Econometrics, American Economic Association; and was awarded a UNESCO-ECAFE grant.

O. H. BROWNLEE served as member, United States Highway Research Board; member, Editorial Board, *American Economic Review*; member, Advisory Panel, National Science Foundation; and received grants from Resources for the Future, the Ford Foundation and the Monetary Commission.

JOHN A. BUTTRICK served as visiting professor, Harvard University; and visiting professor, Vanderbilt University.

JOHN CHIPMAN served as associate editor, *Econometrica*; visiting professor, the Catholic University, Chile; and received a Social Science Research Council Auxiliary Research Award.

GORDON B. DAVIS served as treasurer, Upper Midwest Chapter, Institute of Management Sciences; and member, National Council of Colleges on Measurements in Management, the Institute of Management Sciences.

GEORGE W. ENGLAND served as member, Conference Planning Committee, American Society for Personnel Administration; chairman, Membership Com-

mittee, and secretary-treasurer, Minnesota Chapter, American Association of University Professors; and received a research grant from the United States Office of Education.

R. K. GAUMNITZ served on Special Awards Committee, Academy of Management.

PAUL V. GRAMBSCH served as chairman, Membership Committee, member, Executive Committee, and chairman, Long-Range Planning Committee, American Association of Collegiate Schools of Business; member, Board of Governors, Academy of Management; member, Advisory Commission, Minnesota State Department of Business Development; and chairman, Governor's Tax Study Committee, State of Minnesota.

ROBERT S. HANCOCK served as President, Minnesota chapter, American Marketing Association; and editor, *Dynamic Marketing for a Changing World, Proceedings*, 43rd National Conference, American Marketing Association.

DELBERT C. HASTINGS served as chairman, Arrangements Committee, Twin Cities Chapter, American Statistical Association.

WALTER W. HELLER served as chairman, President's Council of Economic Advisers.

JAMES HENDERSON served as director, Upper Midwest Economic Survey.

HERBERT G. HENEMAN, JR. served as member, Special Research Committee, National Industrial Recreation Association; chairman, Advisory Council, Minnesota Department of Employment Security; consulting member, Board of Directors, Minneapolis Visiting Nurse Service; member, Solicitation Training Committee, United Fund of Hennepin County, Inc.; chairman, Governor's Task Force on Labor Relations; and chairman, Governor's Special Committee on Unemployment Compensation and Workmen's Compensation.

ROBERT J. HOLLOWAY served as member, Conference Policy and Review Board, past president, and vice president, American Marketing Association. He also received a Ford Foundation grant.

LEONID HURWICZ served as consultant, Bureau of Standards; and Philips visitor, Haverford College. He also received National Science Foundation and Office of Naval Research grants.

JOHN KAREKEN served as consultant, United States Treasury; and received grants from the Monetary Commission, and the Brookings Institution.

RICHARD L. KOZELKA served as consultant, National University of Nicaragua; president, Midwest Economic Association; and chairman, Registration Committee, American Statistical Association Annual Convention.

ANNE KRUEGER served as visiting economist, Banker's Trust Company, New York City.

EDWIN H. LEWIS served as chairman, Committee on Teaching of Wholesaling, American Marketing Association; and was awarded a Fulbright Lectureship.

THOMAS A. MAHONEY was elected to membership, Beta Gamma Sigma, honorary fraternity in business administration.

E. SCOTT MAYNES served as member, National Advisory Committee, Consumers Union; member, Committee on Family Economic Models, Social Science Research Council; and consultant, United States Bureau of the Census.

CARL L. NELSON served as chairman, Professional Development Committee, Minnesota Society of Certified Public Accountants; member, Advisory Committee, Commissioner of Taxation, State of Minnesota; and member, Committee on Graduate Education, American Accounting Association.

ROBERTA J. NELSON served as chairman, Research Committee, International Association of Personnel Women; and received a grant from the American Management Association.

JOHN NETER served as consultant, United States Bureau of the Census, Department of Commerce; chairman, Arrangements Committee, American Statistical Association; and chairman, Screening Committee, Ford Foundation Predoctoral Program in Business Administration.

EDMUND A. NIGHTINGALE served as member and vice chairman, Transportation Research Advisory Committee, United States Department of Agriculture; member, National Examination Panel, American Society of Traffic and Transportation; vice president, Region 9, Association of I.C.C. Practitioners; and vice president, Education and Research, Associated Traffic Clubs of America.

I. RICHARD SAVAGE served as member, Council, Institute of Mathematical Statistics; and visiting professor, Harvard University. He was elected to membership in the Institute of Mathematical Statistics and the American Statistical Association. He also received National Science Foundation and Office of Naval Research grants.

JACOB SCHMOOKLER served as visiting professor, Harvard University; and received a National Science Foundation grant.

LARRY SJAASTAD served as consultant, Water Resources Project.

HARLAN SMITH served as member, Committee on Management, YMCA; chairman, Committee on Economic Education, Minnesota Board of Education; and chairman, International Affairs Committee, Minneapolis Council of Churches.

HAROLD W. STEVENSON served as chairman, Student Affiliates, American Finance Association.

JOHN G. TURNBULL served as visiting professor, University of Iowa; and received a Ford Foundation Faculty Fellowship.

WALTER H. UPHOFF served as member, Advisory Committee, Mental Health Project, National Institute of Labor Education; and member, Committee on University Relations, American Association of University Professors. He also received a National Institute of Mental Health grant.

C. ARTHUR WILLIAMS served as co-chairman, Minnesota Governor's Advisory Committee on Workmen's Compensation Costs and Benefits; consultant, United States Bureau of Employment Security; chairman, Governor's Advisory Committee to Industrial Commission, assistant editor, *Journal of Insurance*, and member, Executive Committee, American Risk and Insurance Association.

General College

WAYNE J. ANDERSON served as member, Governor's Advisory Council on Children and Youth; president, Minnesota Council on Family Life; Minnesota representative, Board of Directors, National Council on Family Life; and Minnesota representative, International Council on Family Life Meeting.

HENRY BOROW served as consultant, Vocational Rehabilitation and Education Service, United States Veterans Administration; consultant, editor, *Man in a World at Work*, National Vocational Guidance Association; consulting editor, *Journal of Counseling Psychology*; and co-chairman, International Relations Committee, American Personnel and Guidance Association.

PAUL HAGEN served as president, Anoka County Mental Health Association.

STEPHEN E. KEELER served as assistant editor, *The Graduate Review of Philosophy*.

HORACE T. MORSE served as member, Junior College Advisory Committee, Minnesota State Board of Education; member, Executive Committee, and vice president, Association for Higher Education, National Education Association.

FREDRIC R. STEINHAUSER served as executive secretary, Southeast Minneapolis Planning and Coordinating Commission; and president, Minnesota Council for Geographic Education.

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

University of Minnesota, Duluth

FORREST R. BAILEY exhibited paintings at the following shows: West Michigan Art Exhibition; Mid-Michigan Exhibition; San Francisco Civic Center

14th and 15th Annual Arts Festival; Michigan State University Faculty Show; Tri-State Arrowhead Show; and the Art Institute of Chicago Society for Contemporary Art Exhibition.

ELEANOR P. BONTE served as board member, Duluth Mental Hygiene Clinic.

THOMAS W. CHAMBERLIN served as member, Duluth Public Library Board; member, Board of Directors, Duluth Chamber of Commerce; member, Board of Directors, Duluth Welfare Council; member, Board of Directors, St. Louis County TB and Health Association; member, Board of Directors, St. Lukes Hospital School of Nursing; and chairman, Christmas Seal Campaign, St. Louis County TB and Health Association.

GLENN M. CHRISTENSEN served as University Representative, Executive Committee, Minnesota Academy of Science; and received a grant from the United States Public Health Service.

EDWARD J. COWLES served as program chairman, and chairman, Lake Superior Section, American Chemical Society; and received a research grant from the National Science Foundation.

DEAN A. CRAWFORD served as consultant, Duluth Board of Education.

RAYMOND W. DARLAND served as vice-president, Board of Directors, Marshall H. and Nellie Alworth Memorial Fund; member, Board of Directors, Duluth Symphony Association; member, Board of Directors, Junior Achievement of Duluth; and member, Duluth Advisory Council on Naval Affairs for Commandant Ninth Naval District.

EMMETT DAVIDSON served as member, Duluth Charter Commission; chairman, Drafting Committee, Charter Revision; and member, Minnesota Conciliation and Mediation Service.

JOHN A. DETTMANN served as secretary, Bookkeeping and Accounting Round Table, North-Central Business Education Association.

ANNA M. DUVAL served as public relations director, Lake Superior Section, American Chemical Society; and received a National Science Foundation grant.

HENRY J. EHLERS served as consultant, *Project on Instruction*, National Education Association; and was elected to membership, John Dewey Society.

EDWARD FLACCUS served as member, Board of Directors, Duluth Round Table, National Council of Christians and Jews; and vice-president, Sigma Xi Club.

PACY FRIEDMAN served as president, Minnesota Speech and Hearing Association; and member, Board of Directors, United Cerebral Palsy, Duluth Chapter.

JOHN L. GERGEN served as consultant, United States Air Force.

FRANCIS JAMES GLICK served as director, Regional Science Fair; and president, Northeast Minnesota Mathematics and Science Teachers Association.

JOHN C. GREEN received a grant from the Geological Society of America.

RUTH E. GREEN served as chairman, Minnesota Kindergarten Curriculum Guide Committee.

HOWARD G. HANSON served as consultant, United States Air Force; and vice president and president, Minnesota Area Association of Physics Teachers.

ROBERT L. HELLER served as member, Advisory Board, Iron Range Resources and Rehabilitation Commission; member, Education Committee, and member, Curriculum Study Steering Committee, American Geological Institute; member, Committee on Public Information, American Association of Petroleum Geologists; member, Curriculum Study Advisory Committee, National Science Foundation; and editor, *Geology and Earth Sciences Sourcebook for Elementary and Secondary Schools*.

LEVERETT P. HOAG served as director, Minnesota Council for Geography Education.

PERSHING B. HOFSLUND served as member, Research Committee, and secretary, Wilson Ornithological Society; first vice-president, Arrowhead Zoological Society; and president, Duluth Bird Club.

JULIAN B. HOSHAL served as publicity chairman, National Volleyball Tournament; publicity chairman, Lake Superior Boy Scout Council; member, Duluth Educational TV Committee; member, Armed Forces Day Committee; member, Mayor's United Nations Day Committee; and member, International Folk Festival Committee.

ROBERT W. HOUSE served as member, Music Education Research Council, and editorial associate, *Journal of Research in Music Education*; member, Music Education Committee, Commission of Accreditation, National Association of Schools of Music; member, Evaluation Teams, National Council for Accreditation of Teacher Education; and adviser, Educational Policies Commission.

HARRY C. JOHNSON served as member, Commission on Educational Institutions, Evangelical Covenant Church of America; and member, Board of Directors, North Park College and Theological Seminary, Chicago, Illinois.

BLANCHARD O. KROGSTAD served as director, National Science Foundation Summer Institute for High School Teachers of Biology; secretary-treasurer, Northeastern Minnesota Mathematics and Science Teachers Association; and member, Biology Evaluation Committee, Minnesota State Department of Education.

HENRY LEPP served as member, Governor's Advisory Committee, Minnesota Geological Survey; and was elected to the Geological Society of America, and the Society of Economic Geologists.

HUBERT M. LOY served as member, State Committee on Student Teaching.

W. R. MCEWEN served as consultant, Director of Research Analysis, United States Air Force.

CECIL H. MEYERS served as associate director, Duluth Area Redevelopment Economic Study.

CYRIL M. MILBRATH served as member, Governor's Commission on Rural Youth; member, Duluth Planning Commission for Economic Development; member, South St. Louis County 4-H Advisory Committee; host coordinator, National Conference of Professors of Educational Administration; adviser, Northeast Minnesota Rural Education Association; and member, Minnesota Committee for Rural Education.

FRANCIS B. MOORE served as board member, Minnesota Academy of Science; and visiting professor, Iowa State University.

DANIEL H. MUNDT served as member, Duluth Board of Education.

GLENN C. NELSON served as visiting artist, Michigan State University; member, Research Committee, Educational Council of American Ceramic Society; member, Panel Design Division, American Ceramic Society.

JAMES C. NICHOL served as member, Evaluation Panel for Research Participation Program Proposals, National Science Foundation.

IVAN NYLANDER serves as member, Board of Regents, American College, University of Poitiers, France.

ROBERT OWENS served as secretary-treasurer, Minnesota Conference, American Association of University Professors.

RUTH PALMER served as member, State Advisory Board and State Council, Minnesota Home Economics Association; secretary, Minnesota Conference, American Association of University Professors; chairman, Teacher Training Section, Minnesota State Department of Education, Home Economics Division; and member, Advisory Board, Future Homemakers of America, Minnesota Association.

MOSES PASSER served as member, National Council, and secretary, National Council Committee on Chemical Education, American Chemical Society; director, University of Minnesota Peat Research Project, Iron Range Resources and Rehabilitation Commission; and received a National Science Foundation grant.

A. NEIL PEARSON served as member, Board of Directors, Family Service Society of America.

ROBERT F. PIERCE served as consultant, Facial-Dental Clinics, Minnesota Department of Public Welfare and Crippled Children Services.

VALWORTH R. PLUMB served as contributing editor, *Journal of Experimental Education*; and associate editor, *Journal of Educational Research*.

MOHAMMED Y. QUERESHI received a research grant from the United States Department of Health, Education, and Welfare.

RUTH RICHARDS served as member, Governor's Advisory Council on Fitness of Children and Youth.

LEWIS J. RICKERT served as president, Duluth Division, Minnesota Association for Health, Physical Education and Recreation; president, Duluth Heart Council; committee member, Duluth Center on Problem Drinking; committee member, Advisory Committee on Health, Physical Education, Recreation, and Safety, State Department of Education; and committee member, Membership Committee, College Physical Education Association.

RUDOLPH I. SCHAUER won first prize for painting, Minnesota Arrowhead Exhibition; second prize for creative jewelry, Minnesota State Fair; honorable mention for painting, First Federal Exhibition; and honorable mention for painting, Minnesota Arrowhead Exhibition.

RICHARD O. SIELAFF served as second vice-president, Midwest Economic Association; member, Board of Directors, Minnesota Economic Association; and consultant, Duluth Port Authority.

EDWIN O. SIGGELKOW served as chairman, Professional Development Committee, Association of College Unions.

FRANCIS E. SKINNER served as secretary, Duluth Fair Employment Practices Commission; and member, Committee on Correctional Camps and Institutions, Governor's Advisory Committee on Youth.

JAMES E. SMITH served as concertmaster, Artists Selection Committee, and member, Board of Directors, Duluth Symphony Orchestra.

ANNA LEE STENSLAND served as member, Curriculum Committee, and vice-president, Minnesota Council of Teachers of English.

A. W. TAMMINEN served as member, Board of Directors, Duluth Mental Hygiene; and member, Personnel and Operations Committees; and member, "Project Duluth."

ALBERT TEZLA received a research grant from the American Council of Learned Societies.

PATRICIA THEIMER served as a member, Duluth Easter Seal Committee, and chairman, Lily Day Sale.

LARRY C. THOMPSON received a research grant from the United States Public Health Service.

WILLIAM P. VANEVERA served as chairman, Tax Section, Minnesota State Bar Association; president, Duluth Welfare Council; chairman, Duluth Fair Employment Practices Commission; and member, Board of Directors, Duluth Chamber of Commerce.

PHILIP G. WALTHER served as consultant, "Project Duluth."

FREDERICK WITZIG served as secretary, Governor's Advisory Committee on Water Pollution Control.

JULIUS F. WOLFF served as chairman, St. Louis County Forestry Advisory Board; consultant, United States Forest Service, Superior National Forest; and member, Board of Directors, Friends of the Wilderness.

C. W. WOOD received citations for service from Seoul National University, Korea.

MARY L. YOUNG was elected to Pi Lambda Theta.

University of Minnesota, Morris

RODNEY A. BRIGGS served as member, Executive Committee, Minnesota Chapter, member, Activities Committee, Soil Conservation Society of America;

province counselor, Alpha Gamma Rho; and member, National Silage Definition and Nomenclature Committee.

RICHARD W. BURKEY received a National Science Foundation and Atomic Energy Commission grant.

JOHN B. HEALD served as regional director, Minnesota Council of Teachers of Foreign Languages.

HAROLD J. HOPKINS served as contingent leader, 5th National Boy Scout Jambouree.

JOHN QUINN IMHOLTE received McKnight Foundation and Tozer Foundation grants.

MILTON D. JACOBSON was awarded a National Science Foundation post-doctoral fellowship and served as member, Committee for the Formation of a Data Processing Section, Minnesota Science Academy.

CLYDE E. JOHNSON served as Iowa chairman, National Association of College Wind and Percussion Instructors.

BRUCE D. ROLLOFF served as member, Morris City Recreation Committee.

General Extension Division

HAROLD J. ALFORD served as member, Nominating Committee, member, Board of Directors, and member, Executive Committee, National University Extension Association; chairman, Education Committee, and chairman, School Committee, St. Paul Gallery and School of Art; and member, Board of Directors, School for Social Development, Minneapolis.

FREDERICK E. BERGER served as treasurer, National Council on Family Relations; member, Board of Directors, and member, Program Planning Committee, Pillsbury Citizens Service, Inc.; secretary, Committee on the Humanities, National University Extension Association; and honorary member, Midwest Fleet Safety Supervisors Association, Inc.

ROBERT BOYLE served as member, Radio Program Committee, National Association of Educational Broadcasters; judging coordinator, 1961 Annual Exhibition of Educational Radio Programs, Institute for Education by Radio-Television; and consultant, Farmers Union Grain Terminal Association. He also received an award from the Minnesota Citizens Committee on Public Education.

EUGENE H. BURNS served as director, Juvenile Officers Institute; director, Juvenile Court Judges Institute; president, Minnesota Corrections Association; member, Board, Minnesota Welfare Association; program chairman, Governor's Conference on Children and Youth; vice president, Southern Minnesota Chapter, National Association of Social Workers; board member, Capitol Community Services, St. Paul; member, Youth Employment Committee, St. Paul; and member, Community Chest and Councils.

MERRILL K. CRAGUN served as member, Audio-Visual Committee, National University Extension Association; member, Educational Committee, Minnesota Hotel Association; member, Governor's Tourist-Travel Advisory Committee; and member, Board of Directors, Upper Midwest Hospitality.

ELEANOR S. FENTON served as chairman, Foreign Economic Policy Committee, and board member, Minneapolis League of Women Voters; secretary, Committee on Awards and Honors; secretary, Committee on Publications and Public Information, liaison to the Association of Higher Education, and editor, *Spectator*, National University Extension Association.

ALBERT M. FULTON served as member, Technical Institute Division, American Society for Engineering Education; and member, Terminal Education Committee, National University Extension Association.

BETTY GIRLING served as national adviser, Alpha Epsilon Rho.

F. LLOYD HANSEN served as member, Administrative Committee, Correspondence Study Division, National University Extension Association; and vice president, International Conference on Correspondence Education.

R. KAY HUMPHREY served as member, Conference Committee, Twin City Chapter, Society for the Advancement of Management; and member, Joint Audio Visual Conference and Institute Committee, National University Extension Association.

AUDREY JUNE BOOTH LEGG served as president, Minnesota Branch, National League of American Pen Women.

HUNTINGTON MILLER served as chairman, Committee on Reports, National University Extension Association; member, Joint Committee on Minimum Data and Definitions, Association of University Evening Colleges—National University Extension Association; and section chairman, Annual Conference, Association of University Evening Colleges.

BURTON PAULU served as radio director, Region IV, National Association of Educational Broadcasters and received the 1961 Sigma Delta Chi award.

ORVILLE PETERSON served as member, Executive Committee, American Municipal League; member, Governor's Advisory Committee on Youth; member, State Aeronautics Advisory Committee; member, State Civil Defense Advisory Committee; member, Committee on Public Employment, Citizens League; member, Committee on Motor Vehicle and Traffic Law Regulation, Safety Council; member, Governor's Committee on Physical Fitness; member, St. Paul Citizens Committee on Charter Fiscal Problems; member, Governors Committee on Highways Task Force; member, Minnesota Natural Resources Council; member, Governor's Tax Study Committee; and member, Board of Friends, St. Paul Public Library.

WILLIAM C. ROGERS served as member, mayor's committee to examine world affairs activities of office, Minneapolis; co-chairman, Committee on World Affairs, and member, Community Development Division, National University Extension Association; member, International Relations Section, Adult Education Association; and director, Program of Information on World Affairs, *Minneapolis Star*.

ROBERT C. SLATER served as member, American Board of Funeral Service Education; and member, Committee of Examiners, Mortuary Science Unit, Minnesota State Board of Health.

BARBARA J. STUHLER served as member, National Board of Directors, League of Women Voters; member, Board of Review, Minnesota Fair Employment Practices Commission; and member, Committee on World Affairs, National University Extension Association.

ARNOLD WALKER served as member, Board of Directors, Minneapolis Civic Orchestra; and received a Ford Foundation grant.

ERWIN C. WELKE served as member, Board of Directors, Educational Film Library Association; and section chairman, Audio-Visual Leadership Conference.

Department of Physical Education and Athletics

FREDERICK M. CHAPMAN served as member, Personnel Practices Committee, member, Nominations Committee, Hospital Section, member, Hospital Section Awards and Citations Committee, member, Hospital Section Research Committee, and representative, Council for the Advancement of Hospital Recreation Board of Registration, American Recreation Society; chairman, Recreation and Leisure Time Activities Committee, and member, Committee to Study the Revision of the Council, Governor's Advisory Council on Children and Youth; member, Recreation Subcommittee, Advisory Committee on Health and Physical Education, Minnesota State Board of Education; consultant, Youth Activities in Southeast Asia, United States Department of State; member, State Volunteer Council, Minnesota Department of Public Welfare, Division of Medical Services; and was awarded the Outstanding Service Award of the Hospital Section, American Recreation Society.

RICHARD J. DONNELLY served as member, Steering Committee on Physical Fitness, Governor's Advisory Council on Children and Youth; member, Advisory Committee on Health and Physical Education, Minnesota State Board of Education; member, Membership Committee, College Physical Education

Association; and recorder, Professional Education Section, member, Committee to Develop a Plan for Graduate Recruitment, American Association for Health, Physical Education, and Recreation.

GERALD B. FITZGERALD served as member, Past Presidents Committee, member, Awards and Citations Committee, member, Editorial Board, and member, Long Range Objectives Committee, American Recreation Society; member, Editorial Board, *American Recreation Journal*; and member, National Advisory Committee, National Recreation Association.

H. ROBERT GILES served as state chairman, Membership Committee, American Recreation Society; chairman, Membership Committee, Minnesota Recreation Association; and member, State of Minnesota Civil Service Oral Examining Committee.

WILLIAM W. HEUSNER served as chairman, Aquatics Section, American Association for Health, Physical Education, and Recreation.

NORMAN L. McDONNELL served as member, Steering Committee on Physical Fitness, Governor's Advisory Council on Children and Youth; and vice-president, National Collegiate Archery Coaches Association.

CLARENCE E. MUELLER served as chairman, Intramural Section, member, Nominating Committee of Intramural Section, and member, Executive Committee, College Physical Education Association; and district counselor, Phi Epsilon Kappa.

CLARENCE R. OSELL served as chairman, Research Committee, and member, Standards Committee, Minnesota Camping Association; and zone chairman, Hennepin County Disaster Committee, American Red Cross.

MAURICE E. OSTRANDER served as chairman, Student Section, and member, Nominating Committee, Minnesota Association for Health, Physical Education, and Recreation; chairman, Camping Section, Central District Association for Health, Physical Education, and Recreation; member, Planning Committee, Minnesota Outdoor Education Workshop; and member, Executive Board, Minnesota Camping Association.

RALPH A. PIPER served as chairman, International Relations Committee, Central District Association for Health, Physical Education, and Recreation; member, Legislative Board of National Dance Section, American Association for Health, Physical Education, and Recreation; member, International Folk Dance Commission; member, Hall of Fame Selection Committee, member, Research Committee, member, United States Committee on Standardization of Gymnastic Equipment, and chairman, Safety Committee, National Gymnastics Coaches Association; member, Technical Gymnastic Rules Committee, National Collegiate Athletic Association; and member, Advisory Board, National Folk Festival Association, Inc.; and was awarded the 1962 National Association of Gymnastics Coaches Award.

JOHN H. SCHULTZ served as chairman, Publications Committee, Minnesota Recreation Association.

EUGENE E. STISH served as member, Steering Committee on Physical Fitness, Governor's Advisory Council on Children and Youth; and chairman, Research Section, and chairman, Proceedings Committee, Central District Association for Health, Physical Education, and Recreation.

THE WORK OF THE UNIVERSITY

Colleges and Schools

COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS

During the biennium 1960-62, the College of Science, Literature, and the Arts reached the highest enrollment it has had since the "Veterans bulge" of the 1946-47 school year. Actually the final number of students enrolled in the second year of the biennium, 1962, was just a few short of the peak of veteran enrollment in 1946. Figures for the two years of the biennium were as follows: 1960-61, 8,096 students; 1961-62, 9,688 students. Student credit hours increased proportionately and totaled in 1960-61, 400,400 and in 1961-62, 452,307.

Some increases in staff were made, but the accommodation of the added enrollment was reached largely through extending the size of sections, adding part-time teaching assistants and instructors where additional sections were needed. During the biennium the adjustments were particularly difficult because of the impossibility of planning ahead with funds for such positions. Indeed in the fall quarter of 1961-62, with an increased enrollment of over 1,500, much of which came very late in the summer, severe problems were encountered in recruiting adequate staff for the teaching of courses.

Though adjustments were made and reasonable programs offered to students as well as effective academic advising, many compromises had to be made. Certain courses that could not be expanded had to be closed and students referred to other courses, useful and valuable, but perhaps not first choices. Many students were limited in the hours in which courses might be elected and the College moved heavily into spreading courses and sections over more hours of the day. Experimentation with large lecture courses, such as the Introductory Psychology course, and the use of closed circuit TV gave promise of easing some of the problems.

Because of limited funds available to the College and to the University, additions to the faculty during the biennium were minimal. As a result the student teaching load increased and the ratio of student teaching hours to faculty advanced sharply. Some relief was occasioned in the second year of the biennium, 1961-62, but additions to the faculty were far below the needs projected. All departments faced pressures in increasing class size, adding sections of courses filled, and providing space for quiz, discussion, and laboratory sections. Despite last minute pressures, the College was able to recruit qualified persons and maintain satisfactory standards of personnel.

It is interesting to note that during the past 10 years, the enrollment of the College has practically doubled. While it seems frightening to contemplate a doubling of the enrollment in the next 10 years ahead, it was perhaps equally frightening in 1950-51 to contemplate a doubling in the years ahead.

Research—Expansion and extension of the College's research activities and interests is evidenced by the numerical increase in number of sponsored research projects and the total amount of funds involved. For the years 1960-61 this was 109 grants, in the total amount of \$649,995. This could be compared with the figures for the last year of the previous biennium, 1958-59, when there were 75 grants with a total budgeted amount of \$408,393.

These grants, of course, measure only certain types of research and to represent adequately the full research activities and interests of the College would require careful analysis of each faculty member's activities during the year. Much research in the social and humanistic subjects is, of course, individual research without large research budgets. That this type of research flourished is easily evident from a review of publications and activities of the faculty part of this report.

Some pressures have been felt because of the increased enrollment, for while actual teaching hours have been increased only slightly, the addition

of large numbers of students imposes great demands upon the faculty member's time and drains energies and resources that would normally be given to research. One of the notable trends during the biennium was the extension of research grants and projects in the social sciences comparable to research activities and programs already carried on extensively in the natural and physical sciences.

Curriculum—During the 1960-62 biennium, major progress was made in the development of a strong honors program in the College. An extensive study by committees of the College resulted in the decision to establish programs leading to departmental honors; for example, *magna cum laude* with honors in History. Each department in the College was requested to establish honors programs to provide opportunities for superior students, these to be coordinated by an all-College honors council. During the year 1961-62, many departmental programs were established and approved. As a part of the program, College honors seminars were planned and the first College honors seminars held in the spring of 1962. Extension of the honors programs by special honors sections of established courses and special honors opportunities for students continued. The encouragement of well-qualified students to advance into special courses, elect more demanding programs, and participate in University cultural activities continued.

Normal review of curriculums continued and changes and additions to the curriculum of the College were made. Courses in English and history were added or extended to cover subject material formerly neglected. Courses were added in anthropology, history, and international relations to strengthen the area programs of the College and materials giving an area focus were added to courses already established. Recognition of new developments and new directions resulted in course changes such as the strengthening of the offerings in behavioral science in the social science departments, particularly political science.

An on-going activity characteristic of the departments in the College was the cooperative planning of courses to serve the needs of other departments. Review and strengthening of such courses for the improvement of instruction was undertaken in geology, English, speech, Scandinavian, the social science program and others. The joint curriculum in the College of Education and the College of Science, Literature, and the Arts continued to prove successful and attractive to many students. Under this program, students may acquire a bachelor of arts degree and a bachelor of science with a teaching certificate by careful planning of their course program, thus avoiding the necessity of adding substantially to the number of quarters required for graduation.

The experimentation with closed circuit television continued; during the spring of 1961-62 a mathematics course was taught by closed circuit television and proved successful. Additional experimentation with closed circuit TV led to the establishment of a number of courses to be offered regularly by television during the coming years.

The record of the College's curriculum growth was one of change and amendment rather than of overhaul. Many departments made careful studies of their offerings, incident to the discussions of University reorganization and laid the groundwork for more extensive review of offerings as a part of the total University program.

Physical Facilities—No major buildings or units were added to the facilities for the College, though there was a considerable amount of change and modification. Some improvement in the facilities for Art and Music were accomplished by changes which brought the Art Library into Jones Hall and improved the band quarters in Northrop Auditorium. Folwell Hall space continued to be at a premium, but improvement of the instructional facilities has been made by shifts of office and classrooms so that the noise problem is of much less significance. Additional equipment and facilities for speech and phonetics were added and notable improvement was made in the already scattered and difficult theater rooms. Space for the Opera Workshop relieved some pressures in Scott Hall and modifications and remodelings in Psychology resulted in improved laboratory facilities there.

The major physical improvement of S.L.A. facilities has been the establishment and full operation of a language laboratory in Folwell Hall. Though modest in terms of size and scope, the language departments now have a fully equipped and effectively operating laboratory for language study.

Extensive improvements and modifications were begun in Pillsbury Hall for the Department of Geology including new quarters for the Minnesota Geological Survey. A long backlog of needed equipment and facilities was tackled and substantial progress made toward equipping Geology for modern physical and chemical research in geological problems and processes.

Botany and Zoology continue to face serious problems with respect to space and facilities, and it was possible only to make temporary improvements in some of the laboratory and research facilities. Complete solution to the problems of Botany, Zoology, and Biophysics must await substantial additions to the University's buildings.

During the last year of the biennium, careful plans were drawn for utilizing the new classroom and office facilities on the west side of the Mississippi River. As these quarters become fully operating, the social sciences in the College will be adequately housed in modern, well-planned facilities.

Student Personnel Programing—The College faced real problems both years of the biennium in accommodating the increased enrollment, much of it unexpected and coming late in the registration period. The problems of scheduling classes and providing advisers for a last-minute rush of students posed real difficulties. This was particularly complicated by the changes in the administrative staff occasioned by the resignation of the assistant dean. Despite the difficulties, the College was able to adjust to the increased numbers of students and provide effective student counseling and personnel services.

Reorganization of the office staff to provide greater flexibility also aided in adjusting to peak demands. Revisions in procedure of handling student petitions and requests simplified some of the problems while still permitting the College to give individual attention to student problems and difficulties.

Relations with the students continued to be healthy and student participation in many affairs of the College continued as in the past. This cooperation has been fruitful and profitable, a result in large measure, of the high quality of student leadership in the College.

Despite the substantial increases in enrollment, all evidence points to the increasing competence of the student body and their qualifications for college education. One might suppose that as enrollments rise more marginal students would be attempting college work. Though no major change in standards of admission or retention has been made, the College has stiffened a little bit all along the line, and this has been accomplished without major changes in dropouts or failures. The evidence suggests that not only is the caliber of the entering students still high and continuing to remain high, but the performance of students continues to show perseverance, commitment, and competence.

Faculty and Staff—The College every year suffers losses from retirement, resignation, or death. The biennium 1960-62 is no exception.

As always, the College faces keen competition, and though it has been remarkably successful in withstanding tempting offers from other institutions, there are many departures which temporarily, at least, weaken the teaching and research program. The College was unable to retain the services of many faculty members in view of particularly challenging offers from other institutions.

Recruitment for vacancies continues to center largely on seeking very promising and outstanding younger men in the hopes that their scholarly productive career will be largely ahead of them at Minnesota. Despite difficulties in some critical areas, particularly mathematics and statistics, the College has been able to add to its faculty persons fully worthy of University of Minnesota appointments. It is a tribute to the stature of the College and the University that there are relatively few instances of reluctance to consider appointment at Minnesota.

On the other hand, the less than ideal advancement of salary scales, the pressure of increasing numbers of students with all the complicating factors brought to the life of the faculty member; the minimum strengthening of physical facilities, and the still modest provision of fringe benefits—all these made the situation increasingly difficult. The College will suffer in the future in selecting the most able faculty possible unless forward steps are taken in all of these directions.

A list of the honors and distinctions accorded to faculty members of the College is a part of this report in another section. Even a casual review of that section for the College gives evidence of the continued vitality of the faculty, their leadership in national and international professional activities, and the high esteem and regard in which they are held by colleagues.

Needs—The years 1960-62 have accentuated the College's need for increased support. With larger classes, higher student/teacher ratios, demands on the faculty have substantially increased and are now at a critical point. So far the replacement of senior faculty who have retired or resigned, with younger persons has not materially weakened the competence of the faculty. The use of vacant positions, however, to add temporary assistants and instructors has resulted in some down grading of the College's offerings and resources. The first and most important need of the College, therefore, is for additional faculty of established competence to strengthen and reinforce the College's offerings in addition to extending them numerically.

A corollary need of great importance is for the type of assistance that will enable the faculty member to handle larger numbers of students, principally secretarial and assistant help. Most of the additional resources that have been made available to the College have been for the purpose of adding sections, increasing the size of sections, etc. As a result, the housekeeping and auxiliary functions and activities have increased in amount and complexity without corresponding assistant help. This situation must be remedied.

Finally, continued improvement in physical facilities is needed, particularly for the science departments, where a new building is badly needed and for the creative arts where facilities are at present greatly overcrowded. If the College is to play its share in meeting the State's need for higher education, increased support for all aspects of its program will be needed.—E. W. McDIARMID, *dean*

Minnesota Geological Survey

Emphasis in the program of the Minnesota Geological Survey was changed from previous years to the research and geologic mapping needed to meet the rapidly changing times and economic conditions in the state. In general terms, the objectives of the Survey are to develop and to present in an understandable way a comprehensive view of the geologic framework of the state. This involves basic and applied research in all aspects of the geology of the state and, in collaboration with other groups, an assessment and evaluation of known and potential mineral resources. A related activity is to serve as a clearing house for many kinds of resource, engineering, and scientific information related to the geology of Minnesota. Accumulating such data and making it readily available to the citizens and industries of the state is necessary for the orderly, effective development of geological resources.

The research program during this biennium included detailed geologic mapping in the Ely, Gunflint Lake, Minneapolis-St. Paul, Granite Falls-Montevideo, Carlton County, and Pine County areas; geophysical investigations in central Minnesota and southeastern Minnesota; and resource studies on the iron ores of Fillmore County, clay deposits in Goodhue County, and clay deposits of the Decorah shale in southeastern Minnesota. In addition, basic researches were carried out on the paleontology of Ordovician rocks, limnology of Minnesota lakes, and palynology of Pleistocene sediments.

Requests for geologic information from the public, industries, and state agencies again increased during the biennium. As in the past, many dealt with the problems consequent upon rapidly expanding metropolitan areas in the

state; others dealt with basic geologic problems and with the exploration and development of potential mineral resources.

Perhaps the need for geologic investigations in the state is greater now than at any time previously. The accumulation of geologic data necessary to sustain intelligent mineral exploration, to evaluate fully the mineral resource potential, and to provide data for engineering planning has lagged during the past several years because of inadequate staff and supporting funds. Geologic mapping, the basic element in development of natural resources, is needed in all parts of the state, and greatly increased attention should be given to all mineral resources, particularly those for which the economic possibilities are poorly known and which are incompletely utilized. The optimal use of state and private lands, as well as an assessment of natural resources, rests on a geologic base.—P. K. SIMS, *director*

INSTITUTE OF TECHNOLOGY

Educational Programs

At the undergraduate level, four major changes have taken place during the past two years. These include (a) a change in admissions policy, (b) a change in the mathematics program in the Lower Division, (c) a change in the degree program in mathematics, and (d) a change in the credit allowance for ROTC courses for students in the Institute of Technology.

The Institute of Technology for many years admitted its students on the basis of high school rank, combined with entrance requirements in specifying specific courses to be completed in high school. For a number of years the members of the I.T. faculty, in cooperation with the Student Testing Bureau, prepared and administered an entrance examination in mathematics. Based on this experience, the I.T. mathematics test became a regular part of the admission procedures in the fall of 1960. A student is now admitted on the basis of an I.T. aptitude score which combines high school rank (HSR) and achievement in the entrance examination. For the marginal student (that is, a student below HSR of 60), the I.T. entrance examination is a much more reliable admissions base. Some students are admitted below HSR 60; also, students above HSR 60 are not admitted if their test scores are low. In both 1960 and 1961, the average student had a HSR of 85. Approximately 35% of I.T. students came from the upper 10% of their high school class, and approximately 10% of I.T. entering freshmen had a HSR less than 60.

The faculty of the Institute of Technology approved during 1960-1961 a change in the entrance requirements in mathematics for admission to I.T. Four years of high school mathematics will be required instead of the present three-year requirement. This requirement will go into effect in the fall of 1963, the two-year delay designed to enable high school students to adjust their mathematics preparation.

The change in the entrance requirement makes it possible also to modify the mathematics program in the Lower Division. Beginning in the fall of 1963, the beginning course in mathematics will be the second of the present two-quarter sequence. The first course will still be offered through the Extension Division and by correspondence but without credit toward graduation.

This program change is a first step in the direction of the changes in the undergraduate mathematics program recommended by the Committee on the Undergraduate Program in Mathematics of the Mathematical Association of America. In many respects, I.T. is lagging behind these national recommendations which many colleges of science and engineering have been in the process of adopting for a number of years. In particular, many other Midwest universities are ahead in their introductory mathematics programs.

The next step in this process is scheduled to take effect in fall 1964. At that time the second of the present two-quarter sequence will be offered only on a non-credit basis, the beginning mathematics course then becoming the first course in analytical geometry and calculus. This will bring the program more nearly in line with national recommendations.

The Department of Mathematics has already moved gradually in this direction. In the fall of 1961, approximately one-fourth of the students were allowed to by-pass the first course. The results were encouraging. It is an-

ticipated that for the fall of 1962 approximately one-half of our entering freshmen will enroll in the second course as their beginning course in mathematics.

The undergraduate degree program in mathematics has also been modified. A four-year curriculum leading to the degree of Bachelor of Mathematics replaces the five-year degree program, Bachelor of Applied Mathematics. The four-year curriculum provides a complete training in mathematics in preparation for a professional career or for further graduate study. The same level of mathematical proficiency is required for the Bachelor of Mathematics as for the Bachelor of Applied Mathematics, but time is saved by the elimination of certain engineering courses not essential to mathematics.

In December 1961, the faculty of the Institute of Technology, following extensive discussions with the representatives of the ROTC programs, changed the credit arrangements for I.T. students enrolled in ROTC programs. In summary, the new regulations provide that students may apply academic credit toward graduation for courses allowed as ROTC substitutes; ROTC courses may be accepted by related academic departments—subject to ROTC course content and staff review—as technical or nontechnical electives for graduation; and students who complete any ROTC program will be allowed nine credits as either technical or non-technical electives toward graduation rather than the fifteen to twenty-four which had formerly been allowed entirely as non-technical electives.

The two essential characteristics of this action are the provision for periodic review, and the reduction in credit toward meeting the graduate requirement in nontechnical electives. This is a first step to effect suitable modifications to allow participation in ROTC programs and meet all requirements in liberal education required of regular students without excessive credit overloads.

The major innovation at the graduate level was the introduction of the evening graduate program in Electrical Engineering. This was established in the fall of 1961 in response to a growing need for graduate study by scientists and engineers in local industry. The program leads to a Master's degree in Electrical Engineering and most of the courses are offered in that department. Supporting course work is offered also in mathematics. At the present time this program is supported directly by industries, and participation is limited to employees of participating companies. Approximately 60 students were enrolled in this program in the fall of 1960. An expansion is anticipated for the fall of 1962. The program will have a significant impact on the development of the State of Minnesota, and merits support in the regular university budget.

Research Programs and Special Support

The level of support for research from funds not appropriated by the Legislature has approximately doubled (from \$3 million to \$6 million) in the last five years. Associated with this increase in research activity is a rapid growth in our enrollment at the graduate level. This has doubled in the past eight years. This trend will likely continue into the next decade. Graduate study in engineering is increasingly viewed as the professional program. At the present time, approximately 20% of the students in engineering go on for graduate study.

A special program to support graduate students in engineering who are candidates for the Ph.D. degree is the Ford Foundation Forgivable Loan Program. The University of Minnesota received an initial grant of \$50,000 in 1961. This was supplemented by a grant of \$100,000 in early 1962. The most significant feature of this program is the inducement it gives the awardee to enter an academic career upon completion of the Ph.D. degree. The forgivable feature of the loan applies to such individuals only.

In addition to the support of research, the Institute of Technology has received numerous grants for special purposes. Among these are the following: A special equipment grant of \$85,000 from the Department of Defense; instructional equipment grants from the National Science Foundation totaling \$100,740; and awards from the research facilities support program of the National Science Foundation totaling \$91,200.

A special grant of \$500,000 from the National Science Foundation combined with a legislative appropriation of \$250,000 made it possible for the University to acquire a new computer system for the Numerical Analysis Center. This is a transistorized system of far greater capability than the previous computer. This acquisition provides the University of Minnesota with an up-to-date facility more nearly in line with its present needs.

Several departments in the Institute of Technology have received grants from the NSF for Undergraduate Research Participation Programs. These programs provide support for undergraduates for their participation in the regular research programs of the department.

The extensive and open-ended program of support being initiated by the National Aeronautics and Space Administration represents a major development initiated in the past biennium. As a first step, the University of Minnesota was selected as one of ten universities to which support was given for ten National Aeronautics and Space Administration graduate fellowships. Most of these fellowship holders will carry out their research activities in one of the I.T. departments.

Special Programs

The National Defense Education Act provided for graduate fellowships for new and expanded programs in graduate education. Fellowships awarded in departments in I.T. which became effective in, or were awarded during, the 1960-1962 biennium include the following: Ten fellowships in mathematics for a program in applied mathematics; six fellowships in electrical engineering for a program in energy conversion; eight fellowships in chemical engineering for a program in transfer and transport processes; and three fellowships in physics for a program in high energy physics.

On-campus activities of national or regional scope included the Midwest Conference on Theoretical Physics; the Fifth Annual Symposium on Rock Mechanics sponsored jointly by the Colorado School of Mines, the Missouri School of Mines and Metallurgy, the Pennsylvania State University, and the University of Minnesota; the Conference on Electron Devices Research; and the Symposium on Fluctuations and Solids.

Organizational Changes

A consolidation of the program of Rosemount Aeronautical Laboratories and a closer integration of that activity with the related graduate programs in I.T. was effected during 1961-1962.—FRANK VERBRUGGE, *acting dean*

INSTITUTE OF AGRICULTURE

Agricultural Experiment Station

Funds allocated to research continue to come from a variety of sources. The direct state appropriation support amounts to approximately one half of the total including salaries and supplies. The total state support including contractual funds from various state agencies, and including sales, provides approximately two-thirds of the total funds for agricultural research. In 1960-61 sales suffered from the low prices of swine and turkeys and dropped about \$110,000 below the previous year creating severe hardships. This figure was the lowest since 1956. Figures are not yet available for 1961-62. The Federal appropriation continues to provide about one-seventh of the total funds. The share from industry, foundations and various farm and trade associations has been increasing gradually over the years and now amounts to approximately 10 per cent of the total as compared with 6.4 per cent in 1954-1955.

One of the most serious problems has been the rapid increase of research costs. The National Science Foundation indicates that this rise has been approximately 6-7 per cent per year. The General Agricultural Research fund and the Federal Hatch funds have not been increasing at this rate and it has been necessary to readjust the research program. This scarcity of funds

has made it impossible to initiate some badly needed new programs in research.

For the first time in the history of the Federal grant-in-aid funds, a portion of the appropriation for 1961-62 contained a designation of funds for a specific area of research. This was for weed research. If this represents the beginning of a trend, it should be viewed with some concern. Historically and appropriately, the Federal grant-in-aid funds have permitted great flexibility in developing and adjusting the research program. To destroy this would be to remove one of the principal strengths of the Federal Hatch funds. It has been conceded by persons in the position to pass critical judgment that the Federal grant-in-aid program for agricultural research has been a most economical and fruitful means of fund distribution and use. The interjection of the principle of fund designation in response to special interest groups could easily result in a serious imbalance of the research program.

Research at the Experiment Station encompasses a wide spectrum of interests and is directed not only at uncovering underlying phenomena but at practical applications as well. During the biennium, studies contributed to important new understandings of soils, animal breeding and management, produce storage and handling, by-product utilization, and farm safety.

The past two years have seen a complete review of the departments on the St. Paul Campus by sub-committees of the Institute of Agriculture Advisory Council. The Advisory Council has just recently presented its recommendations based on this study.

The building program voted by the 1961 Legislature has been hampered by the Supreme Court decision to enforce the constitutional limitation on state borrowing. This could leave the development of the facilities phase of the program considerably behind. At least two major units, Agricultural Biochemistry and Entomology, will not be able to extend their program because of lack of space.

Despite limited funds, internal adjustments plus outside supporting funds have made it possible to initiate some new areas of work. A joint faculty appointment of the Department of Agricultural Economics and the School of Home Economics in consumer economics and a joint faculty appointment of the Department of Sociology and the School of Home Economics in family relations are excellent examples of such internal cooperation.

One of the most important aspects of progress has been the continued ability to make staff replacements with highly qualified young people. As agriculture continues to evolve from an art to a science, it will be these young men and women who will bring to the research program an imagination unhampered by departmental tradition. While this is important, it has the inevitable result of making it necessary to emphasize specialization for increased depth. This specialization in turn makes it more difficult to cover the agricultural spectrum. The quality of the research program is being recognized increasingly by the agencies who make grants only to persons qualified to do basic research in the various disciplines. The staff is attracting significant amounts of these funds.

During the past two years a number of events of significance have taken place. A new Federal forest research laboratory was established at the Grand Rapids station. This will make a new point of contact in the area of forestry for the people in northern Minnesota. The Lake States Forest Experiment Station also found it possible to plan new facilities on the St. Paul Campus which will release important research space in the School of Forestry. A fundamental soils research group was located on the St. Paul Campus in the Department of Soils and this will make available to the staff and graduate students a new area of activity. Cooperation with the Federal Soil and Water Research Laboratory at Morris has been extended to the Crookston and Lamberton stations. These will involve special studies on problems for which these locations are particularly suited. In April of 1962, the first unit of a new crop research facility became available for occupancy. With the specialized facilities for basic studies, this will open up many areas of research which previously could not have been pursued. At the Rosemount station a new development has been initiated in agricultural engineering. This is an area for the specific study of engineering problems related to environment

control for animals, materials handling, farm labor engineering and other activities which are difficult to coordinate into other on-going departmental research programs. It will also be possible to study power distribution, power use and power consumption costs.

During the past two years there has been significant progress in initiating new research programs at the branch stations. In the past the branch stations' research has been largely an arm of the various units on the St. Paul Campus. It has been felt that such research would be improved and special problems could be studied in the various areas with the addition of well-trained research people at the branch stations. These programs are beginning to develop. These include such things as: barley feeding in the Red River Valley, the feeding out of dairy steers at Waseca, artificial insemination studies at Grand Rapids, horticultural studies in Duluth and beef cattle management studies in Morris.

The publications of the staff constitute a significant measure of productivity. In 1960-61 there were 145 scientific and 14 miscellaneous journal series papers and eight bulletins. There were a total of over 200,000 pieces of research reports of various types including bulletins, Farm and Home Science and the Report series. The figures for 1961-62 have not been compiled but would not represent any major shift from 1960-61.

Agricultural Extension Service

The Agricultural Extension Service is charged with bringing information growing out of research concerning agriculture and home economics to the people of the state. In assuming this responsibility the Extension Service brings to people at local level the resources of both the University and the United States Department of Agriculture.

Agriculture and enterprises related to it are undergoing changes of importance to rural families and communities. Such changes, however, are not restricted to rural areas but also affect non-rural areas in many ways.

During the 1960-62 biennium, programs and activities were directed toward helping people deal with the various problems they encounter from day to day in agriculture and home economics. In developing and carrying forward these programs and activities many local leaders, individually and in groups, gave their assistance and guidance. By the close of the biennium the Extension agents in the counties had made over 2,300,000 individual contacts with people throughout the state.

Program Development—The program of extension work in agriculture and home economics in Minnesota has been the sum of the county programs developed by county program planning committees. This basic program framework has been supplemented by additional state or area programs directed toward major problems which appear to be common to all parts of the state, or to the areas concerned.

Major areas identified by the program planning committees for work by the Extension Service and toward which efforts were directed in 1960-62 include:

1. Efficient operation and management of farms.
2. Farm and home analysis and planning.
3. Improvements in marketing practices and changes in marketing systems.
4. Broadened understanding of public affairs and public policy.
5. Adjustments of youth programs in keeping with the changing needs of youth.
6. New information related to family living.
7. Attention to conservation of our natural resources with special emphasis on soils, watersheds and forests.

Program Activities—Only brief reference to the major fields indicated above can be made here since space does not permit a complete report of Extension activities. In the operation and management of farms, work was

directed toward: (1) The principle of organization and operation of the farm business and (2) the selection of improved farming practices from various fields of technology and fitting them together in workable combinations.

All agricultural specialists and agents directed their efforts to helping farmers achieve lower unit-cost production. As one example, over 5,000 Minnesota dairymen cooperating through the Dairy Herd Improvement Association invest one million dollars annually in collecting and analyzing detailed production, feeding, breeding, cost and net return records on 155,306 cows. Dairy Herd Improvement Association members' cows produce almost 40 per cent more milk with a labor return of just under 300 per cent more than the state average. Results of the data-gathering are passed on to most dairymen in the state through the breeding associations and extension teaching on dairy subjects.

The Farm and Home Development Program is oriented to younger established commercial farm families who desire to make farming a career and are planning the farm business to meet family goals. Objectives for this work include improved management capacity; analysis of alternative opportunities to meet family goals; and improved understanding and effective use of techniques and concepts for farm and home analysis and planning.

In the winter of 1961-62, 6 multi-county Farm and Home Development workshops were held in an area covering 31 counties. About 275 farm families and extension agents from these counties participated in the workshop series, which consisted of 5 bi-weekly all-day sessions. "Managing Your Future," a 120-page, six-part farm and home planning discussion guide, was used in this unique short course designed to add more depth of content in educational efforts and use extension agents' time more efficiently in this intensive educational effort. This program promises to be one of the Extension Service's major contributions to young rural farm families.

Marketing work consisted of training courses and institutes for grain elevator and retail feed store management, livestock processing and dairy plants, livestock auction personnel, and cooperatives. Improvement of marketing and consumer information was a frequent theme.

Public affairs education has evolved with the growing complexity of problems which must be understood by both farmers and urban people. The government farm program with price supports and conservation payments is but one example. Carefully organized seminars and workshops have been attended by a specially selected cross-section of rural-urban leaders including representatives from agriculture, business, labor, professions, homemakers and members of voluntary associations. Major emphasis was placed upon economic development, growth and adjustment. As a result of this effort a series of discussion guides titled "A Growing Minnesota" was developed covering topics of interest to local discussion groups. Nearly 20,000 kits were used throughout the state during the second year of the biennium.

Rural Areas Development is concerned with the development of the total physical and human resources of an area. The need for such a program in Minnesota is obvious. In the Rural Areas Development effort the Extension Service is responsible for organization and education.

As of May 1, 1962, 25 county committees had been formed and numerous requests for information had been made by other counties. The first task of a county committee is the development of an over-all economic development plan assessing past trends, inventorying available resources, and outlining broad courses of action. Action programs designed to improve the area economy are also initiated. Some 42 projects have been so proposed under the Area Redevelopment Act. Tourist, forestry and agriculture committees have taken on activities to improve the competitive position of their industries. The health, education and welfare committees have carried on activities ranging from career exploration for youth to better facilities for the aged.

The Rural Areas Development program represents one of the soundest approaches to the attacking of problems of rural areas that has been developed. However, two factors will likely limit the extent of its success; the lack of research, particularly in the areas of delineating relevant economic centers within the state and on the "economics" of community size; and the lack of

resource personnel with appropriate training needed to make educational efforts effective.

Increasingly, the benefits of 4-H training are being experienced by boys and girls living in urban and non-farm homes as well as those living on Minnesota farms. Of the 4-H members 74 per cent live on farms while 26 per cent live in rural non-farm and urban homes. In keeping with the changes in clientele, the program has undergone some changes in projects and methods, but the basic concept of "learning by doing" has remained the same. More science is being incorporated in project teaching, and learning experiences are increasing in depth.

New educational projects in career exploration, town and country business, and automotive care and safety were among those being tested on a pilot basis during the biennium.

Today, 53,319 4-H members, ages 9-21, are enrolled in 2,177 4-H clubs located throughout the state. There are 10,098 men and women serving as volunteer adult organization and project leaders, assisting with practical education in a wide variety of subject matter projects and group experiences.

Providing the physical and psychological environment for good family life and personal development is a complicated task. Extension home economics programs are intended to assist families to function intelligently as parents and family members; as managers of the family's resources—money, time, material goods; as consumers in the market; and as citizens in the community. Programs have included developments in food processing, human nutrition, new textiles, household equipment, furnishings and management. Human development and child care have been included also.

Programs are adapted to all ages from 4-H members to senior citizens. Over 46,000 adult homemakers participate in the local group work in home economics which extends to nearly all of the counties in Minnesota. Over 27,000 girls carry 4-H home economics projects. Many participate in workshops and other meetings for special audiences; hear extension home economics programs by radio and television; and work individually with extension home economics personnel.

College of Agriculture, Forestry, and Home Economics

Enrollment in Agriculture and Forestry remained relatively stable during the biennium, with but a slight increase over 1959 figures. However, enrollment in Home Economics rose from 572 in the fall of 1959 to 624 in 1960 and to 698 in the fall quarter of 1961. While the proportion of Minnesota's rural male population enrolled in Agriculture in the college rises slowly, the declining farm population has held the total stationary. There is little evidence that increasing numbers of urban students view Agriculture or Forestry as promising outlets for career ambitions. This constitutes a major challenge.

Major curriculum changes during the biennium were few, although intensive curriculum study in both Forestry and Home Economics will result in reorganization of course and/or curriculum offerings in the near future. The major changes initiated during the previous biennium have borne fruit in a greater satisfaction with the program on the part of both students and staff. Of particular interest is the degree to which the expanded requirements in social science and humanities have been accepted with resulting influences on campus programming and discussion. The announcement in 1961 of the Food Service Management curriculum in the School of Home Economics should contribute to very substantial personnel needs in this area.

The Technical Certificate Program in Agriculture, initiated in the fall quarter of 1960 to serve those students seeking a terminal but collegiate level program in agriculture, enrolled 61 students in the fall quarter, 1960, and 92 in the fall of 1961. This new program has been well received by county agricultural agents and high school instructors of vocational agriculture. Patterns of attendance suggest that students enrolling in this program are maintaining active farming programs or contributing to them as spring and summer enrollees are very few in number. The Minnesota Bankers' Association has given fine support through the promotion of the Bankers Scholarships, 19 county scholarships of \$400 each in 1961.

There was continued interest in the Exchange Program in Agriculture with students from Norway, Denmark, West Germany, Holland, and Finland beginning work on Minnesota farms in April 1962, prior to entering the College of Agriculture, Forestry, and Home Economics for one final quarter of instruction. Sweden, a participant in the program since its inception in 1950, has withdrawn from the arrangement seeking a program for its students that permits more specialized agricultural instruction and a greater variety of work experience.

The School of Agriculture Alumni Association continued its annual meetings and summer regional gatherings with intent to continue its interest in the work of the Institute of Agriculture. The Board of Directors of the Alumni Association has followed closely the program of the Technical Certificate Program in Agriculture.

The Alumni Association of the College of Agriculture, Forestry, and Home Economics had two successful annual meetings during the biennium, and 70 county committees of alumni have worked to orient prospective students to the programs of the University of Minnesota and to the St. Paul Campus.

The placement program of the College continues to mature. Beginning in 1958 first major steps were taken to coordinate departmental efforts in placement, and to provide a centralized contact for employers as well as students. After four years the basic administrative and clerical procedures are well established, and principal efforts are being directed to improve the quality of jobs listed and the counseling and information provided to the students of the College. Of major importance is the service rendered to employers through improved student coverage and arrangement of interview schedules.

During the biennium twelve new scholarships were established by firms or individuals for students in the College.

The College Faculty Committee on Relationships with Prospective Students encourages maintaining and increasing the efforts being made to interpret the college program and the opportunities available in Agriculture, Forestry, and Home Economics to competent young men and women with appropriate interests. The necessity for a fuller explanation of the nature of modern agriculture and forestry and its interrelationship to basic science is clear. To this end the science teachers of Independent School District 623 (Roseville) were invited to a series of programs in St. Paul Campus laboratories and departments, at which time departmental research and objectives were discussed. The success of the programs suggests that this be continued with other metropolitan school districts. Stress on campus representation at high school college and career days has been maintained, and teams of faculty advisers have been organized for trips to other Minnesota colleges to review problems of student transfer to the St. Paul Campus. Faculty discussion is directed toward the unrecognized opportunities in these fields rather than upon the "recruitment" of students, as such.

The appointment of a standing subcommittee of the Curriculum Committee entitled the "Committee on Instruction" led to a series of faculty seminars on the various aspects of instruction and learning. This is to be a continuing program.

The many evidences of interest throughout the University in international education had their counterparts in the College of Agriculture, Forestry, and Home Economics, where an Institute committee has been appointed to review campus responsibilities and programs in this area.

The College faculty has participated in University discussion on reorganization, and will in very real measure be influenced by coming events. The scheduling of West Bank classes by St. Paul Campus students is a subject of University Scheduling Committee study. Plans are under way for closed circuit televising of instruction on the St. Paul Campus, to enrich offerings available to St. Paul Campus students, to reduce necessary intercampus travel, and to accommodate more students in basic offerings.

New instructional facilities during the biennium were limited to those stemming from remodeling and renovation, with the exception of the classrooms and experimental kitchens for use in the Food Service Management

curriculum. These were made available with the completion of the addition to the St. Paul Campus Dining Center. The opening on March 26, 1962, of the faculty-staff-guest dining area greatly enhanced the flexibility of food service arrangements.

Schools of Agriculture

Enrollment in the four schools of agriculture has declined. In the year immediately preceding this biennium the total enrollment of the Northwest, West Central, North Central, and Southern Schools was 937. In 1960-61, the first year of the biennium, this dropped to 765; and in the second year, a still further drop to 695.

Much of this decrease can be accounted for by the phasing out of the West Central School at Morris and by the decision not to accept students without at least one year of high school or its equivalent at the North Central School at Grand Rapids.

The Northwest School at Crookston continued to be the largest in enrollment with 293 students in 1960-61 and 306 in 1961-62. The Southern School was second with 244 and 240 students respectively in each of the two years of the biennium.

With the closing of the school at Morris in the offing, plans have been made to increase the adult education and short course programs at this location. The transition from vocational to college work at Morris has proceeded. On July 1, 1961, the duties of the Superintendent and Dean of the College were separated and two administrative officers now function on the same campus each with different and definite responsibilities.

Studies have been continued with respect to the future use of the Northwest School Campus. There is still a need for a School of Agriculture in that area of the state as judged by the enrollment in the school. However, another group of students could use the facilities jointly, and this possibility remains very much in the thinking of the people of the area and has not been discarded by the administrative staff of the school and the Institute of Agriculture.

The Southern School at Waseca could have accepted more students had dormitory space been available. It is hoped that this situation can be corrected in the future. This campus has been heavily utilized for community and area meetings, short courses, and workshops and will continue to expand that phase of its program.

Cutting one year from the program of the North Central School beginning in 1961 resulted in both a slight decline in enrollment and a higher quality student body. Continued attention is being given to more effective use of the facilities at Grand Rapids.

Agricultural Short Courses

During the biennium 104 short courses, conferences, and special days for over 24,000 people were conducted. These ranged in length from one day to two weeks and covered a broad spectrum of subjects and activities.

The Agricultural Short Course Office also served as a center of information for community groups, vocational agriculture, and other classes from public schools visiting the campus, and foreign visitors.

This department is moving in the direction of bringing more of the short courses out into central regional locations in the state. As an example of this were the four property tax assessors short courses held at Waseca, Morris, Crookston, and Grand Rapids. It is felt that this type of short course instruction will become a great deal more important in the future. Studies and plans have been made during the biennium to implement this method of conducting short courses.—HAROLD MACY, dean

COLLEGE OF VETERINARY MEDICINE

The past biennium has been a critical one for the development of veterinary medicine at the University. Appropriations from 1955 and 1957 provided the necessary facilities to bring the College from a probationary status to

accreditation. These facilities are now in full use for both teaching and research related to the poultry and animal industries of the state. Salary improvements have helped retain a number of key faculty members. However, the lack of funds for continued development, for faculty and staff additions, and for the necessary supplies and expense items has had an adverse effect on faculty morale and is of great concern to the administration.

Admission to the College of Veterinary Medicine is being sought by pre-veterinary students from North Dakota, South Dakota, and Wisconsin in addition to Minnesota residents. The Admissions Committee of the College gives first priority to qualified applicants from Minnesota. Through an arrangement with the North Dakota Commissioner of Education, students from that state enroll at resident fees with the State of North Dakota paying a stipulated sum for each student accepted while he continues in the veterinary medical curriculum.

Veterinary Medical Research and Graduate Education—Research grants, some increase in Experiment Station support, and the training grant program of the National Institutes of Health have increased the graduate training program to full capacity. In fact, highly qualified applicants are being turned down. From 50 to 55 graduate students, all of whom have received the D.V.M. degree, are doing graduate work in some special area. Only support from sources such as the Atomic Energy Commission, National Science Foundation, United States Department of Agriculture and National Institutes of Health has made this possible.

The development of graduate or continuing education in the way of short courses, symposia and conferences for veterinarians has been expanded and improved. The symposia of a national scope on Hog Cholera held in October, 1961, is an outstanding example of the postgraduate or continuing educational programs.

The Department of Veterinary Anatomy—This department has continued to develop its entire program due primarily to the facilities provided by the 1955 legislature. Recognition on a national and international scale has been the result of a very active research program supported in part by training grant funds.

The Department of Veterinary Bacteriology and Public Health—The facilities provided by the 1957 legislature for work with infectious diseases has materially strengthened the disease research program in this department. The lack of teaching facilities has hampered the teaching effort, however, and additional facilities are dependent upon the passage of Amendment Number 2 this fall. This department was one of several in the nation chosen to do research work on airsacculitis in turkeys, a disease causing extensive loss to turkey growers due to condemnation by food inspectors at the time of slaughter. The research program on brucellosis continues to be fruitful and beneficial to the state in general.

The Department of Veterinary Pathology and Parasitology—This department has made very little progress in its development during the past two years due primarily to insufficient funds provided the University for additional faculty and civil service staff. The great demand for pathologists and parasitologists has made it difficult to retain faculty. The need for civil service personnel in this area, both for clerical and technical help, has hindered the development expected of pathology in a professional college. The research program and graduate program have developed due to support from other agencies.

The Department of Veterinary Physiology and Pharmacology—The lack of facilities and funds for supplies, expense and equipment has been felt the most by these departments. In addition, faculty members have been lost. The research program has continued the study of bloat in cattle and other ruminants. Increased emphasis on certain chemotherapeutic agents and the toxicology of heavy metals has been expanded. The study of cardiac output in various species has added much to the basic knowledge of certain vascular

phenomena. The research program in this department is considered one of the best in the country.

The Department of Veterinary Medicine and Clinics—This department has as its main responsibility the operation of the teaching clinic for the College. This is an integral part of the teaching program in the training of doctors of veterinary medicine. The faculty has responsibility for the courses in medicine, and the clinic teaching associated with surgery, radiology, and obstetrics. Many cases are referred to the Clinic by practicing veterinarians, and animals are trucked in from considerable distances. The Clinic at Maple Plain, which is part of the teaching program, provides direct veterinary service to farms in that area and is operated as part of the large animal clinic. This continues to be a very significant part of the training program and has been most successful.

Many of the cases presented to the Clinic are the result of field investigations which represent new problems and serve as a basis for research on animal diseases. The faculty in this department carry on research dealing with shipping fever, bovine mastitis in dairy cattle, swine diseases and other projects supported by the Experiment Station and by outside grants. Faculty members are called upon by the Livestock Sanitary Board to make numerous investigations at the request of local veterinarians to aid in arriving at a diagnosis. This service is important to the animal industry and to the practicing veterinarians of the state and also contributes to the research program in the College of Veterinary Medicine.

The Department of Veterinary Surgery and Radiology—The teaching and research programs in this area have continued to develop over the biennium; however, the teaching of beginning surgery courses is hampered by the lack of proper facilities. This course is being taught in the old Veterinary Anatomy laboratory which is not suitable for this type of instruction. Staff members participate in projects in other departments and are carrying on projects of their own. A project supported by the Air Force and Atomic Energy Commission determining the radiological effects on large mammals was recently completed in cooperation with individuals in the College of Medical Sciences.

The Department of Veterinary Obstetrics—The addition of one instructor aided the teaching program of this department materially. Research work dealing with sterility diseases has been hampered by the lack of adequate support; however, during the biennium some support was given by the Experiment Station for work on diseases dealing with infertility and reproduction. This will give the staff an opportunity to begin studies on bovine vibriosis in relation to sterility, an important disease of dairy cattle.

The Department of Veterinary Diagnostic Laboratories—This department continues to receive increased demands for services as the official Diagnostic Laboratory for the Livestock Sanitary Board. The laboratory serves the veterinary profession and the animal industry of the state, the primary function being to provide early diagnosis of animal diseases and to aid in their treatment and control. This laboratory is the first line of defense against diseases foreign to Minnesota that may become established in the state. The activities have been hampered by the lack of funds for day-to-day operation. It has been necessary to curtail some of the services. The laboratory provides material for new research projects and the faculty members in this area participate on research programs in other departments.—W. T. S. THORP, dean

COLLEGE OF MEDICAL SCIENCES

Undergraduate Medical Education

The size of the entering freshman class, which was 125 students prior to 1958 and which has been 140 since 1958, has been increased to 150. An important change in Medical School admission requirements was effected with the recent elimination of qualitative analysis, psychology, physical chemistry, and genetics as prerequisites for admission. The admission requirements of the

University of Minnesota Medical School are now comparable to those of almost all of the other medical schools in the nation.

At the outset of the biennium the revised curriculum for the junior and senior years of Medical School was introduced. Its most notable feature is the Comprehensive Clinic Program, a six-month experience centering in the Outpatient Clinic during the student's fourth year. This program provides the student an opportunity to follow his patients throughout their entire hospital course and, even more important, to assume a meaningful responsibility for their care. During their assignment to the Comprehensive Clinic Program, the students have an opportunity to work with patients in the role of a physician rather than simply as on-lookers without responsibility. In short, the program has emphasized the patient as the unit of medical practice and patient care as the goal of practice. The program has now been an integral part of the undergraduate training of two classes of medical students. It seems clearly to have proved its worth. Graduates in these two classes seemed significantly more confident and assured in their relationships with patients than graduates of earlier classes.

Another feature of the revised curriculum is the elective period, which gives the student more latitude in following his own interests and at the same time places upon him a somewhat greater responsibility for his own education. During the three-month elective period, the student may choose to broaden his clinical experience by serving a series of externships in the various departments and divisions within the Medical School; to undertake a special study project or research project in a basic science or clinical department; or to study at another medical school in this country or abroad. The elective period has added a new dimension to the teaching program in medicine. Many students have participated in truly significant research projects, and several have demonstrated unusual capacity for imaginative basic or clinical investigation. The students who studied at other institutions during the elective period were uniformly pleased with the opportunity to see something of medicine and medical education in other areas. Several students spent this period in foreign countries.

A final feature of the revised curriculum has been the combining of the third and fourth year classes for lecture courses. This has not been a notable success and may well be changed. The role of the didactic lecture in the teaching of clinical medicine remains a problem. During the clinical years, students have as their principal responsibilities their work in the wards, clinics, and operating rooms, and the lecture courses often come as an unwelcome intrusion on these clinical activities. Yet certain subjects during these years cannot be included in clinical clerkships and must be covered by lectures. Just how these lectures should be scheduled, how much time should be devoted to them, and how they should relate to clerkship activities constitute matters for continuing discussion.

The preclinical or basic science curriculum has been under intensive review during the biennium, but no definitive recommendations have been made to date.

Graduate Medical Education

The University of Minnesota Medical Center and the hospitals affiliated with it continue to attract large numbers of graduate students in the various medical disciplines, and the program is one of the largest in the nation. It is felt that the size in no way impairs quality but rather makes it possible to offer a better program than would be the case if the program were smaller. During the past biennium registration in the various medical graduate programs amounted to more than 600 annually. Approximately 25 per cent of these students had major fields of interest in the basic medical sciences, the balance in clinical departments. In addition to the University of Minnesota Hospitals, the following hospitals participated in graduate training in the clinical specialties: Minneapolis General Hospital, Minneapolis Veterans Administration Hospital, Ancker Hospital, St. Paul, and several private and specialized hospitals in the Twin Cities.

As has been the case in previous years, particularly in the period since World War II, the graduate training program included during this biennium a

large number of foreign physicians. A carefully selected group, these men and women will take back to their home countries the benefits of their training in clinical specialties in research and teaching. Special fellowships and traineeships for advanced training in teaching and research continue to play an important role in the teaching and research programs. Such special fellowships and traineeships are awarded by the National Institutes of Health, the American Cancer Society, the American Heart Association, the National Foundation, and other similar agencies.

Research

Research programs of the College of Medical Sciences and its constituent units are numerous and cover an exceedingly wide field of activity. Substantial amounts of funds come from sources outside the University in support of both specific research projects and broad research and research training programs. The federal government provides nearly three-quarters of this outside support through the various programs of the National Institutes of Health (NIH). The balance is supported by voluntary health agencies, local foundations, and individuals.

During the biennium the Cardiovascular Clinical Center Program was activated with generous support from an NIH grant. This program has permitted important studies of heart function in normal subjects and in patients, before and after treatment, and the study of various fundamental phenomena that relate to heart function. Closely related studies have permitted investigators to make measurements of the work of the heart during the process of rehabilitation.

Exciting studies carried out in the Departments of Pediatrics, Surgery, and Microbiology, have furthered understandings of immune processes, the processes whereby the human body develops resistance to foreign protein material introduced into it. Immunology thus relates not only to the means the body has for fighting off infection but to such things as the body's reaction to pollens and foods (allergy) and to transfused blood or tissue grafts. Studies carried out here will undoubtedly lead to substantial progress toward the successful transplantation of vital organs. The studies have shed much light on the important and heretofore unknown role of the thymus gland in immunology.

Important new techniques for the diagnosis of unusual bleeding disorders, of rheumatic fever, and of acute nephritis have been developed. A new and unique use of modern atomic energy has been developed that permits tracer studies in human beings without exposing them to radioactivity. The phenomenon of "transformation" or alteration in the basic character of bacteria has been studied extensively in the Department of Microbiology. Fundamental aspects of genetics are under intensive study in the latter Department and in the Department of Physiological Chemistry. Clinical studies of genetic problems have been facilitated by the establishment of a Genetics Laboratory in the Department of Laboratory Medicine.

A substantial grant from the Office of Vocational Rehabilitation of the United States Public Health Service has permitted the Medical School, in conjunction with the Kenny Rehabilitation Foundation of Minneapolis, to establish a research and training center in medical rehabilitation. This Center, while providing a means for serving patients in need of rehabilitation, will also provide training for physicians and paramedical personnel in rehabilitation techniques and will provide an opportunity to carry out important research in this field.

Provocative studies in the Department of Surgery have led to the development of a technique for the "freezing" of the stomach in the treatment of ulcers and certain related disorders. The stomach is "frozen" by introduction of a coolant through an esophageal tube into a balloon in the stomach. Apparently this process inactivates the glands that produce the ulcer-causing acids. The long-term effects of this most interesting treatment are under continuing study.

In the Department of Radiology a technique has been developed for separating the various types of cells in the bone marrow in order that these cell types can be studied from the standpoint of their respective abilities to

protect against the damaging effects of radiation. In the same Department a radiologic technique has been developed for measuring blood flow to vital organs.

A monumental report of research begun in 1947 concerning the relationship between personality data on ninth grade school children and their later careers has been completed. From this study have emerged important suggestions for the guidance of mental health, delinquency prevention, and other similar programs.

Significant studies on the basic nature of diabetes have been carried out in the Department of Anatomy. The studies there have shown, for the first time, that the production of insulin can take place in cells maintained outside the human body. Members of that department have developed a simple method for measuring the content of insulin in blood and tissues. This will have widespread application in both basic and clinical research.

A new product, developed by the Department of Medicine and the Division of Dermatology, when applied externally apparently affects certain chemicals naturally occurring within the skin and converts them to a "sun shield," which then protects the skin against the harmful effects of the sun's rays. This has obvious implications for military personnel transferred to tropical areas, for a nation of civilian sun-bathers, and for individuals suffering from certain diseases characterized by undue sensitivity to sunlight.

Organizational Changes

The Department of Bacteriology was renamed the Department of Microbiology in recognition of a breadth of interest no longer accurately reflected by the more restrictive title.

The Division of Cancer Biology was abolished as an organizational unit. Increasingly aware of the need for an active program designed to attract high ability students to medicine and the allied fields, the Division of Special Educational Services was established. It will be responsible for relationships with prospective students and with the various institutions responsible for their pre-professional education.

Affiliation with Seoul National University, Korea

The Korean Cooperative Project terminated formally at the end of the biennium. Between the inception of the program in 1954 and its termination, eleven members of the faculty served for varying periods in Korea as advisers in their respective specialties, while 78 members of the Seoul National University College of Medicine faculty took graduate instruction at this campus or in another university offering special required courses. Participants in this project spent varied periods of time on this campus, ranging from three months to four years. Most of them participated actively in research projects. Two earned Ph.D. degrees; eleven earned Master's degrees. There can be little doubt but what this program served to strengthen medical education and research at Seoul National University. It is hoped that some form of informal relationship can continue in order that the gains that have been made will not be sacrificed.

Continuation Medical Education

Under the combined auspices of the Department of Continuation Medical Education and the Center for Continuation Study, 23 short courses for practicing physicians were presented during the year attracting 1,257 physicians. The University thus played a significant role in providing an opportunity for these doctors to sharpen their skills, to refresh their basic knowledge, and to learn the latest developments in their fields of interest.

Building Programs—Past, Present, and Future

The excellent new facilities provided by the Masonic Memorial Hospital and by the conjoined Veterans of Foreign Wars Cancer Research Center were available throughout the biennium. The completion of Diehl Hall during the

biennium brought the Biological-Medical Library to a convenient location, and library utilization in this new location has nearly doubled in comparison with utilization at the previous cross-campus location. In addition to the Biological-Medical Library, Diehl Hall also provided approximately 40,000 square feet of additional animal quarters and associated research laboratories for the various Medical School departments. Remodeling projects in Millard Hall and Jackson Hall were completed during the biennium with resulting significant improvement in both teaching and research areas.

At the close of the biennium plans were nearing completion for a new hospital unit for rehabilitation patients, both adult and pediatric. Only limited hospital facilities for adult patients undergoing rehabilitation are presently available. There are no such facilities for children. Addition of such a unit will meet a keenly felt need. Funds for this unit will be provided by the Hill-Burton program of the United States Public Health Service with matching funds from the University's Eustis Fund.

Plans are under way, too, for the development of a Medical Student Center on the first level of Mayo Memorial in an area currently utilized for storage. The Medical Student Center is being financed by donations from members of the Minnesota Medical Alumni Association and will be operated as a branch of the main Student Union.

Tentative plans are being made for another addition to the facilities of the Variety Club Heart Hospital. The facilities of the Heart Hospital for physiological studies on heart patients are distinctly limited, for the structure was built just before the development of a host of new and rather complex diagnostic techniques, which were not even envisioned a decade ago but which have already become essential in the management of heart disease today. To maintain a position of leadership in the field of cardiovascular research and to capitalize fully on the Cardiovascular Clinical Center Program established under NIH auspices, expanded and fully modernized facilities are essential. The Variety Club of the Northwest has made a pledge of \$500,000 toward this project, and matching funds through one of the federal programs are being sought.

Other pressing building needs include:

A new Outpatient Clinic building. The present outpatient facilities were built to accommodate about half of the number of patients currently cared for. Moreover, at the time they were built, teaching in the Outpatient Clinic was limited. The increased use of outpatient facilities for teaching, the Medical School enrollment increase, and the increased number of patients seem to make a new Outpatient Clinic building imperative.

Additional research space. Despite recently added new research space, there are still insufficient facilities for this purpose. The reason for this is evident when one considers the prodigious growth of research activities, a growth that shows no signs of slowing. Departments with particularly acute problems regarding research facilities at the present time are Microbiology, Pediatrics, Medicine, and Psychiatry and Neurology.

New quarters for the School of Public Health and the School of Nursing. Both the School of Public Health and the School of Nursing are currently housed in inadequate and cramped quarters. The Laboratory of Physiological Hygiene, a unit of the School of Public Health, sorely needs new facilities in a less remote location in order that its activities may be better related to other activities within the College. A new building to house the School of Public Health and School of Nursing would not only contribute significantly to the improvement and expansion of the programs of these units but would furnish some of the very badly needed space for expansion of Medical School units described in the foregoing paragraph.—ROBERT B. HOWARD, dean

School of Nursing

The School of Nursing has effected major curriculum changes during the biennium as well as continuing to participate in community, state, national, and international service.

Admission Requirements and Changes in These Requirements

Curriculum revision in undergraduate programs of the School has affected admission requirements for the pre-service baccalaureate program. In lieu of the 95 credits in general education required for the former baccalaureate program, students are now admitted after completion of 45 credits of general education. Although no change has been made in the minimum grade point average of 2.0 required in prior college work, applicants in excess of the number for whom adequate learning experiences can be provided has resulted in admission preference being given to those students who have evidenced greater potential for success in the program.

Plans for establishing a graduate program in psychiatric nursing include the admission requirement of completion of undergraduate preparation in public health nursing. This requirement is appropriate to national trends in undergraduate nursing education but is a new admission requirement for graduate programs in nursing at the University of Minnesota.

Organization Changes

Curriculum changes have also affected the organization of the School of Nursing to some extent. Plans to establish the new graduate program in psychiatric nursing and the discontinuance of specialized baccalaureate programs in nursing education and nursing administration have resulted in changes in the number of faculty and the concerns of those involved in advisement and instruction of post-baccalaureate students. For these reasons, leadership assignments, committee structure and responsibility have been changed to facilitate further development of post-baccalaureate programs.

Curriculum revision for the basic baccalaureate program, and the initiation of the new general nursing program for graduates of diploma programs in nursing, consistent with the philosophy and objectives of the pre-service program, have resulted in reorganization. It is believed that more effective leadership and committee relationships among faculty most concerned with these programs will result.

Further organization changes involved the decision not to reappoint a non-nurse counselor to the School of Nursing faculty. It is felt this will improve general faculty liaison with student personnel services of the University and make possible better utilization of such resources for student assistance. A new nurse faculty position, that of Instructor and Administrative Assistant for Student Personnel Services, will be established to forward efforts in this direction as well as to improve recruitment, career guidance of students, and placement of graduates. A plan of assigning faculty advisers for academic counseling of students admitted to the "new" pre-service program is being inaugurated.

Revision of clerical responsibilities to provide increased instructional time for faculty has involved standardization of a number of procedures related to records and reports, making possible the delegation of increasing amounts of these time-consuming activities to non-faculty staff members.

A new committee concerned with service responsibilities of the School of Nursing has been organized. This committee will concern itself with resolving problems related to continuing education programs for nursing personnel, reassessment of needs of the community and region, and reevaluation of current offerings in order to insure coordination with changes in curriculums of the on-going programs of the School.

General Curriculum Review

Curriculums in nursing, nursing education, and nursing administration offered as of June 30, 1962, in the University of Minnesota School of Nursing and cooperatively with other colleges are listed below together with comments about major changes effected during the biennium.

Master of Education Program in Nursing Education—Major efforts during this biennium have been directed toward strengthening the content in re-

search and in the inclusion of public health nursing instruction for selected students.

Proposed Program in Psychiatric Nursing—A grant from the National Institute of Mental Health made possible the appointment of two faculty members. A proposed curriculum, 5 quarters in length under Plan B, has been accepted by the Group Committee for Medical Sciences and submitted to the Executive Committee of the Graduate School for final approval. The area of concentration for this program will be psychiatric nursing with related fields in such areas as anthropology, child development, or sociology.

Programs in Nursing Education and Nursing Administration—It is the belief of the faculty of the School of Nursing that functional specialization in nursing education or nursing administration as well as clinical specialization in nursing is appropriately graduate study, and should be based on sound undergraduate preparation in nursing. In line with this, the undergraduate specialized programs are being discontinued, and only those students who can complete all requirements of the programs by summer, 1964, are being continued.

Plan A (16 quarter program)—Students who entered the general education portion of the program in fall, 1960, will be continued until they complete requirements for graduation in March, 1965. No further classes will be admitted to this program.

Plan B (13 quarter program)—The pre-nursing portion of this program was initiated in fall, 1961. Students entering the School of Nursing as sophomores in fall, 1962, like other students of the University, will assume responsibility for their own maintenance throughout the program. Since they will have no service responsibilities, it will be possible to focus on carefully selected clinical experiences which can be scheduled for consecutive learning as well as to make possible the extension of upper division general education content of the program.

Practical Nursing Program—During this biennium, the faculty has achieved basic changes in the program preparing practical nurses. Curriculum plans based on a revised statement of philosophy and objectives have been implemented. The clinical nursing experiences are now focused on problem-solving techniques, which provide improved preparation to function in the expanding variety of employment opportunities available to graduates of the program.

Needs for the Future

For student welfare, two imminent needs exist. The first is for adequate locker facilities within or in close proximity to the hospital. In the revised programs, students will provide their own maintenance and the number commuting will increase. For protection of patients, it is important that students be able to change to uniform and have secure storage space for street clothing and personal effects near the patient area, preferably Powell Hall. The second need is for improved lighting, ventilation, and temperature control in some of the classrooms in Powell Hall. Present provision for such environmental control is inadequate and results in conditions which do not facilitate learning.

There is continuing need for increased numbers of qualified faculty, more adequate secretarial and clerical assistance in order that routine functions now being performed by faculty may be delegated, and for more functional space for offices and conferences in both the School of Nursing and the hospital area.—EDNA L. FRITZ, *director*

School of Public Health

This biennium has seen a number of significant changes within the School of Public Health which now has the largest enrollment of all the accredited schools in this country. For a long time the proper development of the School was handicapped by lack of finances. Fortunately, the Hill-Rhodes Act has

now provided very substantial federal support making possible many new staff positions to meet the increasingly heavy teaching loads and to staff new programs of instruction. The supplementation of these funds by special training funds and recently established research support grants has provided the School with adequate funds for staff expansion. Present difficulties include finding qualified personnel and space in which to accommodate them and the teaching program.

During the biennium there have been several significant developments in expanded or new teaching programs. Foremost among new problems in Environmental Health are those of air pollution, protection from radiation hazards, and institutional sanitation. The School's federal grant for training in air pollution has been continued and expanded. A special training grant in Radiological Health was obtained from the United States Public Health Service making possible the appointment of a staff member and the establishment of special graduate student training stipends. The demand for personnel trained in these two areas will increase rapidly in the next few years, and they will become major components in a comprehensive health program. In collaboration with the Department of Mechanical Engineering, the School of Public Health is also inaugurating a two-year Master's degree program in the Graduate School for special training in hospital engineering. It will combine engineering background and familiarity with the design, construction, and operation of hospitals.

One of the most significant developments of the past biennium has been the Ground Water Course conducted through the Division of Environmental Health at the request of the World Health Organization and the International Cooperation Administration of the United States State Department, a program which in the past four summers has brought 150 students from over 30 different nations to the campus. When this program began in the summer of 1959, the School had anticipated that after one or two summers the demand would disappear. Instead it has grown to the point where the School must be prepared to offer the study an indefinite number of future summers if it is to fulfill the demands for assistance in this important problem.

In Public Health Nursing, attention has shifted to a Master's degree program with a gradual phasing out of the undergraduate program. After consultation with the directors of public health nursing in the various state health departments of this area, it seemed wise to discontinue this undergraduate program and allow the School of Nursing in its reorganized curriculum to provide training for the graduate nurses who are still coming to Minnesota for this type of training. This will not reduce the teaching load of the School as the same instruction will be offered these students, but their registration in the School of Nursing will tie them more closely to students in that school.

With the elimination of the undergraduate nursing registration, the School has assumed a special responsibility for training experienced public health nurses for teaching. A program supported by a special grant from the United States Public Health Service has been set up in the Graduate School leading to a Master of Science degree. The development of collegiate schools of nursing and the incorporation of public health in the basic bachelor's degree program has created a heavy demand for college-level public health nursing instructors. Many nurses who have completed the School's Master of Public Health program in the past decade have found themselves teaching although the program at that time provided no special training for teaching duties. The new program includes such preparation.

The Hospital Administration program continues to grow. Especially notable has been the development of a Ph.D. program which was approved at the beginning of the biennium. It has already attracted a number of applicants for a special training grant from the Kellogg Foundation. The purpose of this program is to develop teachers or research workers in the broad field of hospitals as a component of the total community medical care service. It requires a co-adviser from one of the social science departments.

Equally notable have been the programs of the Biostatistics and Epidemiology Divisions. The former, with a large federal grant, is currently providing an extensive program of graduate instruction and assistance with research throughout the College of Medical Sciences. The latter, also federally aided,

is constantly under pressure to accommodate more students than staff and facilities permit.

Coincidental with the expansion in the teaching program has been a rapid growth in research activities in the School. Those in the Laboratory of Physiological Hygiene have attracted world-wide scientific attention.

The expansion of teaching and research and the present availability of funds for staff positions have created very serious space problems. The School is virtually unable to engage badly needed additions to the staff because of a lack of office and laboratory space. The Laboratory of Physiological Hygiene is still cramped in improvised quarters under the Stadium. The University Health Service has provided some relief through opening a previously unused floor of the new building for jointly-used research laboratories for the Health Service and the School's Environmental Health Division. A federal research construction grant has been obtained for this purpose and will be implemented in the coming biennium. This will relieve one urgent space problem, but others equally as serious remain. The only apparent solution is new space outside of the present quarters in the Mayo Memorial.

The demand on the staff for public service continues to increase. While this is a burden, it represents recognition of the high quality of the staff and is of value to staff and students alike in bringing them into contact with problems in the many areas from which the students come.—GAYLORD W. ANDERSON, *director*

University of Minnesota Hospitals

The University of Minnesota Hospitals was established in 1909 by the Minnesota State Legislature to furnish a means for the University of Minnesota to train students in the multiple fields of medical care. Training is given in the hospitals under the direct supervision and guidance of a competent staff made up of a full-time and a part-time faculty. The staff is responsible to the State through the University for both the instruction of the students and the care of the patients. This arrangement has proved satisfactory not only in the training of students but also as an economical means for the State to care for many of its indigent sick.

The University of Minnesota Hospitals provides many different medical services within its many units and makes available facilities and services which enable the physicians to provide the best possible care consistent with the progress in medical sciences.

University of Minnesota Hospitals Admission Policy

In applying for admission to the Hospitals, the patient must be referred by his family physician or by a physician in his local community. This rule prevents the criticism that the Hospitals and its clinics are taking patients admitted to the Variety Club Heart Hospital or to any other unit of the Hospitals.

Patients are classified according to their ability to pay as County, *Per Diem*, Teaching and Research, Sixty Fund, Sixty-four Fund, Eustis, Rehabilitation, Private, or, in case of the Heart Hospital, the Variety Club of the Northwest Fund. There is no distinction made among the various classes in treatment or privileges.

County patients are those who are totally unable to pay. Their expenses are shared equally by their county and the state. No charge is made for the professional services of the staff. When applying for either outpatient or hospital care, each patient must present county papers containing a medical report by his physician and approval by his county commissioner or his representative.

Per Diem patients are those who cannot afford to pay for the services of both a private physician and a private hospital. When applying for either outpatient or hospital care, these patients must present a note of referral or a special form signed by their family physician and by themselves. They are required to pay their clinic or hospital expenses only, no charge being made

for the professional services of the staff. From the standpoint of money received by the Hospitals, there is no difference between a county patient and a per diem patient.

Teaching and Research Patients are primarily destitute unmarried obstetrical patients who are unable to obtain county papers.

The *Sixty Fund* and the *Sixty-four Fund* are special grants from the State Legislature used to hospitalize indigent psychiatric patients (adults and children) for treatment, teaching and research purposes.

The *Eustis Fund* was set up by William Henry Eustis to care for indigent children under sixteen years of age.

The *Rehabilitation Fund* is provided by the legislature for the use of the Hospitals, through the Department of Rehabilitation and Physical Medicine, to aid in the physical rehabilitation of patients. Referral by a physician is required.

The *Multiple Sclerosis Diagnostic Fund* was provided for each year of the past biennium to assist in financing the multiple sclerosis clinic. Referral by a physician is required.

Private patients, admitted only upon referral from a practicing physician, are utilized in conjunction with the teaching program just as other patients are. They are afforded treatment and privileges comparable to those afforded private patients in any private hospital.

The *Variety Club of the Northwest Fund* is a special annual gift from the Variety Club to assist in the care of patients from communities in the Club area, which includes Minnesota, North Dakota, South Dakota, and parts of Wisconsin, or from any other area indicated by the Club. Patients may be admitted for care on this fund on the usual recommendation of a physician. The Variety Club itself may at times request service for certain patients in which it has a special interest; such care is paid for through this fund. No charge is made for the professional services of the staff—only for clinic or hospital expenses.

University Health Service patients are not considered Hospital patients even though a Hospital intern is assigned to this service. The University Health Service has its hospital infirmary on the fourth floor in the west wing of the University Hospitals but is not a part of the University Hospitals. It is a service institution maintained by the University with a director, staff, and budget of its own. The University Health Service provides outpatient care only.

Inpatient Department

The number of patients admitted during the year 1961-62 was 15,542, and in 1960-61 the number was 15,561. The total number of days of hospital treatment aggregated 227,215 in 1961-62 as against 217,071 in 1960-61, an increase of 10,144 patient days. The average length of stay in the Hospitals was 14.6 days in 1961-62 and 13.9 days in 1960-61. The daily average census was 622.5 in 1961-62 and 594.7 in 1960-61.

A primary reason for the decrease in the number of admissions and the increase in length of stay on the inpatient services, including Psychiatry and Child Psychiatry, is that patients go home for weekends on passes rather than being discharged and readmitted as in previous years.

Surgical operations performed during the year 1961-62 numbered 11,236 as compared with 10,953 during 1960-61.

Deaths in the Hospitals for the year numbered 813. Of this number 106 occurred within 48 hours after admission, 138 occurred in the Heart Hospital and 126 in the Masonic Hospital. Autopsies for the year 1961-62 numbered 665, an overall rate of 84.9 per cent; in 1960-61 the number of autopsies was 717, an overall rate of 83.8 per cent.

Cost of Operation

The overall cost of running the Hospitals was \$41.86 per patient day in 1961-62 and \$39.05 in 1960-61, an increase of \$2.81 per patient day. The cost per outpatient visit was \$9.22 in 1961-62, and in 1960-61 the cost was \$8.38, an increase of \$0.84 per patient visit.

The Outlook

The Hospitals continues to broaden services to the people of the state by providing staff, technical personnel, and equipment to keep in step with the changes and new concepts in patient care. During the coming year construction will be started on the new Children's Rehabilitation Center which will add to the complement of the present Rehabilitation Center. Plans are in preparation for another addition to the Variety Club Heart Hospital to meet the demands for increasing space necessary to provide additional diagnostic and treatment facilities. The Masons of Minnesota have indicated an interest in building two additional floors on the Masonic Memorial Hospital which will be an addition of fifty beds for patient care and research facilities for disease related to the patients that are cared for in this unit. Changes made in the curriculum of the School of Nursing have necessitated many changes in the operations of the teaching program of nursing. Adjustments are being made in the operation of Powell Hall. The program of medical research continues to increase, and the facilities of the Hospitals are taxed to accommodate new programs and to maintain service.

All in all, changes that are being made are for the continued improvement of care of the patient and for the education of the student.

Additional Support

Hospital funds alone cannot provide for all the needs of an institution, including its technical demands and the demands of day-to-day operation. One paramount need of a hospital is public understanding of its aims. To achieve this it needs the assistance of many people in addition to the paid staff—people who are willing to give their time or financial support. The University of Minnesota Hospitals is fortunate in having individuals and groups of individuals who show continued interest and devotion.—RAY M. AMBERG, *director*

TABLE I. COMPARATIVE TWELVE-MONTHS REPORT INPATIENT DEPARTMENT

	1960-61	1961-62
Total patients admitted		
County	3,964	3,865
Pay and per diem	8,557	8,791
Student Health Service	1,259	1,397
Psychiatry	276	183
Psychiatry (pay and per diem)	307	249
Child Psychiatry	89	29
Child Psychiatry (pay, per diem)	47	51
Free	292	260
Eustis	220	183
Variety Club Fund	50	50
Masonic Hospital		
County	217	191
Pay, per diem	283	291
Free		2
Totals	15,561	15,542
Total days hospital care		
County	71,924	70,837
Pay and per diem	86,426	94,064
Student Health Service	4,863	5,842
Psychiatry	13,002	15,855
Psychiatry (pay, per diem)	8,107	7,199
Child Psychiatry	4,315	3,842

COLLEGES AND SCHOOLS

143

TABLE I.—Continued

	1960-61	1961-62
Child Psychiatry (pay, per diem)	1,655	1,496
Free	1,694	1,472
Eustis	2,201	2,038
Variety Club Fund	719	664
Masonic Hospital		
County	13,210	15,293
Pay, per diem	8,612	8,519
Free	56	94
Totals	217,071	227,215
Average days per patient		
County	18.1	17.0
Pay and per diem	10.1	10.7
Student Health Service	3.9	4.2
Psychiatry	47.1	57.0
Psychiatry (pay, per diem)	26.4	28.9
Child Psychiatry	48.5	83.5
Child Psychiatry (pay, per diem)	35.2	29.3
Free	5.8	5.6
Eustis	10.0	9.9
Variety Club Fund	14.4	13.3
Masonic Hospital		
County	32.4	31.9
Pay, per diem	19.8	20.1
Free		18.8
Average length of stay per patient	13.9	14.6
Daily average number of patients		
County	197.1	192.3
Pay and per diem	238.7	257.7
Student Health Service	13.3	16.0
Psychiatry	35.6	43.9
Psychiatry (pay, per diem)	22.2	19.7
Child Psychiatry	11.8	10.5
Child Psychiatry (pay, per diem)	4.5	4.1
Free	4.6	4.0
Eustis	6.0	5.6
Variety Club Fund	2.0	1.8
Masonic Hospital		
County	36.2	41.9
Pay, per diem	23.6	23.7
Rehabilitation .....		.3
Daily average census for hospital	594.7	622.5

TABLE II. COMPARATIVE TWELVE-MONTHS REPORT OUTPATIENT DEPARTMENT

Service	New Patients		Revisits		Totals	
	1960-61	1961-62	1960-61	1961-62	1960-61	1961-62
Medicine						
General	2,616	2,806	5,680	5,462	8,296	8,268
Allergy	20	57	1,205	960	1,225	1,017
Arthritis	95	74	1,050	1,010	1,145	1,084
Cardiac (adult)	209	49	1,793	1,868	2,002	1,917
CMC (Combined Medical Clinic)			6		6	
Chest	47	29	280	251	327	280
Chemotherapy		44		561		605
Diabetic	65	71	934	807	999	878
Gastro-intestinal	5	9	153	134	158	143
Hematology	55	25	779	650	834	675
Metabolism	46	43	532	512	578	555
Dermatology and Syphilology	549	585	2,922	3,317	3,471	3,902
Neurology						
General	400	343	917	785	1,317	1,128
Cerebral Vascular	13	17	67	213	80	230
Convulsive Disorder	3	18	1,060	832	1,063	850
Headache	3		83		86	
Multiple Sclerosis	5	4	475	353	480	357
Muscular Dystrophy			51		51	
Parkinson			210		210	
Psychiatry	381	417	4,482	4,682	4,863	5,099

TABLE II.—Continued

Service	New Patients		Revisits		Totals	
	1960-61	1961-62	1960-61	1961-62	1960-61	1961-62
Surgery						
General	524	423	2,908	2,172	3,432	2,595
Plastic	50	37	275	293	325	330
Proctology	369	274	950	908	1,319	1,182
Orthopedic	391	411	2,313	2,386	2,704	2,797
Amputation		5	6	32	6	37
Urology	334	318	1,356	1,225	1,690	1,543
Urology—Tumor	8	1	157	108	165	109
Neurosurgery	126	136	600	658	726	794
Eye						
General	650	864	6,913	6,739	7,563	7,603
Orthoptic		5		641		646
Squint			236	354	236	354
Ear, Nose and Throat						
Audiology	483	502	3,636	2,898	4,119	3,400
	663	724	744	844	1,407	1,568
Gynecology						
General	355	335	1,037	1,018	1,392	1,353
Gynecology Tumor	87	85	1,451	1,422	1,538	1,507
Gynecology Proctology	1		49		50	
Obstetrics	470	521	3,374	3,788	3,844	4,309

TABLE III. DIVISIONAL ADMISSIONS

Service	Admis- sions	1960-61 Total Patient Days	Average Stay (Days)	Admis- sions	1961-62 Total Patient Days	Average Stay (Days)
Psychopathic Department						
Psychopathic Department	583	21,109	36.2	432	23,085	45.8
Child Psychiatry	136	5,970	43.9	136	5,307	56.5
Variety Club Heart Hospital	1,610	21,483	13.0	1,713	22,880	14.0
Masonic Memorial Hospital	906	21,878	21.9	899	23,906	26.5

TABLE IV. SPECIAL SERVICES

Service	1960-61	1961-62
Outpatient Department		
New patients	19,088	19,910
Total patient visits	121,830	124,940
X-ray Department		
Procedures	71,409	73,346
Department of X-ray Therapy		
Deep Therapy Treatments	19,326	16,763
Cobalt Machine Treatments	13,962	13,417
Superficial Treatments	581	973
Hospital Laboratories		
Determinations	745,349	688,897
Pharmacy		
Prescriptions	269,283	285,902
Rehabilitation Center		
Patients	3,889	4,084
Patient Visits	55,912	62,850

SCHOOL OF DENTISTRY

Building Changes—Approximately 10 years ago, a study was made of the future building needs for supplying an adequate number of dentists for Minnesota and the adjoining states to the west where there are no dental teaching facilities. A forecast of the size of dental classes in years to come

was also made. It was thought that by the year 1970, approximately 150 students should be entered in the Dental School to supply the dental needs for Minnesota with some assistance for North and South Dakota.

A great deal of the space in Owre Hall was then occupied by other schools and because the entire building was designed for three classes of 80 dental students, the space was inadequate for any expansion of the student body. In the meantime, the dental course had increased from three to four years, and there was pressure to increase immediately the number of students being admitted to 100.

By returning the space in Owre Hall to dentistry and by consolidating certain teaching aspects, it was possible to increase the entering class to 100 students. The freshman and sophomore laboratories were consolidated, and both classes used the same space. To do this many of the basic science courses were rearranged so that both classes could dovetail technical courses into the same laboratory. The result, however, was an inflexible curriculum, parts of which were undesirable. Furthermore, there was no latitude for educational experimentation. The solution was to allocate space planned for the addition between Owre and Jackson Halls to dental purposes. During the last biennium, the Owre-Jackson addition has been completed.

Four floors were planned for Dentistry, but only three were assigned to it. One of the floors has been devoted to a sophomore laboratory, eliminating many of the objections noted above. Each of the class laboratory periods may now be planned without interfering with another, which allows a better progression of courses in the basic science areas.

New space on the first floor has been devoted to two important teaching projects in dentistry. One is the x-ray taking and teaching activities of dental students and dental patients, and the other is a special 20-chair clinic which is intended to be used for research purposes and an integration clinic for the sophomore dental students. With adequate laboratory facilities for freshmen and sophomore students, it will be possible for them to proceed at a pace consistent with their individual abilities. Some will complete their technical work before others, and these students may start projects in this new clinic. Until now, there has been no space for such work. This also provides an opportunity to recognize the outstanding student.

Furthermore, there are many experiments that need to be conducted in an isolated clinic. It has been difficult to experiment in the large clinic, but the smaller clinic will provide a very adequate facility.

A large grant has been secured from the Public Health Department to provide every two students working in this new clinic with the services of a trained dental assistant to familiarize the student with the use and advantages of an assistant working at the chair with him.

Each chair in the new clinic is provided with high-speed cutting facilities and a rotating stool. Experiments have shown that working under such circumstances can increase the amount of patient work by 60 to 200 per cent. The developing severe shortage of dentists due to the disproportionate rate of increase in general population and the increase in dental population necessitates resorting to every possible means to improve efficiency.

The new x-ray facilities are a vast improvement over the old, and have resulted in better teaching and wider use of x-ray facilities. The x-ray facilities and the Oral Diagnosis division are now adjacent because they function so closely together. The new facilities in Oral Diagnosis provide more units for patient examination, a better waiting room, and increased efficiency of operation.

The original plans for changes in the Jackson-Owre addition called for space for Dental School continuation and postgraduate courses. This area was instead assigned to the Medical School. Thus, the Dental School still lacks space for this important work. What continuation and postgraduate courses as are now offered must be at lecture level when space can be found or during vacation periods when undergraduate students are not using the clinical facilities. This is entirely unsatisfactory, and a most important aspect of professional training is neglected at this school. A dental school's responsibility centers about undergraduate teaching, postgraduate teaching, and graduate teaching. It is most unfortunate that one of the leading dental schools in this country

has no space to provide continuation level teaching for its alumni and for the dental residents in this state and adjoining states.

The third floor of the addition has been divided so that 40 additional chairs are supplied for the junior and senior dental students' teaching needs making it possible for every student who needs a dental chair for a patient appointment to have one.

A reading room within the confines of the Dental School where students may study or check dental literature during free moments has also been provided. Frequently, time is available when an operation is completed in less than the time anticipated or when a patient breaks an appointment. Rarely, however, are such periods long enough to permit travel to the Walter Library, and a reading room with current literature and reference textbooks is a "must" in a progressive dental school. The new reading room is bright and pleasant, and is competently supervised. Some reference materials have been purchased but most have been donated.

After Oral Diagnosis was moved to the first floor, the vacated second floor space was added to the Oral Surgery space, improving and increasing its space.

The dental hygiene laboratory was moved to the third floor of Millard Hall to provide the new Oral Diagnosis site. The Millard Hall facility is somewhat larger and could accommodate more dental hygienists if additional locker space were available.

Inadequate locker and basic medical science laboratory space prohibit any increase in enrollment. The dental class is now 110 with the dental hygiene class at 60, but present facilities will accommodate no more. A new building for the Dental School would allow a dental class of 150 and a dental hygiene class of 75. It would also provide reorganization of the basic science laboratories allowing them to accommodate larger medical and dental classes in addition to increasing urgently needed research facilities.

Additional changes which have been made on the third floor of Owre Hall in the clinic area have improved the facilities for surgical procedures in Periodontics and Endodontics. Formerly, these procedures were conducted in the main clinic under circumstances which were unsatisfactory for surgical procedures. On the whole, the facilities for 110 entering dental students and 60 dental hygienists together with approximately 25 graduate students are, at the present time, quite adequate, but do not provide for expansion to meet a rapidly growing population. It is estimated by the United States Public Health Service that within the next 10 years the population-dentist ratio problem in Minnesota will have changed from a 1500 to 1 dentist-population ratio to a 3400 to 1 population-dentist ratio. This will place great pressure for more service from the existing number of dentists and for more dentists.

Dental Assisting Program—There are several ways to correct the acute shortage of dentists in Minnesota. The most satisfactory method would be to produce more dentists, but with present facilities, it is not possible to produce any more dentists than are now produced. The other method would be to improve the efficiency of the dentists now practicing and insure that those who are graduating understand how to better utilize all auxiliary help.

Auxiliary help is divided into three general groups. First is the dental laboratory where a technician does much of the work that a dentist might do in his office. Many offices with two or more dentists employ a technician giving them more time to spend at the chair. To teach undergraduate students how to use the technician, much of the work that the students used to do is now sent to the dental laboratory with a prescription. Also a number of technicians are employed in the School of Dentistry where they conduct many of the procedures that the students would otherwise do.

A second auxiliary aid is the dental hygienist who works under the direction and supervision of the dentist, cleaning teeth and doing other chores about the dental office.

The third auxiliary aid is the dental assistant. This person works at the chair with the dentist, anticipating his needs and handing him instruments and materials, making it a four-handed rather than two-handed operation. She also does other things about the office such as preparation of the patient, sterilization of instruments, answering the telephone, bookkeeping, and other

tasks about the office, thus allowing the dentist to spend more time at the chair.

During the past biennium, a request to the United States Public Health Service to expand the assistant program was approved. In the special clinic where students use this auxiliary personnel, there will be one dental assistant for each two students. This program and the program for undergraduate dental assistants, was the first in the United States, and only one other school has a similar program.

Securing Teachers—Obtaining good teachers is one of the most frustrating problems in the administration of a dental school. In years past, most dental teachers were recruited from the ranks of those who had graduated but had not gone beyond that for teaching or research training. Many such teachers are still available, but they are not familiar with the methods of research or teaching both of which are just as complicated as the problems of dentistry.

Fifteen years ago a program of teacher training leading to a Master of Science in dentistry was established anticipating that this would provide adequate teacher and research training for future needs. However, the program turned out many excellent specialists in dental problems, but it did not turn out research workers. This was still a big step forward, and one which not many dental schools have taken as yet. In most instances, dental teachers are still recruited from the ranks of those who have completed dental training only. To correct this situation, cooperation with the Graduate School and with the basic science departments in the Medical School has resulted in a new program leading to the Ph.D. degree. The major in this program is in the basic science area and the minor is in some branch of dentistry. It is a long and arduous program and has now been running for about five years. So far, only one person has been graduated and eight have dropped out. However, two men will receive the Ph.D. this autumn, and several others are still in training.

We have always had a Ph.D. program, but this has been a Ph.D. with major and minor in a basic science. Almost invariably the people who go into this program lose interest in dentistry. It is obvious that the number of people available for top-ranking teaching and research positions in dentistry are very scarce at any price.

The teacher training program is possible only because of a grant from the United States Public Health Service. The amount of the grant has been a little over \$37,000 per year and the salaries of the students have been based on the post-doctoral stipend for grants for the United States Public Health Service. While in training a candidate can receive between \$6,000 and \$7,500 per year. These stipends are tax-free and include supplies, equipment, tuition and travel. Despite this excellent attraction for continuing one's education, it has been difficult to recruit students because of the higher returns in private practice. The problem of competing with income from private practice is becoming more and more acute as the years go by. Since the salaries of full-time faculty members in dentistry compare so poorly with private practice returns, one must glean persons whose goals in life will be satisfied by teaching and research at the expense of more security and more money.

General Research Support Grant—Research activities are dependent almost entirely on grants from outside sources. In the last biennium a very significant grant from the Louis W. and Maud Hill Family Foundation established a professorship in basic dental research. During this biennium, the most significant development in the progress of the research program has been a research support grant provided by the United States Public Health Service known as General Research Support Grant. The amount of the grant will be a little over \$37,000 per year, but may be improved by other grants secured outside the United States Public Health Service. The grant is to be used specifically for research activities such as the employment of personnel, either academic or non-academic, so long as their activities will be devoted to research. It may be used for the employment of undergraduate students for research activities in the Dental School, and it is interesting to note that during the first year approximately 20 undergraduate students were awarded summer school scholarships to try their hand in a research project directed

by the faculty. Such funds may not be used for any building changes or construction purposes, but may be used for the purchase of supplies and equipment.

One of the great needs in dentistry is a closer working relationship with the basic sciences in the Medical School, and a promising plan involves an active research program in the Dental School in each medical science area so that a closer correlation may come between the two professions by this means.

A very large proportion of the first General Research Support Grant has been given to the establishment of a microbiology laboratory. Relationships in dentistry and bacteriology have not been strong, and this move will strengthen them. The relationship between bacteria and the many phases of dentistry including particularly those of the causes of decay and periodontal problems is obvious.

The establishment of a microbiology laboratory in the Dental School with these funds is, therefore, a very great step forward. The laboratory is already a going concern with two full-time employees and several part-time employees, all as a result of obtaining the General Research Support Grant from the United States Public Health Service.

Student-Teacher Ratio—During the biennium, the University published material for legislative use regarding student-faculty ratios in which budgetary principles were related. In these publications the University based its need for teachers on the basis of the ratio needed for undergraduate and pre-professional (19 to 1); technical and professional, in which dentistry is included (12.7 to 1); and medicine, veterinary medicine, and graduate school (6.3 to 1).

It would appear that the University regards it more important to have adequate teachers for the teaching in the College of Veterinary Medicine than in the School of Dentistry. This is most regrettable since it seems that if anything, the elbow-to-elbow teaching required where humans are involved is more important than it is where other mammals and animals are concerned. It is probable that dentistry has not pleaded its cause adequately and has attempted to turn out more dentists than the faculty is capable of handling simply because society is so desperately in need of more dentists and the University is not inclined to provide adequate faculty for such large numbers of students.

Why dentistry should be discriminated against in view of its apparent understanding in medicine, veterinary medicine and the graduate school is beyond comprehension. The student-faculty ratio of the Dental School has been challenged by the Council on Dental Education of the American Dental Association. There are few, if any, schools in the country trying to do so much with such a small faculty. Only the integrity, loyalty and just plain hard work of the faculty makes it possible for this school to maintain such a high place in regard to reputation among schools.

It would seem that the University must do something to improve the student-teacher ratio from approximately 13 to 1 to one which is closer to 6 to 1. Most certainly if the Dental School is expected to take its place in problems relating to research of dental origin, in research in teaching and in maintaining its position as an integral part of a great University, then one of two things must be done. The student enrollment must be decreased or the faculty strength increased. In light of the present shortage of dentists, the first of these would hardly be a satisfactory choice. The average age of dentists in the state two years ago was 58 years. The 1962 directory of dentists in the United States shows that over 460 dentists out of 2400 registered in Minnesota are over 68 years of age. The number graduated with the present enrollment falls far below that needed to maintain the present ratio in the state. The need is to increase the number of students rather than decrease it. The problem of increasing faculty numbers is complicated by the shortage of available teachers and the funds to attract them.

Visit of the Council on Dental Education—During the biennium the Council on Dental Education of the American Dental Association visited the Dental School on its accreditation program for both the School of Dentistry

and the School of Dental Hygiene. The Council spent three days examining the school and visiting with the various members of the faculty.

The report from the Council gave the School of Dentistry full accreditation, but it also included certain objections. They will return to see if causes of these objections have been corrected. Primarily, the objections were against the methods used in teaching some of the basic science courses to the dental students. These problems have been solved and when the Council returns they should find the program in satisfactory order. They were also disturbed by the antiquated equipment in the school. Although some of the equipment they criticized was in good working order, it was old. For example, the lab benches in the freshman lab are probably 50 years old, but they are still serviceable.

The Dental Hygiene Program was given only tentative approval because the Council felt the faculty for this program was not large enough for the number of students. They may have failed to recognize that a large portion of this program is given in the Arts College. In this respect it differs from many other dental hygiene schools where the entire program is given in the school of dentistry. The correction of the causes of their objections will be possible only with additional funds.—W. H. CRAWFORD, *dean*

LAW SCHOOL

Student Body—The Law School enrollment increased substantially during the biennium. From a 1959-60 enrollment of 272, the total enrollment rose to 327 in 1961-62, due to a much larger first-year class. Enrollment in the fall of 1962-63 is expected to rise to well over 400, when the largest first-year class joins the largest second and third year classes since the post-war bulge of veterans.

The increase in the size of entering classes, from 98 in 1959-60 to 148 in 1960-61 and 165 in 1961-62, was accompanied by an even more striking increase in the quality of entering students. The 1960-61 entering class had 3½ as many students with B averages in college than did the class in the preceding year, and over twice as many students in the top 10% of the national Law School Admission Test. The 1961-62 class was of equal quality, and the 1962-63 class promises to be substantially stronger in quality as well as in numbers.

This improvement in quality was due to increased entrance requirements that screened out those with no reasonable prospect for success in law studies, and to an intensive recruiting campaign by the dean, assistant dean, and members of the faculty, designed to attract high quality students to the Law School. The campaign to attract superior students to law study was backed up by a drive for greatly increased scholarship funds to be used for promising students with financial need. Law firms, individual lawyers, and corporations have established annual scholarships sufficient, with the other funds available, to provide 63 scholarships in 1961-62. Of these 30 were awarded to promising first-year students. By contrast only 38 could be awarded in 1959-60 with 21 for first-year students.

While the scholarship drive and top-student recruiting efforts were highly successful, substantial increases in financial aids for students are essential for the immediate future. Much larger and better entering classes require more scholarship and loan funds, especially as these classes become second-year and senior classes. Up to now the revolving loan funds have been sufficient to meet the critical needs of the students. These funds have been available to all successful students with financial need, and were not limited to the high-ranking students. But existing loan funds are insufficient for the needs of an enlarged student body and available funds will all be loaned out very soon before repayments reach sufficient volume to meet the needs. It is essential that additional sources for this form of financial assistance be located quickly.

Instructional Developments—Within the limits of its resources, the Law School has continued its efforts to provide the students with as much individualized and small-group instruction as possible. Individual instruction for first-year students in legal research and writing taught by recent Law Review officer graduates, now in practice, has proved highly successful and the con-

cept is now being extended into the second year. Next year, second-year students will take a course in Appellate Advocacy, taught by an experienced appellate advocate. He will be assisted by several young practicing lawyers, recently Law Review officers, who will provide individual training and critique to students who will prepare appellate briefs and make oral arguments on appeal. For the senior class, the requirement of one seminar, which insures for each senior at least one course taught on an individualized basis to a small group, has been supplemented by requiring each senior to complete a substantial senior research paper under the supervision of a faculty member.

Faculty Salaries and Needs—Continued improvement in faculty salaries is essential to enable the Law School to secure and to keep a high quality faculty. Some progress was made in this direction during the biennium, but more progress was made by a number of schools that repeatedly seek to recruit their faculty from ours, so that we are constantly under the threat of a faculty raid. The Law School must be in a financial position to keep young faculty members beyond the point when they have just become experienced teachers and productive scholars. If higher salaries elsewhere can lure these developing scholars away, just when they are becoming most valuable, the students will be repeatedly deprived of their best teachers and the state of its best legal scholars. The University of Minnesota Law School could soon acquire the reputation for being the "farm school" or training ground for the schools with greater resources.

Future Needs—The Law School is already experiencing a boom in student enrollment, which will substantially double the enrollment between 1959 and 1964, far above the usual increase in higher education for those years. Substantial expansion of the faculty will therefore be required during the next biennium to continue effective training for a student body of such proportions. This emphasizes the great importance of salaries that will enable the school to retain all the present faculty.

All indications are that this increasing student body is destined to continue to grow substantially. In order to meet this student demand for legal education, and to provide the well-trained lawyers needed by employers, a major addition to the Law School building, or a new Law Building will be necessary in the near future.—WILLIAM B. LOCKHART, *dean*

COLLEGE OF PHARMACY

Undergraduate Enrollment—Enrollments in the classes graduating in 1962 (32 students) and 1963 (34 students) were low as a result of a change from the four year curriculum for the B.S. in Pharm. degree to the five year curriculum at a time when most colleges of pharmacy were still admitting students to a four-year curriculum. Although the five-year curriculum was not initiated in most colleges until 1960, the class admitted to the University of Minnesota College of Pharmacy in 1959 was larger than expected and is represented by the 45 students now enrolled in the class of 1964. The class of 1965 consisted of 68 students at the end of the spring quarter, 1962. Fall quarter, 1962, enrollment in this class will be greater because of admission of students who completed most of the work of the first two years of the curriculum in their preprofessional training. The average fall quarter enrollments for the biennium exceeded those of the previous biennium by 34 per cent.

Year	Summer Session		Fall	Winter	Spring
	I	II			
1960-61	25	23	163	164	154
1961-62	26	31	189	173	178

Graduate Enrollment—Graduate enrollments during the biennium increased 52 per cent. Approximately twice as many graduate students (33) were enrolled as majors in the departments of pharmaceutical technology, pharmaceutical (medicinal) chemistry, and pharmacology in 1961-62 as in 1958-59. No students majoring in pharmacognosy were enrolled during the biennium.

At least one student is expected to begin work leading to an advanced degree in pharmacognosy in the fall quarter, 1962.

The graduate program has benefited considerably by the move of the College from Wulling Hall to Appleby Hall with the increase in graduate research facilities and the enlargement of the faculty.

The distribution of graduate students according to their major field is given in the following:

Year	Pharmaceutical Technology	Pharmaceutical Chemistry	Pharmacognosy	Pharmacology
1960-61	4	17	0	6
1961-62	10	17	0	6

Degrees Conferred—

Year	B.S. in Pharm.	M.S.	Ph.D.
1960-61	34	1	2
1961-62	31	2	1

Curriculum—Major changes were made in the integration of the courses in the five-year undergraduate curriculum with two principal objectives governing the faculty's action. The elementary course in organic chemistry, OrCh 61-62, was shifted from the third to the second year of the five-year program. Training in organic chemistry is required for many of the courses offered by the College and especially by the courses in pharmacognosy, Phcg 1-2-3, that are given in the third year. The syllabi of the pharmacognosy courses have been thoroughly revised and organic chemistry is now an essential prerequisite.

Other changes were made in order to provide the students with fundamental courses in pharmaceutical technology early in their program before they have completed a substantial part of the internship stipulated by the Minnesota State Board of Pharmacy as one of the requirements for licensure as a Registered Pharmacist.

The undergraduate and graduate coursework offered by the Department of Pharmacognosy has been extensively revised. The syllabi of existing courses have been changed to give proper emphasis to modern concepts of instruction in this field and to include new areas related to the natural sources of medicinal agents. Three new courses in Radionuclides have been added as this is considered by the faculty to be a very important part of the training of the Pharmacy student for his future role in the public health services required by his community. The College has been assisted by the Atomic Energy Commission in its efforts to provide this type of training for its students.

With the enlargement of its staff and the addition of new courses, the Department of Pharmaceutical Technology now offers a complete program for the training of hospital pharmacists at both the undergraduate and graduate levels. The necessary curricular changes have been made in recognition of the rapidly growing demand for graduates trained in hospital pharmacy.

Physical Plant—The College occupied its new quarters in Appleby Hall during the early part of 1961. The new quarters provide a number of facilities—adequate office and laboratory space for faculty, separate research facilities for graduate students, manufacturing pharmacy laboratory, animal quarters, radioisotopes laboratory, instrumental analysis laboratory—that have been urgently needed. The classroom, laboratory, library, and ancillary facilities that were formerly available to the College in Wulling Hall are represented by modern, more spacious facilities in Appleby Hall. Concurrently with the move to new quarters, a large number of equipment items, essential in the College's research and instruction activities, were procured and installed in space that would not have been available in Wulling Hall. The College's increased capacity for research endeavors in the new quarters is reflected by the United States Public Health Service grants and a grant from the Atomic Energy Commission that have been received since the move.

Some of the areas in the new quarters were left unfurnished because of limitations in the remodeling budget. Certain of these have been put into

service by use of temporary furnishings. Others should be furnished as soon as possible, viz., the sterile products room in the manufacturing pharmacy laboratory and a high pressure laboratory in the penthouse. Steps are now being taken to complete laboratory facilities that were only partially furnished during the remodeling or furnished only temporarily. With the help of alumni, funds have been obtained and plans have been drawn for further remodeling of the College's Conference Room.

The College's present physical plant when completed will be reasonably adequate for current undergraduate enrollments and will accommodate some additional students as undergraduate enrollments continue to increase. The College is at a great disadvantage, however, in having inadequate facilities for the growing number of graduate students and the expanding research activities of the faculty. Some temporary relief will be provided by a small laboratory now being completed in the basement of Wulling Hall adjacent to the College's present greenhouse. A more satisfactory solution to the problem will be realized when the University's plans for a new wing on the north end of Appleby Hall and a new greenhouse (and headhouse) on the St. Paul campus are implemented. Although the additional space is needed for present enrollments and research activities, and the need will continue to grow as these continue to increase, the prospect of the new wing and the greenhouse is most encouraging.

Library—The collection of books and periodicals is increasing in an orderly manner through the efforts of the College Library Committee and with the cooperation of the University Library. Particular attention has been given to the drug information sources that are required in answering the many inquiries received by the faculty concerning pharmaceutical products.

Lack of funds and personnel has hampered a project involving the documentation of information on new drugs. This project is fully justified by its potential benefit in the instruction, research, and service function of the College. Hopefully, plans for the project can be implemented during the coming biennium.

Scholarships and Fellowships—The College's program for aiding students financially has prospered during the biennium with help of the Bureau of Student Loans and Scholarships. Generous support was received from the Minnesota State Pharmaceutical Association, the Association's Women's Auxiliary, the American Foundation for Pharmaceutical Education, Mando Photo Company, Northwestern Drug Company, Twin City Wholesale Drug Company, and community pharmacists of the state. Seventy-five scholarships amounting to \$17,600 were awarded as compared to forty-nine scholarships (\$11,700) in the preceding biennium. Students in the College also received scholarships from Walgreen Drug Stores and Lever Brothers Company.

During the biennium, eighteen one-year fellowships totalling \$25,250 were awarded to graduate students in the College of Pharmacy as compared to eleven awards (\$16,425) in the 1958-1960 biennium.

Continuation Study—The Twenty-second Continuation Study Course in Pharmacy was sponsored by the College and the Center for Continuation Study in 1961. It was attended by sixty registrants. The Samuel W. Melendy Memorial Lecture was given on this occasion by Dr. William S. Apple, Executive Secretary, American Pharmaceutical Association.

Minnesota State Board of Pharmacy—The Board conducted four examinations for licensure of Registered Pharmacists during the biennium. The record of the graduates of the College is summarized below.

Date of Examination	Passed	Failed
July, 1960	17	0
January, 1961	3	0
July, 1961	15	1
January, 1962	15	0

Staff Services—The faculty of the College of Pharmacy provides many services to the pharmacy profession and the pharmaceutical industry. They

interpret prescriptions written in a foreign language and grossly abbreviated; give consultation on the identity, use, and availability of drug products many of which have been recently introduced in the United States or a foreign country; provide cooperation in the development of new pharmaceuticals and the solution of problems of stability and compatibility. Several members of the faculty serve as consultants for the pharmaceutical industry, and the faculty is frequently invited to present lectures on various aspects of pharmacy to professional and civic organizations.—GEORGE P. HAGER, *dean*

COLLEGE OF EDUCATION

The report for the College of Education does not attempt to give, in the short space available, a complete account of the progress of the College in research, instruction, and service. Instead, it includes comments about special activities and discussion of problems in selected areas of the program.

Research Projects and Grants—Faculty members throughout the College have been active in studying educational problems during the biennium. Research has been completed or undertaken in several large areas of study aided by grants from sources outside the University.

Two large new grants were received: (1) \$250,000 from Project English, United States Office of Education Cooperative Research Department, providing five-year support for an English teaching and curriculum center; and (2) \$289,560 from the National Institute of Mental Health, covering a five-year development of training programs and research on the teaching of emotionally disturbed and socially maladjusted children.

Research by the staff of the Student Personnel Office and the Student Teaching Department, financed largely by United States Office of Education grants, has been directed toward improving the selection and education of prospective teachers. In 1961-62, the final report was completed for a major project entitled *A Study of the Relationship Between the Observed Classroom Behaviors of Elementary Student Teachers, Predictors of Those Behaviors, and Ratings by Supervisors*. Minnesota studies of student personnel work in teacher education were reported in December, 1960, at a special Teacher Education Research Institute organized by the Student Personnel Office. The conference, sponsored by the Committee on Interinstitutional Cooperation, to stimulate cooperative research in teacher education was attended by representatives of the Big Ten universities and the University of Chicago.

Studies in the Bureau of Educational Research on the identification of the unusually creative individual and the optimum environment for his development attracted interest and cooperation throughout the nation and in at least fifteen foreign countries. In 1961-62 alone, the Bureau published over 40 items based on its research. Many of the 3,000 requests which the Bureau of Educational Research received annually for its materials and reports related to the creativity studies.

In cooperation with the State Department of Welfare and the Minnesota Association for Retarded Children, a laboratory for research on psychoeducational processes of retarded children was established at the Cambridge State School and Hospital.

The biennium was spanned by the three-year research project in University High School on closed circuit television in teacher education. In addition to evaluative studies, University High School produced nearly 100 kinescopes of televised teaching demonstrations for future use in educating teachers. Two forms of a *Film Test of Teacher Perception* were developed and validated.

Agricultural Education conducted studies, partially supported by grants from the United States Office of Education, on using electronic equipment in farm business analysis for teaching, multiple-teacher vocational agriculture departments, and linear programming in adult education in farm management and farm business reorganization.

Field Studies and Surveys—The Bureau of Field Studies and Surveys completed 28 survey reports during the biennium. In 1960-61, thirteen survey projects were completed, for Baudette, Cannon Falls, Cromwell, Floodwood, Glasgow (Montana), Hill City, McGrath, McGregor, Mitchell (South Dakota), Morris, Northfield, St. Cloud, and Wahpeton (North Dakota). The fifteen school systems studies in 1961-62 were located at Austin, Bloomington, Breitung Township (Michigan), Chaska, Farmington, Fosston, Glencoe, Iron Mountain (Michigan), Mahtomedi, Mitchell (South Dakota), Mounds View, Osseo, St. Paul, Thief River Falls, and White Bear Lake. These surveys during the biennium brought to 225 the total completed by the Bureau since it was organized in 1948-49. A special study on heating and ventilation of school buildings, *School Thermal Environment*, financed under a grant from the Johnson Service Company, was also completed in 1961-62.

The Bureau continued its support of the Minneapolis Area Study Council. Since 1960, the Council has grown in the number of member school districts and in the impact which it has on educational practice. Five major reports were distributed throughout the state.

Instruction, Curriculum, and Advising—Figures on degrees awarded in the decade 1948-59, a pattern which has continued, indicate the extent of instruction and advising in the College of Education. Of the total number of bachelor's degrees awarded by the University in that decade, 15 per cent were received by College of Education students; and in the Graduate School, 27 per cent of the M.A.'s and 10 per cent of the Ph.D.'s were awarded to persons majoring in education areas.

In spite of heavy loads of instruction, research, and service, faculty members during this biennium gave much time to discussing, evaluating, and planning curriculums and advisory work. In the winter of 1961, a half-day faculty conference was held with committees continuing the study of questions raised. The Curriculum Committee was reorganized in the winter of 1962, to include chairmen of the departments and instructional divisions of the college, in order to emphasize policy discussions rather than course-by-course considerations.

Undergraduate program changes included in the division of the music education major into two broad areas, instrumental music and vocal-choral music; addition of an academic minor for bachelor's degree students in elementary education; revision of student teaching requirements in several areas; and establishment of a minor in agricultural education for students entering related occupations.

The Scholastic Standing Committee reviewed over 1,000 undergraduate petitions for individual program adjustments particularly needed by transfer students.

The College Student Personnel Office, responsible for selective admission and the coordination of faculty advising of undergraduate students, had over 12,000 contacts with students and prospective students during the biennium.

The problems of providing adequate advisory services for students remained acute, especially in elementary education, which enrolled over 1100 each year. Limited help was provided through the addition of a few teaching assistants, but at the end of the biennium, each elementary education faculty member still was responsible for approximately 100 advisees in the undergraduate program in addition to many graduate students.

Starting with the fall of 1961, a full year's work in SLA was required for students in elementary education before their admission to the academic and professional courses of the last three years of the program under the College of Education. At the end of the year, it appeared that roughly a third of those registered as SLA freshmen in elementary education would meet the requirements for the sophomore year in the College of Education (a general "C" average plus a "C" in specified academic courses). This change was approved by the faculty as one part of a general attempt to identify as early as possible those students most likely to graduate and become excellent teachers.

At the graduate level, additional two-year programs leading to the Specialist Certificate were approved for the training of supervisors and administrators of special education programs (the handicapped and gifted), and for

administrators of intermediate (regional school) units. The program for teachers and research workers in educating the deaf was completed. Programs in counselor education, child development, and history and philosophy of education were expanded, the last of these being developed through the addition of a faculty member holding joint appointment in the SLA History Department and in History and Philosophy of Education.

In 1961-62, the first year-long Institute in Counselor Education was conducted under funds provided by the National Defense Education Act. In 1960-61, two counseling institutes were held, each for a half-year, in addition to summer institutes in both years of the biennium. These were among the six counseling institutes which the University has completed since 1959, fully financed by grants amounting to more than \$800,000 from NDEA funds and preparing a total of 191 graduate students for high school counseling. In addition to the students in the institutes, an average of 35 M.A. degree candidates and 5 Ph.D. students are graduated each year in the counseling area. The practicum, required for certified counselors in Minnesota schools, has been facilitated this year by the remodeling of the counseling offices in University High School and the installation of two-way vision viewing rooms.

Rapid expansion of graduate enrollment and changing patterns of need will produce problems of instruction and advising in the years immediately ahead. Schools are recognizing the value of special services of all kinds, and consequently many departments in the College are already feeling unusual increases in demand. Programs such as those in school psychology, special education, and counselor education will bring problems of long-range funding as they expand still further. Disparate demand, as compared with previous patterns of graduate study may be expected to appear also in advanced work in school administration, doctoral programs for teachers and administrators in teacher-education institutions, directors and supervisors of student teaching, and educational research workers.

Coordination of the University's advanced-level programs for teachers and school specialists with those of the Minnesota State Colleges was improved through a series of conferences. Representatives of the State Colleges, the University of Minnesota at Duluth, the College of Education, and the Graduate School held several day-long meetings.

Placement of Graduates—The Bureau of Recommendations receives each year approximately 25,000 requests for teachers and other school workers. The demand is far out of proportion to the supply, but the Bureau of Recommendations makes every effort to place each graduate in the best position for his future service.

Instructors' Salaries—The College continues to have difficulty in staffing its demonstration schools, and a considerable portion of student teaching supervision and undergraduate instruction is carried by temporary instructors. Even with some improvement in salary level at University High School, for example, there is a lag behind the rising salary levels in the local area schools, where teachers may also hold positions while pursuing graduate studies at the University. The large turnover of staff in the demonstration schools provides constant problems relating to the strength of the undergraduate training of teachers and the graduate program of research. Funds are badly needed for increasing salary items for all these temporary staff members in order to attract persons of high ability. The College of Education presently does not compare well with related divisions of the University in salaries for instructors.

Space Developments and Requirements—An outstanding event of the biennium was the opening of a library for College of Education students and faculty on the second floor of Walter Library. The new library facility, needed for many years, has already shown its worth through the improved availability of books and materials for the many undergraduate and graduate students of the College.

Other space improvements during the biennium included completion of the language laboratory in University High School; remodeling of Shevlin Hall to provide cafeteria space for University High School; and completion

of Wulling Hall remodeling for the program of the Art Education Department. Although all of these improvements have increased efficiency, even in these departments, there are additional space needs. Art Education still needs a craft workshop, an exhibition area, and work space for students. University High School shortages include adequate space for music, art, theater arts, speech, auditorium and recreational activities, and storage.

Most of the other acute problems in regard to space and facilities have been reported before. In the most critical area, elementary and special education, a new facility has been planned and requested. Also needed badly are a building for Trade and Industrial Education, now housed in completely inadequate quarters in a temporary building; a new facility to replace Norris Gymnasium for Women, built in 1914 and now outmoded and outgrown; expanded space for research bureaus and for the training of research workers, including statistics laboratory space; and additional office space for faculty and advisers.

Realignment of Departments—Several previous reports have included discussion of the need to departmentalize the large division called "General Education," listed with the Dean of the College as the "departmental" chairman. This problem still exists although progress was made in 1961-62 through establishing a separate department of Special Education, previously under the General Education division. As funds become available, the reorganization must be completed by adding staff to provide chairmen of Elementary Education, Secondary Education, Higher Education, Business and Distributive Education, Educational Psychology, History and Philosophy of Education, and Educational Administration. The present combination of all these fields under the budget for "General Education" is a structure appropriate for a small college, not for a major university division with complex responsibilities at both undergraduate and graduate levels. Currently, faculty members who otherwise carry full loads are serving as sub-chairmen for "faculty groups" in the areas named under the Dean of the College.—WALTER W. COOK, *dean*

Department of Physical Education for Women

A concerted effort was made to determine the interests of college women relative to physical fitness and to provide the type and quality of instruction designed to improve their fitness. A follow-up study on the "Experience, Interests, and Needs of University Freshmen Women in Physical Education Activities" was also completed.

Major emphasis was placed on the study of the four year undergraduate program in physical education as a means of placing increased emphasis on the "general education" of the student; providing greater diversity and flexibility in the program as a means of better meeting individual differences; raising standards of performance and teaching competency of the professional student. In addition, an orientation program for new students was established for the purpose of assisting them in better understanding their major field of specialization and in helping them to intelligently plan a program of study.

The direction and purposes of the graduate program are being more clearly defined by both the Department Graduate Committee and in conjunction with the College of Education. The Graduate Seminar is steadily expanding in scope and in voluntary participation by graduate students.

A study was also conducted on the "Extent and Interests of the Professional and Non-Professional Student in the Women's Athletic Program" as a means of improving the present program offering.

A continuation of the studies of the Women's Athletic Program with particular attention directed toward the problems of participation, leadership, publicity and communication, the four-year undergraduate professional program, the graduate program, and the required college program are planned.

The department has reached a "saturation point" for additional enrollment both in the professional and non-professional programs. Increased staff and facilities are urgently needed. A graduate research laboratory to stimulate research is also an essential need.—GERTRUDE M. BAKER, *director*

Institute of Child Development

During the biennium the title of the Institute was changed to the Institute of Child Development and the title of the major for the M.A. and Ph.D. degrees was changed to Child Psychology.

General Program—The number and quality of graduate students has been increased. In the fall of 1962 there will be more graduate students enrolled (32) than the total number of students for the previous biennium combined. Attracting top level students has been aided by a new five-year National Institute of Mental Health training grant which more than doubles previous support. Three Ph.D. and thirteen M.A. degrees were awarded.

A total of 46 programs of research are being conducted by staff members of the Institute. Support for research was provided by the National Science Foundation, National Institute of Mental Health, United States Office of Education, and the United States Army. Grant funds totalling \$263,170 were held by staff members during the biennium.

There were 3925 students enrolled in Child Development courses. The requirements for the undergraduate major were completely revised and an Honors program was developed. An intensive review of courses in light of current requirements and skills required by child psychologists led to the dropping of 14 course listings, adding 11 courses, and extensively revising some of the remaining courses.

Nursery School—The enrollment was 141 and 152 children for the two years of the biennium. Efforts have been made to integrate the activities of the nursery school with other programs of the Institute by such means as inaugurating a course for participation in the nursery school by undergraduate Child Development majors, by working in cooperation with the Child Development Clinic with special cases, and by increasing the graduate student participation in the nursery school. Establishing closer contact with parents and faculty members has led to a more vigorous demonstration school and a more efficient locale for child research.

Child Development Clinic—The title of the Parent Consultation Service was changed to the Child Development Clinic. The Clinic has been transformed into an active center for research and training in clinical child psychology. The Clinic provides intensive diagnostic and treatment services for a wide range of behavior problems in children of all ages. During the biennium 96 children were seen for evaluation and/or therapy.

Building Needs—The remodeling of the third floor of the building has been begun, creating six new offices. In order to complete remodeling begun in 1954, additional work on the third floor and in one suite of offices on the second floor is necessary. When the remodeling is done the building will be among the most complete and well-equipped centers for research in child psychology in the country.

This biennium has been one of change. The nursery school, clinic, teaching, and research have been integrated into an active program in child psychology. During the next biennium it is expected that the ground work undertaken will lead to one of the most productive periods in the Institute's history.—HAROLD W. STEVENSON, *director*

SCHOOL OF BUSINESS ADMINISTRATION

The biennium recently closed marked a period of substantial change in the School of Business Administration. A new dean was appointed in July 1960 and a number of changes have been evolving in the organization of the school since that time. Most notable of the changes was the formal recognition given to graduate work in business administration by the creation of the Graduate School of Business Administration. This unit, functioning under the same dean as the undergraduate school, is responsible for the M.B.A., the M.S. and the Ph.D. degrees in business administration as well as for research, manage-

ment development, and community service. The new graduate school is within the Graduate School.

During the biennium the School received a grant from the Ford Foundation for a substantial upgrading of faculty competence in the area of mathematics, with the view of improving the School's work in quantitative aspects of business problems. An eight-week, intensive summer institute was held for this purpose. Regular classes were also scheduled on a systematic basis throughout the entire school year. Approximately twenty members of the faculty participated in this program. The faculty has otherwise been strengthened in certain areas by the addition of competent scholars, both at the junior level and at the senior level. The addition of faculty members in the areas of behavioral sciences is intended to give impetus to the study of business organizations and a wide range of behavioral problems within business.

Efforts have been made to strengthen the student organizations in the School by giving them more appropriate recognition. A most successful "B-Day" program has been instituted, which attempts to bridge the gap between the students in the University and the business community and the business firms. Also, the placement service of the School has served a steadily increasing number of companies leading to unparalleled opportunities for the graduates of the School.

Student enrollment in the undergraduate program has been maintained on a plateau for the last two years, but there is indication of modest increases in the years to come. Academic standards of the School have been maintained at a high level and admission standards have been raised substantially. The coming biennium will see more attention given to active recruiting of students.

The research activities of the School have expanded substantially during the biennium. The Legislative Special Budget on Business and Economic Research has been used to the fullest extent on a wide variety of projects. Other research monies coming from the Ford Foundation have also contributed greatly to the research effort. During the year an information bulletin was started to inform members of the Minnesota business community about the activities of the School. In addition to the regular research projects, the School, particularly the Economics Department, has participated extensively in the research project of the Upper Midwest Research and Development Council. By 1963 a complete regional study will have been made. This work should provide the base for action programs on a wide variety of problems associated with the economy of the Upper Midwest.

The School also received a large donation by the Remington-Rand-Univac Division of the Sperry-Rand Corporation. A Solid State Computer valued at \$450,000 has been given to the School for the purpose of teaching and research and is housed in the basement of Vincent Hall.

This biennium marked the beginning of a broader concept of services related directly to business community needs. A Management Development Program under the auspices of the Minneapolis Chamber of Commerce was initiated. The School has also participated in numerous conferences and institutes, and a more active alumni program has been started. In the next biennium it is anticipated that efforts will be made to organize programs in international business.

The most critical need of the School is for increased faculty. The small staff in business administration is called upon to carry on not only full-fledged undergraduate program in business administration but a substantial and growing graduate program, including the new Evening M.B.A. Program, and at the same time must make a contribution to the service function of the School. The coming biennium must see additions to the staff in order to carry out effectively the new programs described here. Certain organizational problems also remain. The reorganization of the University with the creation of the new College of Liberal Arts has implications for the School because of the impending move of the Department of Economics. It is imperative that organizational structures be set up which will enable the work of the School to progress smoothly and that some means be found for incorporating that portion of economics which is directly related to the work in business administration into the School's framework. The School has a tremendous potential

for development and service as it expands its scope and horizon. The future is optimistic, although it is not without many difficulties as well.

PAUL V. GRAMBSCH, *Dean*

GRADUATE SCHOOL

General—The Graduate School serves as the University's focal point both with regard to graduate education and the promotion of research. In the biennium under review, there were improvements and some progress, but of course problems were encountered—many of which are shared with other graduate institutions. Two of these derive from the great and continuing increase in graduate activity. The first is an appropriate maintenance of fellowship support for graduate students and, particularly, the maintenance of some balance in fellowships available for students in the various disciplines. The second is that of improvement of the procedures and record-keeping processes of the Graduate School office, which have not kept pace with the enrollment, with the result that the Graduate School does not render to the graduate faculty and to the graduate students the service which should be provided.

It is hoped these problems will be solved. Meanwhile the Graduate School can record fine and stirring achievements over the past biennium, of which the following paragraphs present the more outstanding.

Enrollment and Degrees Granted—The extent and the growth of graduate study on all campuses of the University of Minnesota—Duluth, Minneapolis-St. Paul, and Rochester—are summarized in the following tables. As compared with enrollment figures for the preceding biennium of 6,581 and 7,049, Table I shows that 1960-61 saw a total enrollment of 7,473, and the second year of the biennium had a substantial increase to 7,877. These figures include Summer Session enrollment, without which no accurate picture of the growth of graduate work can be obtained, and they represent the largest enrollment in the history of the Graduate School. It is interesting to note that while the enrollment figures for the academic year show a steady increase, the marked growth in summer enrollment points to the importance of Summer Session graduate work.

Master's degrees awarded during the biennium totaled 1,744, precisely 100 more than for the previous biennium. This amounts to an increase of 6 percent. In the 1960-62 biennium 496 Ph.D. degrees were granted—11 more than in the 1958-60 period, when the figure was 485. Table II shows these figures in relationship to the broad areas in which the degrees were sought and earned.

As of June 1962, the University has granted, since the first Master's degree was awarded in 1880, a total of 24,481 graduate degrees—5,119 Ph.D. degrees and 19,362 Master's degrees. The total of 2,240 graduate degrees for 1960-62 represents 9.1 percent of the all-time total of Minnesota graduate degrees.

TABLE I—GRADUATE SCHOOL STUDENTS IN RESIDENCE DURING THE YEARS 1960-61 AND 1961-62

Classification	1960-61			1961-62		
	Men	Women	Total	Men	Women	Total
Fall, Winter, and/or Spring	2944	585	3529	3141	667	3808
Summer Session Only	1292	448	1740	1247	496	1743
Both Fall, Winter, and/or Spring and Summer Session	1333	269	1602	1323	290	1613
Mayo Foundation	589	13	602	695	15	710
Totals	6158	1315	7473	6406	1468	7874
Total Individuals, Academic Year, less duplicates (exclusive of Mayo)	4277	854	5131	4462	957	5419
Total Individuals in Summer Ses- sion, less duplicates (exclu- sive of Mayo)	2625	717	3342	2572	786	3358

The geographic origin of graduate students is presented in Table III. While the Graduate School attracted students from a very wide area, it should be noted that more than half of the students (55 percent in 1961-62) are residents of Minnesota and about a tenth more are from the adjoining economic area; thus almost two thirds of the graduate students were from Minnesota and its vicinity. As in previous biennia about one fifth of the students came from other sections of the United States, and again somewhat less than one seventh came from other countries. Although these proportions have remained nearly constant in the last biennium as compared with previous biennia, an increase in the percentage of graduate students whose home is Minnesota is noted.

In the second year of the biennium under consideration graduate students came to Minnesota from 85 countries, reflecting the international reputation of the Graduate School.

Program Development—As in preceding years, a number of changes have been made in the Graduate School curriculums during the last biennium,

TABLE II—DEGREES SOUGHT AND OBTAINED BY STUDENTS REGISTERED IN THE GRADUTE SCHOOL 1960-61 AND 1961-62

	No Degree Sought		Master's Degrees Sought		Ph.D. Degrees Sought		Total Degrees Sought	
	Sought	Obtained	Sought	Obtained	Sought	Obtained	Sought	Obtained
1960-61								
Agricultural Science	14	228	57	236	45	464	102	
Biological Science	25	40	8	30	4	70	12	
Education								
Minneapolis Campus	234	1626 ^a	268 ^b	409	40	2035	308	
Duluth Campus	15	133	20			133	20	
Language, Literature, Art	27	337	43	143	17	480	60	
Medical Science								
Minneapolis Campus	191	316	21	263	20	579	41	
Rochester Campus	11	569	70	7		576	72	
Physical Science	47	683	146	353	44	1036	190	
Social Science	47	950	193	284	40	1234	233	
Other								
Minneapolis Campus	4	83	12	48	8	131	20	
Rochester Campus	1	14	2			14	2	
Minneapolis Total	589	4263	748	1766	218	6029	966	
Duluth Total	15	133	20			133	20	
Rochester Total	12	583	72	7	2	590	74	
GRAND TOTAL	616	4979	840	1773	220	6752	1060	
1961-62								
Agricultural Science	19	288	73	235	53	523	126	
Biological Science	26	44	6	37	4	81	10	
Education								
Minneapolis Campus	230	1747 ^c	306 ^d	384	73	2131	379	
Duluth Campus	8	130	18			130	18	
Language, Literature, Art	35	405	61	147	18	552	79	
Medical Science								
Minneapolis Campus	230	291	40	252	31	543	71	
Rochester Campus	15	671	31	11	5	682	36	
Physical Science	22	768	179	376	52	1144	231	
Social Science	38	1078	179	233	32	1311	211	
Other								
Minneapolis Campus	3	87	9	54	8	141	17	
Rochester Campus		13	2			13	2	
Minneapolis Total	603	4708	853	1718	271	6426	1124	
Duluth Total	8	130	18			130	18	
Rochester Total	15	684	33	11	5	695	38	
GRAND TOTAL	626	5522	904	1729	276	7251	1180	

^a Included are 50 students seeking the certificate of Specialist in Education.

^b Included are 7 students who received the certificate of Specialist in Education.

^c Included are 45 students seeking the certificate of Specialist in Education.

^d Included are 5 students who received the certificate of Specialist in Education.

marking the need for perennial flexibility in Graduate School programs. A new Ph.D. program in chemical physics has been established through the co-operation of the Departments of Chemistry, Physics, and Mathematics. An interdepartmental doctoral program in genetics drawing upon the faculties in the agricultural, biological, and medical sciences was developed in 1961. A new Specialist Certificate in Special Education emphasizing work with exceptional children such as the mentally retarded, the deaf, and the gifted was added to existing specialist programs. The Graduate School's Executive Committee also approved a Master's degree program in English, designed for secondary school teachers, at Duluth.

The Graduate School and the departments concerned have collaborated to develop evening Master's degree programs despite the admitted limitations that characterize evening graduate work. Two such programs at the Master's level, in business administration and electrical engineering, were launched during the past biennium. The former is designed to meet the advanced business training requirements for those employed in business, industry, and government. The program in electrical engineering was developed in response to needs expressed by several local industrial concerns to provide advanced professional study in the evening for electrical engineers who are unable to take advantage of the regular day program. Students from seven local firms are currently participating in this program.

TABLE III—GEOGRAPHIC ORIGIN OF STUDENTS REGISTERED
IN THE GRADUATE SCHOOL

Group Committee	Minnesota Residents	Economic Area	Other United States	Foreign	Total Number of Students
<u>1960-61</u>					
Agricultural Science	147	58	139	141	485
Biological Science	45	16	29	5	95
Education					
Minneapolis Campus	1698	306	276	87	2367
Duluth Campus	123	21	4	.....	148
Language, Literature, Art	298	46	121	42	507
Medical Science					
Minneapolis Campus	285	76	237	172	770
Rochester Campus	75	66	330	116	587
Physical Science	462	111	248	262	1083
Social Science	774	115	202	190	1281
Other					
Minneapolis Campus	60	16	41	18	135
Rochester Campus	3	2	10	.....	15
Minneapolis Total	3769	744	1293	917	6723
Duluth Total	123	21	4	.....	148
Rochester Total	78	68	340	116	602
GRAND TOTAL	3970	833	1637	1033	7473
<u>1961-62</u>					
Agricultural Science	167	59	139	177	542
Biological Science	44	17	40	6	107
Education					
Minneapolis Campus	1757	283	234	88	2361
Duluth Campus	119	12	7	.....	138
Language, Literature, Art	347	52	149	39	587
Medical Science					
Minneapolis Campus	299	71	250	153	773
Rochester Campus	142	68	346	141	697
Physical Science	533	101	228	304	1166
Social Science	866	111	203	169	1349
Other					
Minneapolis Campus	56	14	50	24	144
Rochester Campus	3	1	9	.....	13
Minneapolis Total	4069	708	1293	960	7029
Duluth Total	119	12	7	.....	138
Rochester Total	145	69	355	141	710
GRAND TOTAL	4333	789	1655	1101	7877

Although this report is not intended to be a complete account of program development in the Graduate School, it is representative of the many changes introduced.

The Graduate School has long been concerned about the length of time many doctoral candidates take to complete degree requirements. Often these students have completed essentially all of the required work except the dissertation. To stimulate and in some cases to rekindle interest in finishing Ph.D. requirements, the Executive Committee of the Graduate School has established new regulations which it is hoped will shorten the candidacy term. Beginning fall quarter, 1962, all doctoral candidates must register each academic quarter until the Ph.D. degree is awarded. The Board of Regents has provided a special candidacy fee for this type of registration. Doctoral students will also be expected to complete all requirements within five years from the date the preliminary oral examination is passed.

Graduate Fellowships—Table IV shows the statistics of fellowships and special grants to graduate students administered through the Graduate School

TABLE IV—FELLOWSHIPS AND SPECIAL GRANTS AWARDED 1960-61 AND 1961-62

	1960-61	1961-62
From funds controlled by outside sources:		
National Science Foundation Cooperative Fellowships	28	29
National Science Foundation Regular Fellowships	9	16
National Science Foundation Summer Fellowships	14	19
National Defense Education Act Fellowships	28	19
Woodrow Wilson Fellowships	13	10
Fulbright Awards	5	7
Totals	97	100
From University-controlled funds:		
Greater University Fund Fellowships	3	3
Graduate School Doctoral Dissertation Fellowships	4	7
McKnight Fellowships	0	4
Totals	7	14
Graduate School Special Grants	35	23

office. A number of additional fellowships, of course, are administered separately by the various departments. Only those which are generally available without specification as to field of study are included in this report.

The national program of support for graduate education in the scientific disciplines is reflected in these statistics. In 1962-63, there will be added to the National Science Foundation Fellowships some ten fellowships provided by the National Aeronautics and Space Agency, and a change has occurred in the fellowship program of the National Institutes of Health in the direction of "decentralization" of administration. As these figures show, there is a definite imbalance in fellowship support, favoring the natural sciences. Even when the fellowships awarded under programs of the National Defense Education Act are included, this imbalance remains. In the seven National Defense Education Act programs approved at Minnesota in 1960-61 the areas represented were economics, German literature, applied mathematics, psychology of language, energy conversion, teaching of social sciences, and classics (the last joint with the State University of Iowa and the University of Wisconsin). Again in 1961-62, the seven approved programs included these areas: classics (joint program), German literature, teaching in the social sciences, Asian area studies, economics, soils, and applied mathematics.

The Woodrow Wilson Fellows at Minnesota during the biennium represented the following fields: American studies, anthropology, economics, English, history, philosophy, physics, geography, and psychology. The Woodrow Wilson program, as well as those of the National Defense Education Act and the National Science Foundation, provide also supplementary funds to the University, to be used within appropriately designated limits. Those from the

Woodrow Wilson program have been used by the Graduate School chiefly for the provision of additional fellowships; those from the scientific programs have been used jointly by the Graduate School and the departments concerned for the improvement of graduate education and research facilities in those fields, and to some extent to improve the overall sturdiness of the graduate program in the scientific fields.

Graduate School funds provided only a few fellowships, far fewer than desired, though the splendid new program of the McKnight Fellowships in the field of theater, bringing about a most promising relationship between the University and the new Guthrie Theatre, is noted with pleasure.

The special grants, which are made possible by funds from the Woodrow Wilson supplement, the Wallace Fund, the Stout Fund, and the Greater University Fund, provide very small grants, typically \$200 to \$300, to meet special needs of graduate students in their last year, as they complete the work on their dissertations. Here is an area of need where these few dollars make the greatest difference to the individual, making possible the final attainment of his Ph.D. Here again there is a need for greatly increased funds.

Special Visitors—The President and the dean of the Graduate School jointly appointed 49 scholars as Honorary Fellows during the biennium. These visitors are primarily colleagues from other educational institutions in the United States and abroad who have selected the University for purposes of research and observation. In addition to the 14 Fellows from the United States, Asia was represented by 17, Europe by 11, South America by 5, and Australia and the Philippines by 1 each.

The Guy Stanton Ford Lectureship honoring the dean emeritus of the Graduate School and former president of the University was presented in 1961 by Professor Victor Lange of Princeton University on "Modes of Literary Criticism." In 1962 a series of three lectures was given by Professor Harold Jantz of Johns Hopkins University on the following topics: "The Myths about America: Origins and Extensions," "American Baroque: Three Representative Poets," "Alchemy in Early America."

The Joseph Warren Beach Lectureship, with emphasis on contemporary poetry, fiction, or criticism, in recognition of the late Professor Beach's distinguished scholarship, was held in 1961 by Professor Richard P. Blackmur of Princeton University. Professor Blackmur's subject was T. S. Eliot. In 1962 Elizabeth Hardwick Lowell, writer and wife of poet Robert Lowell, was the lecturer and had for her subject "Plot in Contemporary Fiction."

Announcement of a third lectureship, the Donald G. Paterson Memorial Lectures, in honor of Professor Donald Paterson, was made in the spring of 1962. These lectures will be given in the area of civil liberties, in which Professor Paterson took keen interest and to which he was actively devoted. Gifts for this series have been received from the Paterson family, friends, alumni, and the Minnesota Civil Liberties Union. This annual memorial lectureship will contribute to the cause of civil liberties and will commemorate Professor Paterson's service in this field and his long and distinguished career as a teacher and scholar in the Department of Psychology at the University.

Graduate Research Center—During the biennium the scope and orientation of the Social Science Research Center, which has served the graduate faculty in that area so well over many years, was changed, and its name also appropriately changed to the Graduate Research Center. Its function will continue to be the service of the graduate faculty with respect to the discussion and formulation of new research programs, especially those which are interdisciplinary or co-operative, and with regard to the seeking of appropriate support for such research projects. The Advisory Council for the Social Sciences continues, of course, to assist in the direction of the Center's activities in that field. In addition, a new Advisory Council for Arts and Letters was formed and began to function during the biennium. Typical of one type of activity was the management by the Center of the Guy Stanton Ford lectures in 1961-62, under which Professor Harold Jantz of Johns Hopkins was brought to the campus for a series of three lectures.

A most successful activity which grew from faculty discussions in the Graduate Research Center and which was ultimately managed by the Center

was the Little Falls Conference. Supported by a grant of \$9,650.00 from the Hill Family Foundation and with the strong support and personal participation of President Wilson, a three-day conference was held at Little Falls on March 19-21, 1962, bringing together approximately a hundred faculty members with distinguished speakers and discussion leaders from outside. The focus of the conference was on the educational problems confronting the University at the present time and in the years ahead, and on the best approaches to solving these problems. It was immediately clear, in the meeting sessions and in the corridor conferences, that much was achieved with regard to mutual understanding of problems as they differ from college to college and department to department, and that all came away with a better understanding of ways in which these problems may be overcome. The ultimate benefits of the conference will come over the long term, and in some ways intangibly; but there are already discernible on the campus several sprouts from the seeds sown at Little Falls.

During the biennium the Center extended to all disciplines represented in the University its Inventory of Research, which it has made for many years for the social science fields; a similar gathering of information was carried out also as to interests and experiences of the faculty in overseas areas. The Center also began in a small way to provide advice and information about procedures necessary in applying for research support to outside agencies, particularly those of the federal government, from which many of our faculty derive most helpful support. This service will be developed as, beginning in 1962-63, the Graduate Research Center becomes even more of a focus for such research support activity.

Special Research Programs—There are certain research activities for which the Graduate School has some administrative responsibility or participation. The Mayo Foundation, where of course much distinguished research goes forward, is reported separately. The Hormel Institute, located in Austin, Minnesota, operates under the Graduate School and continued during the biennium its internationally respected program of research in several fields, particularly with regard to metabolism and fatty acids. During the biennium the research program increased slightly in scope, a development made possible by the new laboratory building built in 1960 with funds from the National Institutes of Health and from the Hormel Foundation. It is noteworthy that, in response to requests from the National Institutes of Health, the Hormel Institute has increased its service as an international center for the supply of fatty acid samples for research workers and for the development and standardization of laboratory techniques with regard to these compounds. The Dight Institute, also operating directly under the Graduate School, continued its activities in the field of human genetics, in the three-fold program of education both to University students and to outside groups, of research, and of counseling. Here again the fine record of this distinguished University laboratory has brought recognition and increased support from the National Institutes of Health.

The Cedar Creek Natural History Area, developed over many years in fruitful collaboration with the Minnesota Academy of Sciences, operated in previous biennia directly under the Graduate School. Direct administration of its activities has now been transferred to the Institute of Agriculture, with the Graduate School retaining the responsibility for providing all-University guidance in policy through a faculty committee appointed by the Graduate School.

A similar change was made with regard to the Limnological Research Center when administrative direction of this Center was transferred to the Institute of Technology. Again the Graduate School retains responsibility for providing all-University guidance of policy through a faculty committee. During the summer of 1961 a most successful expedition, operating in conjunction with a group from the University of Michigan with support from the National Science Foundation, carried out oceanographic surveys in Lake Superior. As the biennium drew to a close, the Advisory Committee has been moving further to activate the program of this Center, and especially to secure a permanent director for this activity.

Significant steps forward were made during the biennium in the area of South Asian studies. The physical transfer to the campus of the Ames Library on South Asia, with its outstanding resources of material, was completed, and the dedication of an appropriate facility housing this library took place on December 6, 1961. From the Hill Family Foundation the University received a grant of \$197,900 to be used in the support of the South Asian program. This grant has already been used to initiate research grants to faculty members for work in the field of South Asian studies. A further development in this area took place with the completion of negotiations between the Graduate School and the State Department for an agreement under which, using funds provided under Public Law 480, the University of Minnesota will carry out a program in connection with the University of Osmania to establish in the latter institution a chair in American studies.

Graduate School Research Funds—The five funds which are used by the Graduate School for the promotion and support of scholarly activity by the faculty—the General Research Fund, the Minnesota Institute of Research, the Nonmedical Research Fund, the Overhead Reserve Research Fund, and the Medical and Cancer Research Fund—were again used during the biennium chiefly in making possible a large number of individual research grants to members of the faculty, thus serving as “seed money” in the support of exploratory researches or small studies from which, in a gratifying number of instances, successful research projects develop. In addition, Summer Faculty Research Appointments are made possible from the Overhead Reserve Research Fund, and small amounts of these funds are used in a variety of ways in the promotion of research and scholarly activity. The first four of these funds are utilized by the graduate dean with the advice of the General Research Advisory Committee. The General Research Fund is used to support research across all disciplines and goes literally into every department of the University. From the appropriations of \$104,600 and \$115,000 during the first and second years, respectively, it was possible to make 122 research grants. The Overhead Reserve Research Fund, used in a similar fashion, provided \$100,000 each year, from which a total of 70 grants were made during the biennium (in addition to the Summer Faculty Research Appointments). The Nonmedical Research Fund, normally used for somewhat smaller grants, provided \$31,000 during each year of the biennium, from which a total of 121 grants were made. The Minnesota Institute of Research is used in a similar manner, but in the direction of encouragement and support for research studies related to the development of the resources of our state. Appropriations of \$34,000 and \$35,000 in the two years of the biennium enabled us to make 33 grants. The Medical and Cancer Research Fund is used by the graduate dean for similar purposes in the medical fields, with the advice of the Medical Sciences Group Committee of the Graduate School. Appropriations during the biennium were \$83,000 and \$90,000, and these moneys permitted a total of 140 grants to be made. It would be difficult to overestimate the importance of these research funds to the development of the faculty and the maintenance of the integrity of the overall University program.

The Faculty Summer Research Appointments, made possible through the Overhead Reserve Research Fund, permit faculty members who receive them to devote their full-time efforts during the summer to the undistracted prosecution of their research studies. Twelve such appointments were made in each of the two years of the biennium. The range of projects covered the following fields: inorganic chemistry, speech and theater arts, philosophy, law, chemical engineering, sociology, anthropology, art, history, business administration, music, journalism, mathematics and engineering, English, geography, industrial education, and physical chemistry.

Administration and Staff—The Graduate School office exists to serve the graduate faculty and the graduate students in their common enterprise of graduate education. During the biennium certain improvements in procedures and in minor policy matters were made, which should provide better service. This program of improving services is far from complete, and funds permitting, it will be carried forward more vigorously in the biennium ahead.

One new focus within the Graduate School is the Fellowship Office. It

has served in the management of fellowship programs and especially in bringing to the attention of both faculty and students the many items concerning fellowship opportunities which can so easily be overlooked. The Fellowship Office would be far more useful if it could extend its activity along the lines of "recruiting" for graduate study—here or elsewhere—really promising undergraduate students either from the University or from other institutions in the state. But this new service has clearly demonstrated its value as a focused activity in the Graduate School.

A significant change in forms and procedures regarding application for admission to the Graduate School, has increased the efficiency of this operation. This part of the Graduate School has functioned more successfully and provided a much improved service. Continued revision of forms and procedures in registration and in the following of students' work with the goal of providing better service is being considered.

Second only to this goal of better service is the desire to improve the records of the Graduate School so that statistical information regarding programs, frequently wanted both by colleagues within the University and by educational agencies outside can be provided.

The members of the Executive Committee in 1960-61 included Dean Marcia Edwards and Professors David R. Briggs, W. B. Cheston, Eugene H. Falk, J. C. Kidneigh, D. J. Merrell, and M. B. Visscher; and in 1961-62, Dean Marcia Edwards, and Professors C. P. Barnum, Jr., W. B. Cheston, Eugene H. Falk, W. P. Martin, Carl L. Nelson, and G. B. Ownbey.—BRYCE CRAWFORD, JR., *dean*

Mayo Foundation for Medical Education and Research

The continuing growth of the institution is reflected in the ever-increasing number on the Mayo Clinic staff. During the biennium the total number exceeded 1,000 for the first time. The more than 600 graduate fellows makes the Mayo Foundation the largest graduate medical training program under a single administration in the United States. Fellows were enrolled from almost all medical schools in the United States and Canada and from more than 30 other countries of Asia, Australia and Oceania, Europe, North America and South America. From the many hundreds of applicants from abroad, the Mayo Foundation seeks to make most appointments to those likely to return to their native countries. As a result, there are now nearly 350 Mayo Foundation alumni located outside the United States in 50 countries of every continent.

Educational Program—With a graduate enrollment approximately that of the larger undergraduate medical schools of the nation, it is essential that quality be maintained in the face of ever-increasing size. Attention to the educational program is paid at weekly meetings of the Medical Graduate Committee and its subcommittees, including the Committee on Educational Program. The latter committee has drastically revised the didactic teaching program, has organized new and improved clinical-pathological conferences, and has instituted a better system for review of deaths.

National Meetings—Selected fellows are sent, expenses paid, to national scientific meetings to report their investigations. This program has been expanded so that in the calendar year 1961, papers were presented by fellows at meetings of some forty medical and scientific societies held across the country.

Balfour Visiting Professorships—During the biennium, Donald Church Balfour Visiting Professorships were established. Eminent physicians and scientists are invited to spend a week teaching in Rochester. The professorships carry formal appointments from the Board of Regents of the University. The first appointments were Dr. Owen Wangenstein, University of Minnesota, and Dr. Robert H. Williams, University of Washington.

Alumni—Mayo Foundation alumni are on medical school clinical faculties in large numbers. The 23,000 part-time faculty members of United States medical schools include more Mayo Foundation alumni, over 500, than alumni

from any of the other 1,300 advanced medical education institutions. Among the 7,000 full-time faculty members of medical schools, there are about 75 Mayo alumni, a number which places the Mayo Foundation twentieth in providing such faculty members to medical schools. Nearly 40% of the Mayo Foundation alumni hold some kind of faculty appointments in universities throughout the world, including the University of Minnesota Graduate School.

University Relations—The University and its graduate school have delegated certain University responsibilities to the Mayo Foundation in Rochester. This has not prevented numerous continuing valuable contacts and associations of the faculty and administration in Rochester and Minneapolis. Indeed, intercampus relations have been strengthened in the last biennium. Joint faculty meetings and professional participation, Minneapolis residency assignments for Mayo fellows, visits to Rochester by medical school classes, and participation in University functions and organizations have provided a common bond for administrators, faculty, and students from both centers.

Financing—For its Rochester program the Mayo Foundation uses no monies requested by the University from state funds. For most of its work, the Foundation employs the resources of the Mayo Clinic and the Mayo Association. Also, outside funds from private and federal government sources have been sought and granted in increasing amounts every biennium. The Mayo Foundation is also the recipient of a number of federal block grants for training and education in Dermatology, Experimental Pathology, Gastroenterology, Neurology, Neuropathology, Neurophysiology, Pediatric Cardiology, Pediatric Neurology, Physical Medicine and Rehabilitation, Physiology and Psychiatry. Approximately 70 Mayo Foundation fellows receive some or all of their financial support from the federal government or private foundations.—VICTOR JOHNSON, *director*

GENERAL COLLEGE

For much of its history, the General College has been one of the first units of the University to experience the buffeting and the exhilaration that accompany great enrollment shifts. The biennium just ended was no exception. In both years, the shift was in the direction of increased enrollment. In particular, the fall quarter of 1961 presented the College with a problem of considerable magnitude. At almost the last minute it developed that the College would have over 300 more students than budget and staff were designed to accommodate. With emergency help from the President's office and with heroic efforts on the part of deans and division heads, classes were scheduled and personnel found to conduct them.

What causes these unpredictable enrollment shifts is hard to say. In part, they are dependent on the job market; in part, on the size of the age group; in part, on the climate of opinion about the desirability of a college education; in part, on changes in admission policies of other colleges of the University of Minnesota and of other colleges in the state. The effect upon the General College means difficulty in scheduling classes, hiring teachers, maintaining a suitable faculty-student ratio, and providing adequate counseling and guidance for the students.

Nevertheless, the General College is committed to certain principles. The first of these is the conviction that as many high school graduates as possible should have access to higher education in public institutions. This democratic principle lies close to the heart of the act creating the land-grant colleges. The existence of the General College enables the University of Minnesota as a whole to function in the true spirit of the Morrill Act, while at the same time freeing its other component units to devote full attention to students especially likely to succeed in professional and specialized programs. Viewed in this light, the General College has an essential and continuing function to perform in the University itself, and also in the whole present pattern of higher education in Minnesota, where almost every college has been forced by various circumstances to limit admissions to some degree. Although there has been some discussion about the possibility of the General College changing

its admission policy, the decision has been to continue under the present policy.

The General College has continued to seek an orderly development of a curriculum based upon tested knowledge of the kind of students taught and the kind of education their needs require; additions to the nucleus of skilled and devoted faculty recruited and appointed largely since World War II; systematic experimentation with new approaches and techniques, such as the programmed instruction initiated in several of the courses, and the teaching and testing of study skills and creativity; the compilation of a shortened form of the General College Comprehensive Examination, so that its discrimination as compared with that of the longer form may be tested; the development by the Counseling Division of a statement of ethics in counseling for use by all advisers in the college; and new features in the orientation of faculty, so that they may better serve the General College student population.

—H. T. MORSE, *dean*

UNIVERSITY COLLEGE

University College is essentially an administrative device to register students and grant degrees to those who wish to cross college lines. For example, a student planning to become a missionary in the agricultural regions of South America may wish courses in foreign language, anthropology, history, education, and agriculture. In applying for admission to this College, a student presents a statement of his objectives and the program he proposes to follow in attaining this objective. This program is then reviewed by appropriate faculty members, suggestions may be made for changes, and, when it is finally approved as the basis for a degree, the student is admitted to University College.

The majority of applicants have completed two or more years of college work. In this College they usually must complete a greater amount of work than is required in other colleges granting similar degrees—the bachelor of arts and the bachelor of science. The student must have a C average in all courses and a C average in Upper Division courses calculated separately to obtain a degree. During the biennium July 1, 1960, to July 1, 1962, twenty-seven students received degrees.

The enrollment in this unit is never high since students must demonstrate a real need for a program differing from those acceptable in other colleges of the University. However, the functions of University College should be continued as one of the means by which the individual student is given attention in a large university.—J. W. ВУСЯТА, *chairman, University College Committee*

UNIVERSITY OF MINNESOTA, DULUTH

Enrollment increases without adequate additions to the staff were of considerable concern during the 1960-62 biennium. Although the college-age population of the area did not increase, fall enrollments increased 33 per cent between 1957 and 1961. New undergraduate enrollment records were set each fall of the biennium—2,640 in 1960, and 2,883 in 1961.

Many departments faced serious problems in their supply, expense, and equipment budgets which like the number of authorized positions remained virtually fixed during the biennium.

Additions to the physical plant included the December 5, 1961 opening of the new Concourse connecting Science, Social Science, and Kirby Student Center, a new \$850,000 Education Building dedicated April 11, 1962, and completion of the new \$950,000 Industrial Education Building to be dedicated at Homecoming time in October 1962.

Plans and specifications for a new General Purpose Classroom-Home Economics Building and an additional floor for the Humanities Building were completed during the spring of 1962. Actual construction on these two projects is dependent upon a favorable vote on Amendment Number 2 at the 1962 general election in November.

Visiting artists for the summers of 1960 and 1961 were Jean Charlot and Ralston Crawford, respectively, with many more students seeking admission

to their classes than spaces available. Outstanding exhibitions were held both years in Tweed Gallery.

A major change in the graduate program, approved in December 1960, made possible the granting of M.A. degrees in Guidance and Counseling. Authorization for the M.A. degree in English was approved by the Graduate School on May 29, 1962.

Thirty-eight members of the Minnesota Legislature visited the campus on February 10, 1961 as guests of Regent Griggs and Provost Darland.

The new Dalton LeMasurier Memorial Lecture Series was inaugurated by Eric Severeid on February 19, 1961 before a capacity crowd in the Physical Education Building. Other distinguished visitors to the Duluth campus during the biennium included Prime Minister Tage Erlander of Sweden on April 4, 1961, Norway's Ambassador to the U. S., Paul Koht, on May 18, 1961, Nitish Laharry, President of Rotary International, October 19, 1961, and President Urho K. Kekkonen of Finland on October 24, 1961.

Carl T. Rowan, Deputy Assistant Secretary for Public Affairs in the Department of State, delivered the commencement address on June 9, 1961, when 346 degrees and 6 Air Force commissions were awarded. Speaker for the June 8, 1962 commencement was Dean E. W. Ziebarth. Seven Air Force commissions were awarded and 349 degrees conferred. Commencement speakers at the close of the summer sessions in 1960 and 1961 were former provost Raymond C. Gibson and former provost John E. King, respectively. One hundred sixteen Bachelors degrees and 12 Masters degrees were granted in 1960 and 138 undergraduates completed requirements for degrees in August, 1961. Sixteen completed requirements for the M.A. degree.

Bulldog athletic teams were successful in winning Minnesota Intercollegiate Athletic Conference titles during the biennium. The football team was champion in 1960 and 1961, and the basketball team also won conference titles in 1961 and 1962. The golf team won the conference title in 1962.

The June 11-12, 1962 appearances of the distinguished psychologists, Dr. B. F. Skinner of Harvard and Dr. Carl Rogers from Wisconsin, attracted capacity crowds. The program was entitled "Education and the Control of Human Behavior: A Dialogue."

The UMD Tutorial Society, sponsored by the Student Association, was highly successful from the start made during the fall quarter, 1961. Scholarship support, research grants, and gifts to the Library increased substantially each year of the biennium.

Restriction on the National Student Loan Fund total has limited loans to less than a fourth of the amount necessary for a campus with over 2,500 students enrolled. The economy in Duluth and on the Iron Range has declined during the biennium and caused many students to face serious hardships.

The 1963 building requests totaled \$3,534,000, with the 10-year building program estimated to cost \$15,095,000 by 1970 and when well over 4,100 students are expected on the Duluth campus.

Substantial increases in staff and supply budgets during the current decade are necessary if the Duluth campus is to provide the youth of North-eastern Minnesota the opportunities of higher education they so rightly deserve.—RAYMOND W. DARLAND, *Provost*

UNIVERSITY OF MINNESOTA, MORRIS

September 25, 1960 marked the opening of the doors for a one-year experimental collegiate program on the campus of the West Central School and Experiment Station at Morris authorized by the Board of Regents in October of 1959.

The announced experimental collegiate offering was to be conducted without legislative funds. Funds for the first year operation were made available by funds released due to the phase-out of the School of Agriculture and from gifts from area citizens with operational and administrative costs being absorbed by the West Central School of Agriculture.

During the first year of operation, requests were submitted to and granted by the 1960 Minnesota Legislature for operational and equipment funds to add a sophomore and junior year at Morris. The first year experiment to

determine area and student interest has been followed by the academic experiment to determine the pathways of growth at Morris.

The collegiate program has been developed in the tradition of the distinctly American liberal arts college.

As projected at the initiation of the collegiate program, the objectives of the collegiate program were as follows:

1. To develop within the framework of the liberal arts concept, a distinguished four-year collegiate program leading to a B.A. degree. As a college of the University, it will operate with a selective admission policy for students, equal faculty qualifications and similar standards in course offerings and grading as used in other colleges of the University.
2. To develop within the offering, preprofessional curriculum for the professional schools within the University of Minnesota.
3. To develop within the collegiate offering a distinguished teacher education program for the preparation of teachers.
4. To develop as a campus of the University a program to serve the citizens of Minnesota by offering educational and cultural opportunities in addition to the four year undergraduate program.

Curriculum—During the 1960-61 academic year, a modest offering of 45 academic courses were taught by a faculty of 13. The curriculum, designed in consultation with the Morris Campus Advisory Committee, provided core offerings in the humanities, social sciences, mathematics and natural sciences to cover the first year of a liberal arts bachelor's degree program or the first year preprofessional programs in over twenty areas.

Following legislative support, the 1961-62 academic year saw the addition of the offerings for the sophomore year bringing the total number of courses to 148. The curriculum was primarily a traditional two-year liberal arts sequence patterned, in large part, after the lower division offerings of the College of Science, Literature, and the Arts. The freshman-sophomore offerings available during the 1961-62 academic year, in addition to providing the first two years of work toward a bachelor of arts degree, allowed the student to pursue on the Morris campus either one or two years of work in some 27 preprofessional areas. The addition of the second year course offerings necessitated the hiring of 24 additional faculty members for a total of 37 teaching faculty.

Of importance during the 1961-62 academic year was the work of the five-man curriculum committee. Following a study of student needs, faculty and consultant recommendations, and the curriculums of currently existing liberal arts colleges, this committee designed the first complete four-year offering of the University of Minnesota, Morris. The total number of individual courses planned for the four-year offering rose to 359 with academic majors to be offered in art, biology, economics and business, English, history, mathematics, music, political science, physical education, psychology, and sociology. In addition to these, academic minors were also planned in French, physical science, social science, chemistry, and speech. Of significance will be the provision for sufficient upper division education courses to qualify students for the secondary teaching certificate. Courses being offered for the first time in the fall quarter of 1962 will require the hiring of eleven new faculty members.

Students—The 1960 freshman class numbered 238 students representing 35 high schools and 21 Minnesota counties.

In analyzing the total student body in the second year of the UMM program a pattern appeared to be developing in student origin. Although many students were from the immediate five county area, there were 35 Minnesota counties and over 90 different Minnesota high schools represented in the student body. Commuting population had dropped from 57 per cent in 1960-1961 to only 40 per cent in 1961-1962. Students living in residence halls on campus increased from 23 per cent the first year to 36 per cent this last year. Students from outside a 35-mile radius increased 20 per cent over the first year.

Admission Policy—The original admission requirements for the University of Minnesota, Morris set minimum thresholds at the 40th percentile high school

rank or the 40th percentile on the Minnesota Scholastic Aptitude Test or some equivalent college aptitude test. After one year of operation it became apparent that these thresholds were unduly crude since they disregarded numerous other readily available predictive data and provided for the admission of a significant number of students whose chances for eventual success in a collegiate program were so low that their admission appeared to be a disservice to the student as well as to the institution. As a result, in the fall of 1961, while still functioning under the original admission requirements, an intensive effort was made through individual counseling to discourage applicants whose chances for success were extremely poor while at the same time attempting to work out more realistic educational and vocational objectives for them. This program proved reasonably successful, yet left the major responsibility of the admissions decision with the applicant, who, having been advised to seek training elsewhere, might or might not choose to follow the advice given him.

Two years of study on the academic experiences of the University of Minnesota, Morris freshmen as well as research on the predictive validities of all currently available psychometric indices of success on this campus have led to the adoption of a new admission regime for freshmen entering in the fall of 1962. All Minnesota high school graduates with high school rank of the 60th percentile or above, Minnesota Scholastic Aptitude Test scores of the 30th percentile or above, and American College Test composite standard scores of 19 and above will be automatically admitted without further consideration. For those applicants who do not meet all of the three requirements above, a three-man admissions board will review their applications taking into consideration academic record in high school, the pattern of all available college aptitude and intelligence test scores and other pertinent data available from the high school transcript. The board will then make a decision either to accept the student without delay or to gather additional information. This latter procedure normally calls for a visit to the campus for evaluation by the counseling staff and additional testing, after which recommendations and additional psychometric data are resubmitted to the board for a final decision.

These changes in the admissions procedure which provide for flexibility in dealing with the applicant whose chances for success are questionable appears mandatory in dealing with the western Minnesota college-bound population where quality of high school preparation, diverse cultural backgrounds, and lack of information with respect to college aptitude tests often tend to mask a given individual's true ability for college success.

New Areas of Activity Anticipated—

1. The development of an elementary teacher education program. The framework of the traditional liberal arts college allows for this as a normal development, offering approximately three-quarters of the requirements in academic subjects and one-quarter in education emphasizing child development, specific instructional information, and methods courses.
2. The development of facilities for independent research by undergraduate students and faculty. In the case of the latter, it is an absolute necessity to develop faculty research and to encourage scholarly effort for the collegiate program to attract and hold distinguished faculty.
3. Workshops and Short Courses. Anticipated programs include the following: educational clinics, state educational workshops, special summer programs for high ability high school students in science and the arts, and service programs for area teachers and pre-college students of an educational and cultural nature, as well as continued improvement in cultural offerings such as art exhibits, fine arts film series, University Artist Course series.

Organization—As Morris is a unit physically separated from the Minneapolis campus, it is necessary to carry administrative personnel over and above a similar unit on the Minneapolis campus. This is necessary, as the college at Morris must develop its own health service program, artist series, library, movie series, intramural and intercollegiate athletic program, counseling program, business office, employment and placement offices, scholarship and loan programs, housing and food service, admissions and records, convocations, police, and student activities.

Administrative organization at Morris will continue to develop along the four division lines of Humanities, Social Sciences, Science and Mathematics, and Education.

Needs—Planning for equipment and facilities needed for the Morris campus are now under consideration by the Morris Campus Planning Committee. Additional science facilities, including greenhouses, classroom space, and auditorium-short course building, and physical education facilities are anticipated.

Additional facilities for students, such as dormitories and food service, will also have to be added. It is also envisioned that a reorganization of food service, dormitories, and the plant service operation to better service the developing collegiate program and the West Central School and Experiment Station will be accomplished in the future.—RODNEY A. BRIGGS, *dean*

GENERAL EXTENSION DIVISION

Evening and Special Classes Department—*Highlights*—The Evening and Special Classes Department in Minneapolis, St. Paul, and Duluth experienced an increased enrollment of approximately 5 per cent during the first year of the biennium and an increase in the second year of more than 11 per cent. (See Table I). This second year increase in enrollment was accomplished in spite of a rise in tuition fees ranging from \$8 to \$9 per credit in the fall of 1961.

The tuition raise was accompanied by an average 8 per cent increase in instructional salaries. It also helped the department to keep pace with rising academic and civil service payrolls, as well as new operating and promotional expenses.

Plans were completed and operating arrangements set up for the opening in the fall of 1962 of an experimental evening class center in the northwest area of metropolitan Minneapolis. This center has been established to serve the northwest suburban area of Minneapolis and Hennepin County in response to what appears to be a satisfactory expression of interest in such courses from local residents within a commuting distance from the Robbinsdale Senior High School site. The future of the center as a permanent adjunct of the Department of Evening and Special Classes will depend upon enrollment statistics for the coming year of trial operation.

Initial arrangements were also made for trial projects of evening class programs at the University of Minnesota, Morris, and in connection with the Community College at Rochester.

The Liberal Arts Program started in 1959 showed great progress. The annual lecture series were well established, the Minnesota Plan continued to snowball, and the new neighborhood seminars received unexpected response.

Curriculum—This area of the department may best be described as "business as usual" only more so. As may be seen in Table I, the increased enrollment resulted in added class sections and added instructional staff. The inevitable result was not necessarily more income but much more business which reflected itself in an attempt to give better service although not in greater proliferation of an already very broad curriculum. A greater effort was made during the biennium to make Upper Division courses available to the students, particularly in the liberal arts fields. There appears to be a renewed interest among evening class students in courses and study programs leading to the bachelor of arts degree; and there has been a continued student enrollment trend in the Upper Division courses of the School of Business Administration. All that has been said above serves to explain the fact that course enrollments per student during the academic year have been on a steady increase.

During the biennium, the evening program of the master of business administration degree was gradually transferred to the Graduate School and the graduate faculty of the School of Business Administration. This program, which was officially inaugurated in January, 1960, and which was spearheaded by personnel of the General Extension Division, proved successful beyond

all expectations of the units of the University which were participating. In view of the complexity of the program and the level of the academic work which was covered, the change of administration was decided and effected in the fall of 1961.

Current Plans, Present and Future Needs—Current plans coincide completely with present and future need; without the fulfillment of these last, "holding the line" will supercede progressive future plans. There is a need for additional staff to accomplish anything beyond what is now being done—and indeed new staff is needed to continue what is now being done, for some staff members cannot progress on the current overload basis indefinitely. The staff overload has been noted in the last three biennial reports.

For the coming biennium because of the increased load on the staff and in order to carry on the department's work at the proper level of efficiency, it is felt that at least three new positions of a junior administrative rank (academic instructor) should be provided. Depending upon the qualifications of the applicants and the development of expected student potential, the department should have one assistant for office management, personnel, and business procedures; one assistant for student counseling and services; and one assistant for off-campus centers and out-state classes.

As has been stated above, current plans depend upon staff. Given the additional staff requested, the department could proceed with the two most evident areas of planning. First, one or two more metropolitan area centers similar to that being opened in Robbinsdale and for which there has already been an unexpected response could be planned and possibly opened in the next biennium. Second, the department could begin to carry out the recommendations of the Senate Advisory Committee on University Extension with regard to out-state extension services of the University and in coordination with other institutions of higher learning in the state.

Completely coincident with staff requirements, and even superceding them in some cases, are the needs of the department for space. Even for current operations and the adequate housing of staff, there is a desperate need for additional space. There is a space need for registration procedures (1200 students in an 8-hour day are registered in about 600 square feet of space); for cashier's services the same number of students are handled at a one-person counter in a tiny room necessitating the use of the Dean's lobby as a waiting room. A lounge and study room for some of the 10,000 campus-based, tax-paying students is also needed. Additional office room is needed for the current staff. If the requested additional assistants are provided, there will be no place for them without additional office space. A meeting and seminar room of about 25-person capacity should be provided for the department's

TABLE I. EVENING AND SPECIAL CLASSES DEPARTMENT

	1960-61	1961-62
Summary of Enrollments		
Minneapolis-St. Paul		
General Classes	12,106	14,808
Business	6,655	6,643
Engineering	3,920	3,895
Off-Campus	359	412
Duluth and Area	2,257	2,761
Summer Session	169	127
Grand Total	25,466	28,646
Increase over previous	+1,308	+3,180
Number of short courses given	113	123
Number of short course registration	3,582	3,294
Mortuary Science		
Minnesota Residents	85	108
Nonresidents	24	38
Number of Instructors	443	486
Number of Classes	981	1,030
Number of Individuals	15,101	16,051
(according to Admissions and Records)		

exclusive use both day and night. Conservatively, an operation such as the evening class program should have about twice the space now provided. This is perhaps the most important need as without such additional space the department can neither expand the services nor the staff.—HUNTINGTON MILLER, *associate dean*

Department of Mortuary Science—The biennium has shown the following matriculation statistics for the Department of Mortuary Science. In the 1960-1961 academic year, 127 students matriculated in the department. During this period, 50 students received the associate in mortuary science degree. For the 1961-62 academic year, 152 students entered the department, and 44 received the associate in mortuary science degree.

During the biennium the admission requirements have been strengthened and the students being admitted to the department are better qualified and more capable. A proposed four-year degree has been under serious consideration and perhaps will receive final recommendations during the next biennium.

Studies have been made in cooperation with Iowa and North Dakota concerning a contractual arrangement whereby students would enter the Department of Mortuary Science under agreements similar to those in effect between the Department of Veterinary Medicine and North Dakota. This would enable the University of Minnesota to be of service to those states whose boundaries are contiguous with Minnesota and which do not have provisions for education in mortuary science within their own universities. A careful study has been made of the cost factors together with the number of students which could be accommodated with additional staff.—ROBERT SLATER, *director*

Correspondence Study Department—The Correspondence Study Department reports a record biennium. The 12,635 enrollments accepted from 10,487 individuals is the highest for the department and is 20 per cent more than for the 1958-60 biennium. The total active registrations for the present biennium were about 23,500. The 6,624 registrations by 5,515 individuals during 1962 was the second highest yearly enrollment in the history of the department. This is a 10 per cent increase over the previous year and 113 per cent more than in 1954. At the same rate of increase, the Correspondence Study Department could expect an enrollment of over 14,000 in 1970.

Of the 12,635 registrations this biennium, 7.7 per cent were military personnel using the special contract with the United States Armed Forces Institute. About 12 per cent were enrollments in high school courses. Less than 2 per cent registered under the provisions of Public Law 550. Nearly 70 per cent of the registrations originated in Minnesota, and the remaining 30 per cent represent all of the fifty states and several foreign countries.

The department participated in two telecourses carrying University credit. A regular summer session course in humanities presented over KTCA-TV allowed the students to attend class or view at home. The department handled the off-campus students' materials and arranged for final examinations. The second course was in political science and was presented on Continental Classroom over a national network. The department accepted credit enrollments, coordinated the materials and directions, and arranged for examinations under proper supervision.

In 1959 and 1960 the department participated in a special program for talented high school students. In cooperation with the Minnesota National Laboratory for Secondary School Mathematics and with funds provided by the National Science Foundation, the department established special courses in modern algebra and geometry for selected students in Minnesota and adjacent states. Out of the project have come revised courses that are now part of the regular high school correspondence program. The new courses have been planned and developed in cooperation with the Correspondence Study Department of the University of Wisconsin. Course materials were exchanged for nominal sums, and thus modern mathematics, using the textbooks developed by the School Mathematics Study Group becomes available to high school students in Minnesota and the nation.

In 1960-62 nearly 122,000 lesson reports were processed through the department. This is a record number exceeding the 1958-60 total of 105,000 by 17,000.

Comments and Recommendations—Academically the correspondence study program should include more courses for in-service teachers. We are falling behind other states in this respect. Additional courses could be added from fields represented on the St. Paul Campus. Some research might be done in relation to programmed learning and its relationship or usefulness to correspondence study. The high school correspondence program needs greater correlation with State Department of Education activities.

With more than a 100 per cent increase in enrollments in the past 8 years, it is necessary to consider additional space for administrative, clerical, and teaching staff. Some effort should be made to provide office space for off-campus correspondence teachers, many of whom are anxious to advise students by mail or by personal interview.—F. LLOYD HANSON, *director*

Department of Radio and Television—Highpoints during the biennium in this department included the expansion of closed-circuit television, four television awards and one radio award, and the world-wide broadcast of a lecture series by the Voice of America.

Public Affairs Forum—Over 500 talks, discussions, and lectures were broadcast during these two years on this series. The best of these programs were rebroadcast each summer in the evening on "Significant Speeches."

At a time when commercial stations increasingly adopt the once-over-lightly approach to the world's problems, KUOM emphasizes serious and responsible discussions of the fundamental issues facing the community, the state, the nation, and the world. "Public Affairs Forum" was broadcast five days each week from 1:30 to 2:15 p.m. (1:30 to 2:30 p.m. during the summer months). "Significant Speeches" was broadcast from 7:00 to 8:00 p.m., Monday evenings, June through August.

University of Minnesota on KUOM—As it has every week since the early 1900's, KUOM broadcast all those University of Minnesota convocations which

TABLE II. CORRESPONDENCE STUDY DEPARTMENT

	1960-61	1961-62
Regular Courses		
Registrations in force beginning of year	4,886	5,544
New registrations during year	6,011	6,624
New registrations made through the USAFI	325	653
New registrations made under Public Law 550	100	70
Reinstatements from previous years	188	176
Reinstatements (registrations expiring within the year)	724	733
Total registrations in force during the year	11,085	12,344
Registrations terminating during year	6,265	6,943
Registrations in force at close of year	5,544	6,134
Special Courses—Citizenship		
New registrations during year	72	68
Individuals Enrolled (Regular Courses)		
New registrations	4,972	5,515
Total active registrations during year	8,956	10,096
Lesson Reports Received		
Regular courses and citizenship	57,398	64,477
Geographical Distribution of New Students		
Minnesota	3,596	4,855
Other states	1,134	1,453
Out of the United States	58	73
Army Post Office	88	125
Fleet Post Office	96	118
Number of states represented	50	50
Number of foreign countries represented	12	19
Courses Offered	311	324
Instructors	137	134
Financial Report		
Receipts*		
Total receipts	\$232,428.69	\$255,580.81
Expenditures**		
Total expenditures	\$184,401.67	\$191,918.47

* These figures do not include appropriations from the University budget for the support of the Department.

** These figures do not include salaries of members of the staff.

lent themselves to radio. Another series "Accent on Your University" documented each week the activities, personalities, and ideas of this institution. There was also a daily 5-minute "University Bulletin Board" based on University News Service Releases in addition to University news items on the station's regular 15-minute daily newscasts. A number of special programs were built around University events.

During the biennium, KUOM also broadcast two University courses direct from classrooms. The series of lectures given to a foreign student orientation group in the fall of 1960 were recorded for broadcast during December of the same year. They were subsequently taken by the English service of the Voice of America and given world-wide distribution through repeated broadcasts.

News Broadcasts—In view of the large number of spot news programs on radio and television, KUOM re-examined its policy of news broadcasting during the biennium—and then decided not only to continue news broadcasting, but to increase the amount. Most news programs are of the "around the world in five minutes" type.

KUOM presents 15-minute newscasts daily at 10:30 a.m. and at 12:15 and 4:30 p.m. In addition the station broadcasts brief news summaries throughout the day. The "University Bulletin Board" program drew upon the resources of a School of Journalism class, the University News Service, the *Minnesota Daily*, and the KUOM staff.

Minnesota School of the Air—This two-year period saw significant gains in the areas of German language broadcasts, art perception programs, and in the development of a new music series based on the original music of a young composer who has already published several works.

Achievements of the Minnesota School of the Air during the biennium included:

1. Two series, "A Sense of the World" and "1940" were chosen for distribution to all National Association of Educational Broadcasters member stations.
2. A tape, "Gesundheit," was selected for the national tape library of the Division of Audio Visual Instruction, National Education Association.
3. Two tapes, "Gesundheit" and "Die Flotte Lieselotte," were approved for national use by foreign language teachers by the Modern Language Association.
4. "The Dragon with the Sweet Tooth," a program from the "Old Tales and New" series, received a First Award from the Institute for Education by Radio-Television, Ohio State University.

Music—KUOM continued its policy of consistently presenting the best available live and recorded music. Depending on the signoff hour, the station carried from 13 to 30 hours of regularly scheduled music programs each week.

The staple material for these programs was the record library, which includes upwards of 2500 LP disks. The old 78 rpm collection was used to answer requests which could not be met from the LP collection.

University of Minnesota music department members were featured in the "Northrop Recitals" series as was the University Concert Band Ensemble. Two series of 15-minute University Band programs were presented, one in the spring of 1961 and another in the summer of 1962.

General Information and Cultural Programs—"Let It Be Said" featured the best on spoken arts recordings on which international, national, and local personalities read from such varied sources as the Shaw-Terry letters, Williams' *Glass Menagerie*, and Lincoln's "Gettysburg Address."

"Listen with the League" fulfilled its informative function for the 11th and 12th years as members of the League of Women Voters interviewed important local, state, and national figures on current issues of importance. KUOM's long cooperation with the League of Women Voters is an example of its effort to involve community leaders in its broadcasting.

Five days each week, KUOM cooperated with the Minnesota State Medical Association in broadcasting "Doctor, Tell Me," a series of health commentaries in which general practitioners and specialists took part in 5-minute interviews. These programs were recorded for distribution to 37 radio stations throughout Minnesota, thus bringing the name of the University and KUOM to the audiences of a great many radio stations in the state.

The Information Service on the St. Paul Campus contributed two programs each weekday. They were "The Homemaker's Quarter Hour" and "The University Farm Hour."

The University of Minnesota Radio and Television Guild is an extra-curricular organization which invites participation by individuals interested in the arts of radio and television production.

FM Radio—The big gap in the University of Minnesota's broadcasting services remains FM radio. Were the University to add FM to its present AM service, it would at one stroke provide a day-long schedule for the ever-growing audience that habitually tunes to the FM band for fine programs and after-sunset service for all its listeners.

University of Minnesota Television—The University of Minnesota continued to present television programs of significant educational and cultural value. Until spring quarter, 1962, programs were originated in the University's own studio in Eddy Hall from 9:00 to 10:00 p.m. Monday through Friday. These programs were broadcast over KTCA-TV. Beginning April 1, 1962, however, a new 18-month contract with KTCA-TV took effect. It provided for the production of University programs in the KTCA-TV studios which freed the University television facilities and staff to implement a vastly expanded project in closed-circuit television.

Closed-circuit television became a formal assignment of the Department of Radio and Television on February 15, 1962, following a period of experimentation dating back to 1958. An expansion program was begun which by the winter of 1962 will make it possible for almost 2,500 students to receive closed-circuit television instruction simultaneously from any of three origination points on the Minneapolis Campus. The St. Paul and West Bank campuses of the University will soon be linked by closed-circuit television, and it is hoped that connections between the Twin Cities campuses and those in Duluth, Morris, and elsewhere will be possible in the not too far distant future. By this means a highly-qualified teacher could instruct a large number of students with a minimal loss of time for transportation and with a maximum of scheduling efficiency and convenience. With its large enrollment divided among three campuses in the Twin Cities and several in outlying parts of the state, the University of Minnesota can greatly benefit from an intensive development of closed-circuit television.

In addition to instruction by television, the department's facilities were used by eight speech and journalism classes in television.

During the biennium under review, University of Minnesota television presented courses offering credit for home viewers, actual class sessions without viewer credit, many series closely paralleling University course content, and a number of less structured programs.

In January, 1961, a Community Cancer Demonstration Project grant was received from the United States Public Health Service to produce 13 half-hour television programs relating cancer research to cancer control. The films will be designed to show a general television audience how basic cancer research is ultimately useful in the early detection and treatment of cancer. The series will deal with research being conducted in all parts of the country and when completed will be given national distribution.

Engineering Department—During the biennium, the Engineering Department provided equipment and services for the operation of KUOM radio, for the origination of University television until the effective date of the new contract with KTCA-TV, and for closed-circuit television.

One important department assignment was working with the University architect and the Department of Plant Services in planning the installation of television and radio facilities in new buildings. All new West Bank Campus

buildings include conduit which can be used for television or radio cables as might be required.

In addition, the Engineering Department provided services for such University facilities as the radio studio in Murphy Hall; the television installations in Owre Hall, Peik Hall, and Aeronautical Engineering; and the Department of Police and Department of Plant Services mobile equipment. The Engineering Department also provided advice to all departments interested in acquiring or expanding radio and television equipment, including among others, the University of Minnesota, Duluth, for its KUMD-FM station.—BURTON PAULU, *director*

Municipal Reference Bureau—The Municipal Reference Bureau serves as a University Division for students' reference work and, as headquarters of the League of Minnesota Municipalities, extends its facilities to government officials throughout the state. The following is a summary of activities of the past two years in outline form.—ORVILLE C. PETERSON, *director*

TABLE III. MUNICIPAL REFERENCE BUREAU

	1960-61	1961-62
Inquiries	2,960	2,911
Publications		
Magazine:		
Monthly average	8,300	8,136
Pages per issue	32.3	32
Reprints and Publications:		
Primer for Minnesota Mayors and Councilmen		Directory of Minnesota Municipal Officials—1961
Statement of Pension Policy		New Laws of Municipal Concern
Refuse Collection and Disposal in Minnesota		Trends in Minnesota Municipal Finance
Our Water Problems—National and State Viewpoints		Optional Plans of Village Government
PERA Pension System		Using Citizen Advisory Groups
County Planning		Capital Budgeting
Legislative Proposals Adopted June 1960		Analysis of Municipal Liquor Store Operations for 1960
Analysis of Municipal Liquor Store Operations—1959		League of Minnesota Municipalities "What and Why"
Directory of Minnesota Municipal Officials—1960		New Municipal Laws Enacted at Special Session
		Property Values, Tax Levies, and Rates for 1962
Conferences		
Annual convention	Winona—attendance 671	St. Paul—attendance 751
Legislative conference	St. Paul	
Regional meetings	16 meetings—attendance 1,844	16 meetings—attendance 1,926
Research and Consulting Service		
Municipalities, townships, and other groups receiving special charter, municipal reorganization, or special services	14	7
(See Annual Report of Executive Secretary of League to identify cities)		
Short Courses	1960-61 attendance	1961-62 attendance
Assessors	262	257
Building Inspectors	50	59
City Managers	24	24
City Engineers	111	86
Clerks and Finance Officers	97	73
Fire School	over 200	over 200
Juvenile Officers	66	90
Mayors and Councilmen	60	91
Police Chiefs	61	90
Public Works	49	32
Sewer	167	110

TABLE III—Continued

Short Courses	1960-61 attendance	1961-62 attendance
Traffic Court Conference	52	56
Water	183	165
League Committees		
	16	16
Field Service		
Number municipalities visited	159	266
Number officials seen	338	602
Mileage of special field trips	5,280	8,067
Mileage for regional meetings	2,164	2,200 approx.

Center for Continuation Study—Program Expansion—In response to requests from professional groups and state and federal agencies, the program of the Center for Continuation Study was again expanded during the past biennium. As a result of the national recognition won during the past decade by the Center's short courses in the field of juvenile delinquency control, the University obtained a grant from the National Institute of Mental Health beginning in 1961 and continuing at least through 1963. The grant supports the Juvenile Officers Institute and the Juvenile Court Judges Institute, both ten weeks in length and unique in the nation. Staff additions during the biennium have enabled the Center to develop new offerings and strengthen existing courses and conferences.

Much as the Center would like to expand its program further, the factor of space limitation makes it impossible to do so. As things now stand the Center cannot fully meet the demands of University faculty and of outside groups for conferences and institutes.

Building Needs—When the Center for Continuation building was completed in 1936, bath and toilet facilities were provided in only 8 double rooms and 4 suites, a total occupancy of 28 persons. Lack of bath facilities in 30 single rooms and 5 double rooms forces 40 persons to share central bath and toilet facilities. Today, no better facilities are available but the habits and desires of the business and professional people attending continuation courses have changed. They are accustomed to much better and more private accommodations and do not hesitate to say so.

With this in mind, a proposal was developed in numerous meetings during 1960 and 1961 of an ad hoc committee. The committee considers this proposal to embody the minimum essential modification requirements.

To bring the Center facilities in reasonable parity with the demands it must meet and with comparable accommodations offered by such neighboring universities as the University of Chicago, the University of Illinois, Michigan State University, the University of Nebraska, the University of Oklahoma, and the University of Wisconsin, it is proposed to:

1. Add a full fourth floor devoted entirely to sleeping rooms with private baths for each room. The original plans for the building made allowance for this addition, and the construction of the present three floors provides for adding the fourth floor. Convert the existing third floor rooms now lacking private bath facilities into as many double rooms with bath as is architecturally possible. Supply all third and fourth floor rooms with air conditioning.
2. It is suggested that some of the suites or rooms on the fourth floor be available on a weekly or monthly basis to special University guests or staff members.
3. Add more classrooms and conference rooms, through the conversion of present dormitory space on the second floor, east of the central stairway. Install a passenger-freight elevator to serve all floors, basement through proposed fourth floor. The Center presently has no elevator.
4. Install year-round air conditioning in all guest and converted conference rooms, consistent with present conference rooms, lounge, and

dining room. In all areas, convert the existing steam radiator heating system to modern heat convectors located under windows.

5. Construct a completely new dining room and kitchen on the ground floor level adjoining the present building on the northwest, to provide accommodations for 250 persons as compared to the 110-person capacity of the present dining room.
6. Add a ramp-type auditorium seating 175 persons or more, to be constructed in the present dining room area to accommodate large groups. The largest room now available in the Center is the Chapel which seats 110.—FREDERICK E. BERGER, *director*

TABLE IV. ATTENDANCE IN CENTER FOR CONTINUATION STUDY COURSES BY COUNTIES 1960-1962

Aitkin	38	Itasca	272	Pope	35
Anoka	264	Jackson	29	Ramsey	2,395
Becker	77	Kanabec	40	Red Lake	13
Beltrami	75	Kandiyohi	129	Redwood	68
Benton	71	Kittson	21	Renville	52
Big Stone	24	Koochiching	63	Rice	176
Blue Earth	210	Lac qui Parle	40	Rock	38
Brown	108	Lake	75	Roseau	22
Carlton	131	Lake of the Woods	12	St. Louis	1,871
Carver	46	LeSueur	69	Scott	69
Cass	44	Lincoln	16	Sherburne	44
Chippewa	74	Lyon	51	Sibley	39
Chisago	44	McLeod	88	Stearns	264
Clay	132	Mahnomen	10	Steele	145
Clearwater	33	Marshall	27	Stevens	44
Cook	17	Martin	84	Swift	46
Cottonwood	67	Meekeer	57	Todd	53
Crow Wing	113	Mille Lacs	49	Traverse	19
Dakota	230	Morrison	59	Wabasha	56
Dodge	39	Mower	146	Wadena	36
Douglas	88	Murray	30	Waseca	47
Faribault	69	Nicollet	76	Washington	185
Fillmore	45	Nobles	62	Watsonwan	47
Freeborn	150	Norman	17	Wilkin	31
Goodhue	116	Olmsted	316	Winona	128
Grant	24	Otter Tail	152	Wright	101
Hennepin	4,481	Pennington	45	Yellow Medicine	44
Houston	27	Pine	36		
Hubbard	37	Pipestone	37	Total	15,232
Isanti	76	Polk	106		

TABLE V. BIENNIAL AND TOTAL ATTENDANCE BY TYPE OF COURSE

Type of Course	1960-1962		Total 1936-1962		Average Attendance per Course
	Number of Courses	Attendance	Number of Courses	Attendance	
Medical	42	2,552	451	23,507	52
Educational	31	2,068	333	22,484	68
Technological	30	3,770	147	19,855	135
Public Health and Hospital Service	15	1,224	245	15,877	65
State-Municipal	37	3,206	250	16,668	67
Commercial	23	1,099	213	13,933	65
Social Welfare	18	810	188	11,075	59
Nursing	33	2,146	159	10,573	66
Civic and Cultural	25	1,309	152	9,082	60
Dental	39	857	330	6,188	19
Labor	10	825	69	5,610	81
Legal	6	443	36	2,497	69
Pharmaceutical	1	56	23	1,278	56
Kenny Technique (for Technicians and Nurses)			38	537	14
National Defense			6	506	84
Kenny Technique (for Physicians)			24	441	18
Totals	310	20,365	2,664	160,111	60

TABLE VI. CONTINUATION COURSES AND INSTITUTES

	1958-1960	1960-1962	1936-1962	Percent
Number of Courses	305	310	2,664	.....
Number of Registrants				
Minnesota	16,040	15,232	124,311	78
Other U.S. States	3,997	4,753	33,832	21
Foreign Countries	299	380	1,968	1
Total	20,336	20,365	160,111	100
Male	14,848	15,182	106,910	67
Female	5,488	5,183	53,201	33
				Average per course
Number on Faculty	5,643	5,066	43,980	17
Course Hours	7,500	8,069 $\frac{1}{4}$	78,668	30
Course Days	1,136 $\frac{1}{2}$	1,265	13,731 $\frac{1}{2}$	5

TABLE VII. AUDIO-VISUAL EXTENSION SERVICE

	1959-60	1960-61	1961-62
Number of communities served	2,817	2,646	2,829
Number of visual programs furnished	64,538	59,890	65,152
Number of shipments	24,725	26,831	29,268
Number of prints in the library	8,290	8,753	9,525
Number of titles in the library	4,278	4,621	5,275
Number of tape dubbings made		737	900
Number of tape masters in laboratory		502	800
Total receipts	\$133,214.84	\$162,084.21	\$181,835.00

Department of Audio-Visual Extension Service—The growth in all areas has increased quite rapidly during the biennium. Many more adult groups, business, industry, and civic, have been served. More films in specialized areas, such as college level materials, medical field, mortuary science, salesmanship, and others, have been added. The use of audio-visual materials by schools, colleges, business, industry, in fact all groups, has increased at a very rapid rate. New titles and duplicate prints are added constantly. Over 1,400 prints were added to the library during the biennium. About 5,000 requests for films could not be filled because films were not available when needed.

The service and condition of the films has improved because of the added experience of the staff and the addition of electronic equipment for film booking and film inspection. The following brochures for special groups were compiled and sent to hundreds of organizations: "Minnesota Radio Stations Tape Resources Guide"; "Selected Films for Mortuary Science Education"; "Business-Industry Motion Picture Resource Guide"; "Selected Films for Use in Nurses Training"; ten issues of the department newsletter, "Look, Listen, Learn;" the 1961 and 1962 "Spring Film Supplement"; and "Tape Laboratory Bulletin."

A tape laboratory has been established. It now consists of over 800 master tapes of KUOM lectures, School of the Air programs, and child development lectures.

There are many organizations, groups, and individuals, both on and off campus, that are not aware of the vast number of films and tapes which are available to all the people of the state through this department. Many new brochures must be devised and distributed to interested groups.

The plans are to steadily increase the size of the film service to meet the demands. Some 500 to 800 prints must be added each fiscal year.

Taped lectures of KUOM, the Institute of Child Development taped programs, and some of the Minnesota School of the Air programs were made available to many individuals and organizations. Over 700 programs were dubbed and sent to these individuals and organizations. Requests for such programs came from 30 states and occasionally from overseas. This work will be improved and expanded to serve all public, private, and parochial schools, radio stations, and other organizations or individuals in or outside of Minnesota.

Future Needs—Future needs of this department include the following:

1. Space in some building large enough to house the present operation with expansion space for the next ten years.
2. Air-conditioned film vault space to house 10,000 to 20,000 films. Fire-proof vault space to protect \$3 million in films and other equipment.
3. An assistant to the director to assist in expanding the functions and services of the department to meet the ever-increasing demand by schools, colleges, organizations, and individuals of this state.
4. A display and work room in which samples of teaching materials can be produced and in which off-campus persons can learn how to make their own materials.—ERWIN C. WELKE, *director*

State Organization Service—World Affairs Center—The State Organization Service (S.O.S.) is now 12 years old but remains a new idea in adult education. It searches constantly for the best ways to be of service to the great "*pro bono publico*" associations of the state. It is estimated that there are over 400 state and approximately 12,000 local organizations of this character in Minnesota.

The S.O.S. helps strengthen the programs of these groups by providing its member organizations with clerical and administrative services for which they pay the department. These services include such things as typing, printing, mimeographing, filing, addressing, mailing, keeping membership records, purchasing, providing an address and telephone number, conference and meeting facilities, and subject matter and organizational assistance.

In so doing, S.O.S. enhances the education of adult citizens in such common concerns as welfare, health, education, international understanding, and increases the competency of professions like accountancy, engineering, counseling, and management. Freed of administrative duties, the leaders of S.O.S. member organizations can give their time to educational tasks. In 1960-61, some 30 organizations were affiliated with S.O.S.; affiliate organizations for 1961-62 increased to 31. The number of S.O.S. member organizations varies from year to year depending on organizational need.

S.O.S. in no way seeks to influence the policies and purposes of any of the groups it serves. Each organization maintains its own complete independence and autonomy.

For over a decade, S.O.S. has been housed in a temporary building. A permanent location near other departments of the General Extension Division would be desirable.

The S.O.S. administers the Minnesota World Affairs Center, which is a regional center for education in world affairs composed of and directed by 27 Minnesota organizations interested in this field.

The World Affairs Center assists individuals and organizations to improve the quality of their knowledge about world affairs. It does this through a program service, pamphlet shop, film advisory service, and inquiry service. The Center sponsors institutes, conferences, seminars, and lecture series to give intensive and systematic educational experiences for Minnesota leaders in world affairs. Its pamphlet shop is one of the largest such facilities in the United States. In 1960-61, some 21,434 publications were sold or distributed without charge. Similar distribution in 1961-62 amounted to 27,262 publications for a total distribution during the biennium of 48,696.—WILLIAM C. ROGERS, *director*

—JULIUS M. NOLTE, *dean*

SUMMER SESSION

During the biennium of 1960-62, the Summer Session maintained the academic program in the face of a steadily increasing enrollment. More than 1,000 courses from the regular curriculum were supplemented by a variety of workshops, institutes, and special programs for the student continuing degree work and participating in experimental programs.

The 1961 Summer Session enrollment rose 4.7 per cent. The first summer term in 1962 increased 3.6 per cent, and data available for the second term

indicate approximately a 5 per cent increase. The total registration for 1961 was 18,146, and the expected total for 1962 will approach 19,000.

Again in 1962 an effort was made to strengthen the summer staff at the upper ranks by increasing maximum salaries from \$1,250 to \$1,350 in 1962. Although the maximum is proportionately lower than academic year salaries, this new scale will help keep pace with academic year increases. Increases were made in Summer Session fees to meet the cost of increased faculty salaries.

The National Science Foundation and the Louis W. and Maud Hill Family Foundation made possible a number of institutes in 1961 and 1962. Among these are institutes for high school and college teachers in science and mathematics; and an institute in radiation biology. An institute in bio-statistics for public health statisticians was held in 1961. An interdisciplinary course in social change in East Asia was also held.

A course in Ground Water Supplies Development designed primarily for engineers employed in foreign areas was again offered in 1961 and 1962 at the request and with the support of the World Health Organization and the Agency for International Development of the State Department. A distinguished lectureship in chemistry was again sponsored by the Minnesota Mining and Manufacturing Company in 1962, and brought a world renowned chemist to the University from University College, London.

Modern language institutes sponsoring residence houses for graduate and undergraduate students in French and German are a regular and integral part of the Summer Session program as is the Scandinavian Studies program, held in alternate summers at the University of Wisconsin and the University of Minnesota. Language institutes for elementary teachers in Spanish and German have been supported by the National Defense Education Act in 1961 and 1962.

The recreation program during the summer is an important cultural supplement to the academic program. Various organizations cooperate with the Summer Session in producing the programs. The Department of Concerts and Lectures provides a varied summer program of symphony concerts, soloists, lectures, and special features. The staff of Coffman Memorial Union plans a number of special programs including arts and crafts, bowling, and square and ballroom dances. The University Gallery and the Minnesota Museum of Natural History hold exhibits of special interest during the summer. The Physical Education Departments for men and women present a well balanced program of sports. Weekly newsreel and bi-weekly educational films were presented with the cooperation of the Audio-Visual Education Department. The University Theater continued its program during the Summer Session with productions on the Minnesota Centennial Showboat which attracted students, faculty, and residents of the entire state. The High School Theater Workshop continued serving the dual purposes of training and entertaining.

As the total Summer Session enrollment has increased, there has been a shift in the composition of the student body. An increasing proportion of Summer Session students are regular academic year students registered in the College of Science, Literature, and the Arts who attend both summer terms. Graduate School and College of Education students, of course, represent substantial proportions of the Summer Session enrollment.—E. W. ZIEBARTH, *dean*

DEPARTMENT OF PHYSICAL EDUCATION AND ATHLETICS

During the past two years 1,543 men participated in 134 intercollegiate athletic contests. This is an increase over the last biennium. Intramural participating again continued to increase with 67,848 participations in 1961-62. This figure speaks for itself of the desperate need of additional intramural facilities.

Spectator interest in the intercollegiate program continued on a very high plane with capacity crowds in both football and basketball. During this biennium the attendance at football games was 704,128 and at basketball games 178,492.

Although there was no Conference Rose Bowl pact the permissive clause allowing Big Ten schools to accept an invitation to participate remained valid. Minnesota's 1960 National Champions were invited to play the University of Washington January 1, 1961. Washington defeated Minnesota 17-7. The University of Minnesota was again invited to play New Year's Day 1962. This was the first time a Big Ten team represented the Conference two successive years. Minnesota defeated UCLA 21-3.

The University Senate approved the renewal of the contract with the Association of Western Universities thus breaking a tie vote in the Conference. This was done to put the selection of the Conference Rose Bowl representative back into the hands of the Faculty Representatives.

The Conference again changed its athletic scholarship program eliminating the need factor. A student's high school class rank and entrance tests determine his ability to receive aid.

The following is a record of season play on the golf course, tennis courts, and ice rink:

	Golf		Tennis	Skating	Total
	9 Holes	18 Holes			
1960-61	22,152	32,498	9081	33,116	96,847
1961-62	21,639	31,732	8552	32,151	94,074

Each year the Department conducts a number of special events in addition to the regular scheduled activities. Some are conducted by the Department but others are carried on in cooperation with the state or with Twin Cities school boards. A list of these special events follows:

1960-61

1. Host to Sweden National Hockey Team.
2. State high school championships in basketball, golf, tennis, track, swimming, gymnastics.
3. Minneapolis and St. Paul high school dual meets in basketball, hockey, track, swimming, gymnastics.
4. Coaches clinics in baseball, basketball, football, golf, gymnastics, hockey, swimming, tennis, track, wrestling.
5. Conference Championship meets in tennis, wrestling.
6. AAU Meets in wrestling, swimming.
7. Basketball tournaments: District 17, District 18, Region IV, Region V.
8. Gymnastics tournaments: Northwest Gym Meet, Minneapolis High School, Region V.
9. Hockey tournaments: Region I, Region II, Region IV, Region VI.
10. Track meets: Minneapolis High School Relays, Minneapolis High School Meet, Metropolitan, Twin City high schools, Out-state high schools, private schools, Northwest Open, Region IV.
11. Golf tournament: Region V.
12. Swimming meets: St. Paul high schools state high school dual meets.
13. Tennis tournaments: Twin City High School, State Jr. Chamber of Commerce, Region V.
14. American Red Cross Life Saving classes.

1961-62

1. Host to Russian Hockey Team; Intersectional game with Harvard.
2. State high school championships in basketball, gymnastics, golf, swimming, tennis, track.
3. Minneapolis and St. Paul high school dual meets in basketball, gymnastics, swimming, track.
4. Coaches clinics in baseball, basketball, football, golf, gymnastics, hockey, swimming, tennis, track, wrestling.
5. Basketball tournaments: Twin City High School, Minneapolis Sub-District, District 17, District 18, Region I, Region II, Region IV, Region V, Minnesota Prep Schools.
6. Gymnastics tournaments: Northwest Open, Region V.
7. Hockey tournaments: Minneapolis Park Board, Region I, Region II, Region IV, Region VI.
8. Track meets: Northwest Open, Twin City, Metropolitan, Out-state high schools, private schools, high school dual meets, Minneapolis High School Relays.
9. Tennis tournaments: Twin City High Schools, Region V.
10. Swimming tournaments: District 18, A.A.U.
11. American Red Cross life saving classes.

TABLE IV. STATISTICS ON INTERCOLLEGIATE ATHLETICS FOR 1960-61 AND 1961-62

Activities and Head Coaches	Year	Total No. Games		No. Conference Games		No. Non-Conference Games		Total No. Receiving Athletic Instruction Including Freshmen		No. Varsity Candidates		No. Varsity Candidates Eligible for Intercollegiate Competition		No. Having Competition		No. "M" Awards		No. Freshmen Candidates		No. Freshmen Numerals Awarded		No. Games Won		No. Games Lost		No. Games Tied	
		60- 61	61- 62	60- 61	61- 62	60- 61	61- 62	60- 61	61- 62	60- 61	61- 62	60- 61	61- 62	60- 61	61- 62	60- 61	61- 62	60- 61	61- 62	60- 61	61- 62	60- 61	61- 62	60- 61	61- 62	60- 61	61- 62
Baseball Siebert	29	30	15	14	14	16	151	126	46	38	35	32	27	29	13	18	105	88	32	21	21	14	8	16	0	0	
Basketball Kundla	24	24	15	14	9	10	66	77	22	17	16	16	16	14	11	13	44	60	17	18	10	10	14	14	0	0	
Cross Country Kelly	6	5	2	2	4	3	27	33	15	15	7	6	6	6	5	4	12	18	5	9	5	0	1	4	0	1	
Football Warmath	9	9	7	7	2	2	134	163	71	73	65	64	55	40	41	33	63	90	38	41	8	7	1	2	0	0	
Golf Bolstad	10	11	4	5	6	6	25	40	18	14	9	12	7	10	6	7	7	26	7	12	8	5	2	5	0	1	
Gymnastics Piper	13	11	8	6	5	5	37	45	15	15	10	7	9	7	8	5	22	30	4	8	7	4	6	7	0	0	
Hockey Mariucci	26	22	20	16	6	6	96	105	26	32	24	28	20	23	19	17	70	73	20	18	15	10	11	10	0	2	
Swimming Heusner	12	12	8	9	4	3	57	52	29	30	21	26	18	26	16	20	28	22	16	16	10	10	2	2	0	0	
Tennis Lewis	17	18	10	8	7	10	22	21	12	13	9	10	9	9	6	6	10	8	8	5	9	6	8	12	0	0	
Track Kelly	8	8	6	6	2	2	96	91	52	42	34	31	30	24	17	13	44	49	12	17	8	3	0	5	0	0	
Wrestling Johnson	16	16	10	10	6	6	46	33	29	21	17	21	17	19	7	7	30	12	17	8	4	9	12	6	0	1	
TOTALS	170	166	105	97	65	69	757	786	335	310	247	253	214	207	149	143	455	476	177	173	105	78	65	83	0	5	

Physical Education and Recreation Leadership—The Department provided instruction in the professional curriculums of physical education and recreation leadership for undergraduate and graduate students. The non-professional physical education program continued to offer instructional and competitive opportunities in sports for the general student body of the University. The enrollment statistics for the various programs offered by the Department are summarized in Table I. The number of degree recipients for the professional programs are listed in Table II.

The most significant trend in the professional physical education program was the increase in the number of full-time Ph.D. candidates enrolled during the academic year. In the second year of the biennium, seven men were pursuing a Ph.D. program in the Department. The previous high was three students.

The non-professional program exhibited a remarkable growth in numbers of students electing activity classes. For example, in 1961-62 this program showed about a 30 per cent increase in students over the previous year. An all-time high enrollment figure of 1,000 students was recorded in the non-professional program for the spring quarter 1962.

The Department also took over responsibility for editing and publishing the *Newsletter* of the Minnesota Recreation Association.

The most significant work of the staff centered around a study of the Department's programs, finances, and organizational structure. The various subcommittees were finishing the preliminary drafts of their reports as the academic year 1961-62 drew to a close.—ISAAC J. ARMSTRONG, *director*

TABLE I. NUMBER OF STUDENTS ENROLLED IN VARIOUS PROGRAMS OF THE DEPARTMENT OF PHYSICAL EDUCATION AND ATHLETICS 1960-62

Various Programs	1960-61					1961-62						
	ISS	IISS	F	W	S	Total	ISS	IISS	F	W	S	Total
Non-Professional												
Physical Education	65	72	563	652	852	2204	90	71	774	966	1000	2901
Undergraduate												
Physical Education	50	22	134	125	126	475	28	14	137	134	117	430
Graduate												
Physical Education	72	32	11	8	7	130	65	44	19	18	18	164
Undergraduate												
Recreation Leadership	24	15	73	74	71	257	27	17	74	75	72	265
Graduate												
Recreation Leadership	5	2	7	7	8	29	4	0	10	11	8	33
Total	216	143	788	866	1064	3077	214	146	1014	1204	1215	3793

TABLE II. NUMBER OF DEGREES AWARDED TO STUDENTS ENROLLED IN THE VARIOUS PROGRAMS OF THE DEPARTMENT OF PHYSICAL EDUCATION AND ATHLETICS 1960-62

Various Degrees and Programs	1960-61					1961-62						
	ISS	IISS	F	W	S	Total	ISS	IISS	F	W	S	Total
B.S.												
Physical Education	2	3	4	2	9	20	6	4	1	2	12	25
Recreation Leadership	2	2	8	4	7	23	2	4	5	5	5	21
M.Ed.												
Physical Education	0	2	0	0	0	2	0	2	0	0	1	3
Rec. Leadership Major	0	0	0	0	1	1	0	0	1	0	0	1
Hospital Rec. Major	0	1	0	0	2	3	0	1	0	0	0	1
M.A.												
Physical Education	0	1	2	1	1	5	0	4	3	1	1	9
Ph.D.												
Physical Education	0	0	0	0	0	0	0	0	0	0	1	1
Total	4	9	14	7	20	54	8	15	10	8	20	61

TABLE III. INTRAMURAL SPORTS PARTICIPATION

Activity	Teams		Games		Participations	
	1960-61	1961-62	1960-61	1961-62	1960-61	1961-62
Archery	11	22			46	63
Archery Club					312	364
Baseball	16	16	37	40	625	619
Basketball (F)	154	175	248	265	3,303	3,550
Basketball (W)	193	193	489	512	6,701	7,115
Bowling (SS)	26	14	261	144	540	252
Bowling (F)	150	171	1,815	2,284	4,801	5,772
Bowling (W)	164	169	1,932	2,019	5,244	5,419
Bowling (S)	112	118	1,116	1,080	2,660	2,571
Co-Recreation					2,746	3,422
Cross Country	37	35			134	141
Fencing Club					248	913
Free Throw	66	80			468	546
Golf	37	45	55	62	759	2,181
Gymnasium					2,964	3,185
Handball	25	30	201	234	167	175
Hockey	40	40	110	107	1,892	1,943
Horseshoes		6		44		44
Judo			21	23	42	46
Judo Club					1,432	1,542
Paddleball	15	27	215	204	153	138
Sigma Delta Psi					16	13
Softball (SS)	37	48	127	182	2,284	3,209
Softball	166	179	379	412	6,992	7,486
Staff Family					4,409	4,751
Swimming	38	38			469	499
Table Tennis	64	63	512	448	295	286
Tennis	49	81	378	535	252	325
Touch Football	141	146	345	358	6,169	6,528
Track	52	53			488	605
Volleyball	138	119	1,657	1,604	4,036	3,822
Wrestling	42	40	142	168	277	323
Totals	1,773	1,908	10,040	10,725	60,924	67,848
Increase		7.6 per cent		6.8 per cent		11.4 per cent

These figures include organized competition and some supervised informal indoor activities only. A large number of students participate in "free play" activities such as swimming, handball, golf, tennis, etc.

DEPARTMENT OF ALUMNI RELATIONS

The Minnesota Alumni Association

During this biennium Department accomplishments included the up-grading of the alumni chapter program, initiation of a new life membership program, inauguration of a group life insurance program, completion of recommendations for an Alumni Club facility in downtown Minneapolis, replacement of punch card records by tape and computer, and addition of the Minnesota Alumnae Club as the thirteenth constituent group.

Officers—Officers of the Minnesota Alumni Association were as follows:

For 1960-61

President	Russell E. Backstrom, BSME 1925; MSME 1927
First Vice President	Virgil J. P. Lundquist, MD 1943
Second Vice President	Otto A. Silha, BA 1940
Secretary	Janet Hart Widseth, BSHE 1939
Treasurer	John A. Moorhead, BBA 1930
Executive Secretary	Edwin L. Halslet, BSEd 1931; MA 1933; EdD 1938

For 1961-62

President	Virgil J. P. Lundquist, MD 1943
First Vice President	Joe Maun, BA 1932; LLB 1935
Second Vice President	Franklin D. Gray, BA 1925
Secretary	Theodore C. Blegen, BA 1912; MA 1915; PhD 1925
Treasurer	John A. Moorhead, BBA 1930
Executive Director	Edwin L. Halslet, BSEd 1931; MA 1933; EdD 1938

Office—The Alumni Office staff consists of seven full time employees and two part time.

Budget—Total income for the Minnesota Alumni Association for the year 1960-61 was \$61,205 plus \$66,855 from the University making a total of \$128,060. For 1961-62 the budget totaled \$143,624—\$73,372 representing income for the year from the Association and \$70,252 received from the University.

Field Service—During the year 1960-61 only 16 communities in-state and 11 out-state were visited. However, a new emphasis was made on field work in 1961-62, which saw 55 in-state and 10 out-state chapters visited. The total number of Minnesota Alumni Chapters is 88—55 in-state and 31 out-state. Of these one is an alumnae group (Detroit) and two are outside the continental limits of the United States (Taiwan, Formosa, and Manila, Philippines). The Association received forty requests for speakers from the University faculty and in the year 1961-62 a total of 142 service program requests (films, slides, etc.) were made. Thirty-five in-state clubs reported 105 meetings for an average of 3 meetings per year. These are reported meetings only. Fifteen out-state clubs reported 47 meetings which is a slight increase over the past year. Many meetings are held which are not reported.

Membership—The membership figures have risen steadily with a total of 16,819 paid memberships at the end of the year 1960-61 and 18,259 at the end of 1961-62. This was an 8.6 per cent increase over the high for the previous biennium. The actual number of members for this biennium were:

	1960-61	1961-62
Regents	5,342	5,441
Paid-in-advance	580	1,486
Life	109	157
Annual	6,891	6,905

Constituent Alumni Groups—In March 1962 the Minnesota Alumnae Club voted to become a constituent association of the Minnesota Alumni Association.

Special Events, Services and Promotions—The St. Paul Quarterback Club was again sponsored by the Alumni Association for the ninth and tenth consecutive years. Elmer E. Engelbert, Sr., has been chairman and host for the meetings which were held on Monday noon after each football game at the Minnesota Club in St. Paul.

A complimentary athletic ticket program co-sponsored by the Minnesota Alumni Association and the Athletic Department was tried for the first time in 1961-62. In an effort to acquaint more alumni with the University Athletic Program, 200 pairs of complimentary tickets for each basketball and hockey game were sent to randomly selected alumni. The program was quite successful and many complimentary letters were received by both departments.

Football meetings were again held in conjunction with the games in 1960 and 1961. In 1960 such meetings were held in Ann Arbor, Michigan; Eau Claire, Appleton, and Madison, Wisconsin; and Pasadena, California. In 1961 meetings were held in Appleton, Wisconsin; Evanston, Illinois and Chicago, Illinois. Prior to the Iowa game there were meetings in Cedar Rapids and Des Moines. Again in January meetings were held before the Rose Bowl game in Pasadena.

The 1960 Homecoming was held on October 15 with the slogan *Boil-Illin-Oil*. The Alumni King was F. Clayton Tonnemaker.

In 1961, Homecoming was celebrated on October 28. *Den the Wolverines* was the slogan and George Faber served as Alumni King. In both years the Alumni Association worked in close cooperation with the student Homecoming Committee, and alumni served on committees of judges for the Homecoming Parade, house decorations, queen contest, bonfire, and pep fest. Also, the Association conducted the selection of the Alumni King with nominations submitted by in-state and out-state clubs.

The 58th and 59th annual reunion celebrations were held during the biennium. Four classes held reunions on May 25, 1961 Cap and Gown Day. These included the classes of 1911, 1916, 1901 and 1906. On May 24 and 25,

1962 the classes of 1912 and 1922 celebrated their fiftieth and fortieth anniversaries, respectively. Also in 1960-61 the following special reunions were held: in 1960 the Wes Fesler Reunion for those who played in the Fesler era; the 1940 Team Reunion, and the Dave MacMillan Basketball Reunion. In 1961 the 1941 football team observed its twentieth anniversary. The fourth annual Southwest Alumni Reunion in Phoenix, Arizona sponsored by the Valley of the Sun Club was held in 1961.

Minnesota in the Rose Bowl on January 1, 1961 and January 1, 1962 resulted in many additional responsibilities for the Alumni Office. Both years the Alumni Director served on the University Rose Bowl Committee and as chairman of its subcommittee on transportation and accommodations, which made arrangements for both the alumni and student tours. The ticket priorities were set up by the Rose Bowl Committee and the lists of Benefactors and Alumni Members were prepared for mailings each year by the Alumni Office. This included special mailings to alumni in southern and northern California.

The Alumni Association operated a headquarters in the Biltmore Hotel for about ten days prior to the game each year.

A hospitality room was also sponsored by the Minnesota Alumni Association in 1960 and 1961. Located in the headquarters hotel for three days, it was a place where alumni and friends of Minnesota could enjoy free refreshments. The Minnesota Alumni Association of Southern California assisted manning both the headquarters and the hospitality room. They also held a Minnesota Pre-game Rally on New Year's Day, 1961 and 1962.

The President's Reception was an outstanding event each year. It was arranged by the Alumni Association for President O. Meredith Wilson on Sunday, January 1, 1961 and Sunday, December 31, 1961. All alumni leaders in northern and southern California received invitations.

The fifth annual Alumni Honors Day Luncheon was held in conjunction with the University's celebration of its 110th birthday on February 23, 1961. In 1962 the sixth annual Alumni Honors presentation was made at the Annual Meeting of the Board and Membership on June 5, 1962. These occasions honor all former recipients of the Outstanding Achievement Award and Alumni Service Award. In both 1961 and 1962 five Alumni Service Awards were presented.

A plan for a Big Ten magazine insert in cooperation with the Committee on Institutional Cooperation was proposed by MAA Director Haislet at the meeting of the Big Ten Alumni Presidents and Secretaries in Chicago, February 1962. The group authorized such a plan. The eight page insert will be ready for use by the Big Ten Alumni Magazines in the fall of 1963 and will reach over a million alumni of the participating schools. It is to be prepared by the Big Ten Alumni Editors under the direction of Frank Tate of Ohio State.

Alumni Magazine—Nine regular issues of the *Minnesota-Alumni News* were published October through June during 1960-61 and 1961-62. The second year the number of pages was increased from 36 which has been the standard number previously to a number which varied with the amount of advertising included. The smallest issues were 40 pages and the largest 68. In 1960-61 the average number of copies per issue was 16,950 and in 1961-62 the average was 17,700.

Two special issues were published: "The University in Prospect," September 1960; and "The Needs of the University," December 1960. The first was a report on the University's progress and sent to non-members in Minnesota; the second, sent to all members in Minnesota, explained the University's request to the legislature for biennial appropriations.

The significant changes included the first four-color cover in April 1961 marking the inauguration of President O. Meredith Wilson, and a change in the format of the magazine with a newly designed cover, title page and headline style.

Board of Directors—The Board of Directors of the Association met five times in 1960-61 and four times in 1961-62. Among the significant actions not covered elsewhere in this report were:

Accepted representation on a special committee studying the Food Service and Union Facilities.

Accepted the report of the Special Committee on Office Quarters which recommended that the Board concentrate its planning toward obtaining suitable quarters in the extended Union, and directed the committee to investigate the possibility of a location on the West Campus. Later, proposed to the University that a new building be built on the land next to 711 East River Road and the Association would match the funds required; also requested use of the Pillsbury Home for at least two years.

Accepted the report from the Actuarial Department of Marsh and McLennan. This study indicated that the present Life Membership Fee of \$75.00 should be retained and not reduced for retired alumni. Subsequently, the Board amended the bylaws so that Life Membership is now \$100.

Authorized the hiring of a public relations firm to handle the advertising program and membership campaign.

Amended the bylaws so as to allow six at-large members on the Board of Directors to be appointed by the Board. Another amendment to the bylaws allows any person on the Board to be placed into proper succession for officership and retain membership on the Board until succession is completed.

Changed title of Executive Secretary to Executive Director.

Authorized a report to be made on the possibilities of a downtown *Alumni Club* facility and appointed a committee to study the matter and bring a proposal to the Board.

Authorized the President and Executive Director to obtain bids for group association insurance, to appoint duly licensed insurance agents and brokers, and to appoint a continuing insurance committee including the President of the Association, the Executive Director and a maximum of three others. Initiated the policy that the President of the Alumni Association and the immediate Past President serve as the alumni representatives on the Senate Committee on Intercollegiate Athletics. This achieves a continuity of officers who most need to be fully informed on the athletic situation.

Approved a plan of visiting all out-state clubs each year—one-third by a University administrator, one-third by a faculty member and one-third by a representative of the Alumni Office. Voted to discontinue the Southwest Regional Alumni Reunion in favor of the new, more comprehensive plan.

Invited the Law Alumni Association to be represented on the Minnesota Alumni Association Board of Directors.

Voted to concur with a resolution of the Board of Trustees of the Greater University Fund recommending the dissolution of the Greater University Fund and the establishment of the Minnesota Alumni Fund under direction of the Director of Alumni Relations and that the Alumni Fund use as its consultative and advisory committee the Presidents' Committee of the Association.

Voted to retain a dues-paying membership plan.

Voted an *Honorary Life Membership* to President O. Meredith Wilson.

Met with President Wilson to determine ways the Alumni Association could be of more service to the University.

Voted to go on record in favor of Amendment No. 2.

Commended the Executive Director and his staff for a fine job in handling the Rose Bowl Tours and Alumni activities held in conjunction with the Rose Bowl.—Ed Haislet, *director*

GREATER UNIVERSITY FUND

Gift support to the University through the Greater University Fund continued to grow during this biennium.

Alumni representatives on the Board of Trustees during this period included: Henry C. Mackall, Chairman; Carlyle E. Anderson, Vice Chairman; Lloyd Hatch; John S. Pillsbury, Jr.; and T. H. Rowell, Sr. Alumni representatives, appointed for three year terms by the Board of Directors of the Minnesota Alumni Association, can serve a maximum of two terms. Other Board members were President O. M. Wilson; Vice President L. R. Lunden; Vice

President M. M. Willey; Lester A. Malkerson, representing the Board of Regents. E. L. Haislet served as Secretary and J. H. Davidson as Director.

During this biennium the office staff remained the same, a director, secretary, senior clerk, and clerk typist. Office space was provided at 205 Coffman Union with use of alumni records and mailing facilities at Workman Service, Inc.

During the 1960 calendar year campaign, gifts totaling \$479,943.37 from 5,933 contributors were channeled through the Greater University Fund. In 1961 the totals were \$549,954.37 in gifts, and 5,403 donors.

The most significant development within the Greater University Fund during the biennium resulted from the Brakeley study, which was submitted to the Board of Regents in July 1961. This study recommended the dissolution of the Greater University Fund and the establishment of the University of Minnesota Alumni Fund, along with the assignment of non-alumni projects to the Department of University Relations, and the establishment of the Minnesota Foundation. The University of Minnesota Alumni Fund would be established as a separate division of the Department of Alumni Relations to be supported by the University under the direction of the Executive Director of Alumni Relations. Such action is expected to be taken in the next biennium.— J. H. DAVIDSON, *director*

INDUSTRIAL RELATIONS CENTER

The Industrial Relations Center (IRC) reports directly to the Department of Industrial Relations which was established during the biennium to be responsible for the curriculums and degrees in industrial relations. The IRC serves the Department primarily as a research and service agency and has the responsibility for non-credit and extension courses, institutes, and short courses.

Two major studies have been completed by the Management Development Laboratory: (1) a study of managerial jobs, and (2) a study of managerial compensation. Research reports are being prepared for publication.

The research staff is now giving attention to the design for a study of managerial effectiveness; i.e., the analysis of managerial performance within business organizations. A working paper has been prepared defining the dimensions of managerial organization. A working paper on hypotheses is in preparation. The design will include a study of the criteria of managerial effectiveness, and pre-testing of instruments to measure these criteria has begun.

June 30, 1962 marked completion of the third year of a 5-year research project on the work adjustment of physically handicapped workers. This project is supported by a \$259,000 grant from the Office of Vocational Rehabilitation (OVR). During the past biennium, data were collected on more than 900 physically handicapped workers and more than 700 non-handicapped workers in 5 broad occupational groups: non-skilled blue collar, skilled blue collar, non-skilled white collar, skilled white collar and professional. Findings from the project have been reported during the past 2 years in 4 new bulletins (bringing to 13 the total number of bulletins in the project's series entitled "Minnesota Studies in Vocational Rehabilitation") and in 6 articles published in several professional journals. Staff members have also presented research findings at 2 annual conferences on Vocational Rehabilitation Research in the North Central States which comprise OVR Region VI. Staff members had major responsibility for planning these two conferences.

The Vocational Rehabilitation Laboratory of the Industrial Relations Center functions as an OVR Regional Rehabilitation Research Center. In addition to carrying out its program of research on the work adjustment of physically handicapped workers, the laboratory has research consulting responsibilities for public and private rehabilitation agencies in OVR Region VI. This responsibility has been carried out by staff members meeting upon request with agency research personnel and research project directors.

During the past two years, the Triple Audit Laboratory of the Industrial Relations Center has emphasized basic research on employee attitudes. The

goal of the research has been to improve the understanding and subsequent measurement of employee attitudes. A comprehensive study of the existing form of the Survey of Employee Attitudes was made including a detailed analysis of the dimensions which underlie job satisfaction. This study, which will soon be published, included a sample of several hundred completed survey questionnaires. New scales were found to be more effective than old. Two classes of occupations, managerial and semi-skilled, have received the most extensive study in the recent research. Other work of the Triple Audit Laboratory has been the compilation of new items for the attitude survey for the purpose of examining additional dimensions and correlates of job satisfaction. Plans to test the new items and new sub-scales are under consideration. A longitudinal study of the Triple Audit survey is also planned for the future.

Studies of the operation of industrial relations departments in industry have been continued in the Professional Studies Laboratory under a three-year research grant from the American Management Association. These studies have been concerned with functions performed by the industrial relations department, costs of providing these functions, ratios of industrial relations staff to total number of employees, and personal qualifications and salaries of industrial relations executives. During the 14 years in which these studies have been conducted they have been used by companies as benchmarks for comparing their industrial relations programs with those of similar companies.

The IRC has continued to assume primary responsibility for the University's Labor Education Program, in line with the provisions of a special legislative grant which called for development of new projects for training teachers and union education committee chairmen. During the year 1961-62 activities under this program included: (1) a special training program for presidents and education committee chairmen of central labor bodies; (2) a 5-week Labor Education Teacher Training Program designed to develop additional teaching resources, especially for outlying areas of the state. Two special graduate courses in Labor Education were developed for this program.

The Center's Labor Education Program of short-courses, institutes, and conferences carried on in cooperation with the General Extension Division and the Center for Continuation Study has had well over 7,000 persons enrolled since it was started in 1951. During the past year a total of 336 were enrolled in 18 short-courses; 57 were enrolled in 2 labor institutes and 127 attended the annual IRC Labor Conference. For the period from July 1960 through June 1962, a total of 956 attended 42 short-courses. The staff also assisted in the promotion of labor scholarship programs, participated in public forums and educational TV programs and spoke at numerous union and community meetings.

Other activities of the Labor Education Program included: determining interests and educational needs of unions by means of questionnaire; conducting a "Labor Leaders' Seminar"—monthly sessions during both years; developing course materials in six labor education areas; developing a project proposal for National Institute of Mental Health for educational program on mental health education for labor; preparing a booklet describing University services of interest to labor; developing systematic statement of objectives and goals for labor education at Minnesota; surveying upper-class students in social sciences to determine amount of interest in labor education as a career; initiating work on correspondence course for public employees; writing 5 articles on research findings from German Fulbright study for German publications; publishing of the IRC Labor Conference proceedings for 1961 (Bulletin 33) and 1962 (Bulletin 36); serving as host university to the National Conference of Labor Educators; preparing a project proposal for National Institute of Labor Education for educational project on pre-retirement education; and serving on programs of other conferences at the Center for Continuation Study.

The Labor-Management Studies Laboratory is conducting 4 studies of current interest. (1) Labor Leadership Attitude Survey. Minnesota local union leaders are being asked to state the major problems facing their local unions, to rank these problems in order of importance to their local, to indicate the level of union organization most appropriate for developing solutions, and,

for selected problem areas, to choose between collective bargaining, governmental action, and unilateral union action as the best means for developing solutions. (2) Landrum-Griffin Act Studies. Current research is concerned with the development of Minnesota union membership and financial data, investigating the mechanics and equity of disciplinary procedures used by unions operating in Minnesota, and ascertaining the relationship between union financial and/or membership size and the arrangements made for the payment of union officers by type of union. (3) Minnesota Grievance Procedures. Grievance procedures utilized for dispute settlement in Minnesota collective bargaining relationships will be classified by size and type of union organization. Representative procedures will then be analyzed to determine their operating characteristics and the level of settlement by type of issue. (4) Jurisdictional Dispute Settlement. The operational local procedures for the settlement of jurisdictional disputes between building trades unions will be investigated to determine the importance of such considerations as: avoiding work stoppage, development of precedent, size and importance of competing unions, and the desires of building contractors at the successive levels of the decision process.

The IRC joined with the Program in Hospital Administration in a study of the use of work teams in hospital housekeeping departments. The research was conducted under a grant from the U. S. Public Health Service, and involved hospitals in St. Paul and Minneapolis, Minnesota, and Milwaukee and West Allis, Wisconsin. Work performance and job satisfaction before and after teaming were compared for three experimental groups.

Research findings were reported in 15 articles in professional journals, 5 bulletins and 2 special releases. The interdisciplinary nature of the IRC's research program is shown by the fact that the articles appeared in professional journals in the fields of personnel administration, personnel guidance, psychology, public health, economics, labor law, and sociology and in labor union publications in the United States and Germany.

The teaching program of the IRC places heavy emphasis on graduate training which prepares students for professional careers in industrial relations. The study of industrial relations is concerned with various problems that arise in employment relationships, problems of employment and unemployment, wage levels, collective bargaining, and the recruitment and maintenance of employee work teams in industry. These problems are diverse and many disciplines contribute to their understanding and solution. Industrial relations is an interdisciplinary field which draws upon the specialized knowledges and approaches of various disciplines such as psychology, sociology, economics, political science, law and engineering for an integrated approach to problems of employment relationships. During the academic year 1960-61, 35 graduate students were majoring in industrial relations; in 1961-62, there were 36 graduate students. During the biennium, 19 students earned Master's degrees and 2 earned Ph.D. degrees. Graduates with Master's degrees generally accept positions in labor relations or personnel departments in industry or government agencies, while those with Ph.D. degrees accept positions on university faculties or research agencies.

Although no undergraduate specialization in industrial relations is offered, a number of courses in industrial relations are offered at the undergraduate level. These courses may be worked into programs for Bachelors' degrees in business, engineering, and the liberal arts. For students who are employed during day school hours, evening courses are offered through the General Extension Division. A Certificate in Industrial Relations is granted to students completing 45 credits of prescribed course work. Three students received the certificate in 1960-1962.

The conference program of the IRC has brought together the practitioners in the field for open discussion of current industrial relations problems with nationally-known authorities—teachers, consultants, practitioners, and public administrators.

The 13th and 14th Annual IRC Labor Conference drew a total registration of 220 union officers and members. Subjects for discussion at the two conferences were "Factors Affecting Employment: Defense Spending, Tariffs and

Trade, Automation and Economic Growth" and "Productivity, Wages and Jobs—At Home and Abroad."

Summer institutes of several days to a week in length were conducted for the United Steelworkers of America and Communications Workers of America. These resident schools provide an opportunity for intensive study of specific problems under a staff of experts. District #33 United Steelworkers Summer Schools have developed a four-year program, with special courses and a definite order of progression for first through fourth year students.

The annual Northern Minnesota Industrial Relations Conferences were held in October of each year with a total registration of 194. At these conferences representatives of management, labor, and government agencies joined in discussions of current and future problems in labor-management relations and the impact of the economic outlook upon industrial relations. This is one of the few conferences in the nation which draws its participants from the three interested parties in industrial relations: labor, management, and the public.

Labor union officers, industrial relations executives from large companies, consultants, and university faculty members from Sweden, Switzerland, the Netherlands, Belgium, Germany, England, Argentina, Japan, South Africa, and Turkey visited the IRC during the biennium to study the research and teaching program of the IRC.

It was necessary to relocate the IRC Reference Room in larger quarters to house its expanding collection and accommodate the increasing number of student, staff, and public users of the specialized materials. Over 630 requests for extensive reference assistance were received from off-campus representatives of companies, unions, government agencies, and the general public throughout the world, in addition to the many student and staff requests received daily. Donations are being accepted for a memorial collection in honor of the late Dr. Donald G. Paterson, in recognition of his many years of guidance and service to the Industrial Relations Center. This is the third such special collection to be received by the Reference Room, the others being a memorial to the late Clarence Lofquist, St. Paul labor union official, and a collection in recognition of Dr. Dale Yoder, director of the IRC from 1945 to 1958.—H. G. HENEMAN, *director*

Divisions of Academic Administration

OFFICE OF THE DEAN OF STUDENTS

During this biennium the Dean of Students Office staff has remained the same in number.

A special American Association of University Professors investigating sub-committee examined the Dean of Students Office during this biennium and reported that they could find no substantive basis for complaint. Also, a special sub-committee of the University Senate Committee on Student Affairs reviewed individual disciplinary counseling procedures. This committee reaffirmed the basic counseling and rehabilitation purposes and methods and recommended minor procedural changes.

The Dad's Association has increased its membership by 90 per cent. They have sent their communications to all parents. Eight programs during the two years brought parents to the campuses.

Orientation Program—During this biennium the orientation-registration program provided individualized attention for 15,606 new students inducted into the University. Of these, 1,628 attended one of twelve Freshman Camps which were designed to help each participant better understand the changes he will experience in personal, cultural, and social understanding.

Approximately 5,400 parents attended the New Student Parents Day.

New students and their parents received 9,000 copies of the *Moccasin* annually.

Residence Counseling Program—The 7,000 students living in University residence halls, fraternities, sororities, and some rooming houses were assisted by 153 residence counselors in 1960-61 and 163 counselors in 1961-62. Approximately 300 meetings are held annually with these counselors and their consultants and supervisors to provide special training and coordination. Each year ten staff members of the Student Counseling Bureau served as consultants for the Residence Counseling Program. Four members of the Student Activities Bureau staff, six members of University Services, and one member of the Student Housing Bureau staff provided the direct supervision of the residence counselors.

St. Paul Campus Branch—During the years 1960-62 the professional staff of the St. Paul Office of the Dean of Students had 13,560 contacts. This included interviews, meetings, and telephone calls with students, faculty, administrative personnel, and off-campus persons.

This office continues to carry out programs for the St. Paul Campus which represent a coordinated effort of all the bureaus represented in this office.

Each year the office sponsors a Special Dean's Retreat for academically able freshmen and sophomores on this campus for the purpose of providing a stimulating intellectual experience for them.

During this biennium a series of case study seminars for faculty advisers were held for the purposes of demonstrating student personnel procedures, techniques and processes, and their relationship to the advising of students.

Coordinator of Student Religious Activities—Cooperative relations among the many religious groups at the University continue at a high level. The Theological Lectureship Series brought Bishop Anders Nygren to the campus in the spring of 1961 and Dr. William F. Albright, Professor Emeritus from Johns Hopkins University, in the fall of 1961. In cooperation with the Department of Concerts and Lectures, the Brotherhood of Faiths Choral Festival was resumed as a feature of Brotherhood Week in both 1961 and 1962. The "Laymen for Religion" committee and Mr. Algot Johnson provide financial assistance to religious programs. A majority of denominations have indicated their interest in an all-faith building on the campus, on the west bank of the Mis-

Mississippi. During 1960, 20,244 students filled out religious preference cards. In 1961 the number was 21,039.

Office of the Foreign Student Adviser—There were 1,578 foreign nationals affiliated with the University in 1960-61 and 1,742 in 1961-62. Of this number, 74 per cent were students; the rest were faculty, trainees, observers and honorary fellows. Half of all foreign students are graduate students. These foreign nationals came from 82 countries of the world with India, China and Canada having more than 100 representatives, and Korea, United Arab Republic, Philippines, Japan, Iran and Pakistan between 25 and 100. The African, Middle Eastern, and South and Central American groups increased markedly, while the Asian group increased 3 per cent and the European group decreased. During the biennium the staff recorded 30,649 contacts with these nationals and held 715 meetings reaching 19,000 people.

The special English language program for foreign students continued to improve the English capabilities of some foreign students.

Bureau of Student Loans and Scholarships—Student requests for University financial aids have increased for the eighth consecutive biennium. In 1960-62 the amount of aid approved was \$2,799,295 as compared to \$2,499,917 in 1958-60 and \$1,331,215 in 1956-58. Of this amount, \$1,529,416 was in loans and \$1,249,879 was in scholarships.

Well-qualified applicants for freshman scholarships continue to increase in number. During 1960-62, 2,186 applied who ranked in the upper one-fourth of their class. This represents an increase of 373 or 21 per cent over the preceding biennium. Of these, approximately 25 per cent received freshman scholarships. Also, 395 student athletes were granted \$328,454 in financial aids.

During this biennium the University continued to supplement the student loan fund by borrowing from area banks and approved participation in the United Student Aid Fund.

Student Activities Bureau—During the 1960-62 biennium, the Student Activities Bureau supervised and assisted student leaders with the projects and programs of 366 recognized student organizations. Members of the staff held 64,308 meetings, conferences, interviews and informal discussions with students and faculty interested in these organizations and interested in using the extra curriculum for the fullest educational development of students. There were 27,191 administrative approvals for speakers, publicity, social programs and scholastic eligibility. Funds raised by student organizations for charitable purposes reached \$117,441.17.

Significant developments included a revision of the University's policy concerning restrictive membership clauses to distinguish between justifiable and unjustifiable discrimination by student religious organizations. Also, all student organizations met the deadline of January, 1962, for the removal of restrictive membership clauses.

Public controversy and the resulting discussions over the appearance of Mr. Benjamin Davis, American Communist Party officer, as a speaker on the campus helped clarify the University's policies and purposes regarding student organizations, off-campus speakers, and University responsibility.

The financial status of student organizations is:

	1960-61	1961-62
Deposits	\$608,482.76	\$703,465.03
Withdrawals	600,923.05	697,586.22
Ending balance	89,805.23	95,703.34

Disciplinary Counseling Program—During the 1960-62 biennium, new complaints of misconduct against 555 students (402 males and 153 females) were reported to the Office of the Dean of Students as compared to the 1958-60 total of 498 (371 males and 127 females). The total work load including services to closed cases, old cases re-opened for further dispositions, consultations and counseling cases increased from 1,170 in 1958-60 to 1,322 in 1960-62. The number of new student disciplinary cases in comparison to the fall quarter Minneapolis-St. Paul campus enrollments was 1.12 per cent in 1958-60 and 1.23 per cent in 1960-62.

Of the individual cases heard in the Disciplinary Counseling Office during the last two years, slightly more than four-fifths were classified in four descriptive categories: minor misconduct, disorderly conduct, theft, and miscellaneous which includes such items as inter-college cases of scholastic dishonesty, possession or consumption of liquor on the campus, and emotionally disturbed students whose behavior is perceived as disruptive or threatening.

In University residence halls, sororities, fraternities, and co-ops, there were 143 residence judiciaries in June, 1962, compared to 117 judiciaries in June, 1960. The 1962 judiciaries held 731 meetings, heard complaints against 1,555 students, and took 1,731 actions. The 1960 judiciaries held 648 meetings, heard complaints against 1,285 students, and took 1,647 actions. Approximately 60 per cent of the charges were violations of hours and sign-out regulations by women students.

The All-University Committee on Student Behavior, an administrative committee appointed by the University President to hear special cases and appeals from the Disciplinary Counseling Office, convened 17 times, heard 25 student cases, and reviewed 3 former dispositions. Four decisions made by the Committee on Student Behavior were appealed to the President.

Speech and Hearing Clinic—During the 1960-62 biennium the Speech and Hearing Clinic provided therapy for 988 people. It also made 15,399 individual appraisals including 12,590 speech and hearing appraisals for new students and 2,800 for students entering the College of Education.

Ninety speech pathology majors received training and supervision of clinical practices in the clinic.

Two research grants were received from the Graduate School.

Student Counseling Bureau—The Student Counseling Bureau provided professional counseling, testing and teaching services to University students, and consultation and assistance to University faculty, public and private high school staff, and state and community agencies. Of all students registered in the University in the fall quarter, 1961, 90 per cent at some time or other had been tested by the Student Counseling Bureau, and the results were available for purposes of admission, classification and placement, advising, and counseling. Of all students registered in the University during the fall quarter, 1961, 20 per cent at some time had been counseled in the Student Counseling Bureau.

Counseling was provided 2,794 individuals during 1961-62 and 2,753 in 1960-61. The following data describes the scope of the counseling program:

	1960-62
Total number of counseling cases	5,798
Total number of interviews	15,342
Number of psychological tests administered	752,765
Total cases in Reading and Study Skills Clinic	2,183
Number of student visits to Clinic	13,116
Number of case clearances	24,611

Several special projects were undertaken. As part of the University's Program for the Continuing Education of Women, counseling was provided to 219 women. Also, under a contract with the Veterans Administration, counseling was provided to 167 orphans of veterans. Under a contract with the United States Office of Education, approximately 20,000 tests were provided to 57 private schools in Minnesota.

Research in the Student Counseling Bureau involved test evaluation, academic predictions, vocational interest measurement, personality inventory validation, counseling evaluation, college motivation, characteristics of college students, programmed learning, study attitudes and skills, intra-individual variability, and thirty-year follow-up of University students.

Student Housing Bureau—The residential status of students enrolled in the University the fall quarter of each year of the biennium was as follows:

	1960-61	1961-62
Parents' homes	10,484	12,141
Relatives' homes	535	508
Own or rent house	2,256	2,179
Residence halls	2,967	3,217

BIENNIAL REPORT

	1960-61	1961-62
Married Student Housing	741	774
Fraternities and sororities	1,126	1,174
Apartments	4,044	4,292
Rooming houses	1,351	1,302
Friends or employers' homes	124	156
Residence not identified	1,314	1,482
	<hr/> 24,942	<hr/> 27,144

The residential status of students shows that about 15 per cent of the student body lives in facilities operated by the University.

The enrollment increases were reflected in the location of student residences. More students live farther from the campus and more live in sub-standard or disapproved residences. Each year approximately 6,000 students asked for housing placement assistance. Approximately 5,700 students live at 3,500 addresses. Over 2,300 residences were evaluated and rated each year. At the close of 1961-62, 666 were disapproved.—E. G. WILLIAMSON, dean

UNIVERSITY LIBRARIES

Development of the Library's Resources—At the June Commencement, 1962, a milestone in the growth of the University of Minnesota Libraries was passed when the Library received its "Two Millionth Volume." On June 30, 1962, the holdings of all libraries throughout the University totaled 2,072,285 volumes. Of these, 1,973,285 volumes comprised the collections in libraries on the University's Twin Cities campuses. In 1960-61, the year's additions totaled 58,580 volumes. In 1961-62 the comparable figure was 61,423. Presently the University of Minnesota ranks ninth among university libraries in size of collections.

Special acquisitions of materials on the history of trade, children's literature, medical history items, correspondence by literary figures, whaling literature, and a nearly complete collection of books from the Gregynog Press, Wales, have been acquired through generous gifts by friends of the University. In addition, the Library completed arrangements to acquire collections of rare books on astronomy and mathematics, on the history of philosophy, and on the history of aeronautics.

Other outstanding accessions include a collection of books about Napoleon, a collection of band music and recordings, diaries and other manuscript materials of novelist Frederick Manfred, microfilm files of the *St. Paul Pioneer Press* and the *Minneapolis Journal*, and an early (1520) map of the South Atlantic region. In the area of book arts, the library acquired two important landmarks in the history of printing: the Doves Bible and the Ashendene edition of Dante. In English literature a first edition of Boswell's *Life of Johnson* and a complete set of *The Tatler* were obtained.

The largest single gift received by the Library during the biennium was the Ames Library of South Asia, an extremely valuable source of reference materials for South Asia studies, consisting of some 25,000 volumes and a significant number of important original manuscripts relating to the era of British rule in India. Early in July, 1961, this collection, given to the University by its founder, Charles Lesley Ames of St. Paul, was installed in quarters in the Walter Library as a new service unit in the Library system.

For the second year of the biennium a special appropriation of \$50,000 was made to the University to help develop its book and periodical collections.

Physical Plant Developments—During the biennium a significant number of changes were made in the facilities housing various library units. Among these changes were the establishment of a Newspaper and Microfilm Room in the sub-basement of Walter Library; the completion and occupancy of the new Bio-Medical Library in Diehl Hall; the installation of four departmental libraries—Architecture, Art, Mines-Metallurgy and Chemical Engineering, and Pharmacy—in new quarters; and the establishment of the Ames Library of South Asia in a formerly uncompleted area in the Walter Library. During the second year of the biennium an Education Library with an initial collection of 125,000 volumes to serve the needs of Education, Psychology, and Library

Science was opened in the space formerly occupied by the Bio-Medical Library. Finally, as the year drew to a close, the first books were being transferred from overcrowded areas in Walter Library and various departmental libraries to the new Library Storehouse in the University Village area. The shift of several thousand less-used volumes to this new storage facility will help materially to relieve the overcrowded Library stacks until a permanent library for the West River area can be constructed.

Among other physical plant improvements concluded during the biennium was the consolidation of the Acquisitions Department on the third floor of Walter Library; the physical expansion of the Catalog Department; the completion of the third level of new stacks in the Law Library; additional shelving space for books at Morris; a main lobby book return facility in the Walter Library; and a similar return chute for the Freshman-Sophomore Library in Johnston Hall.

Physical plant plans approved for completion in 1962-63 include expansion of the Music Library facilities in Scott Hall, the installation of the Map Room in the West River area, and the establishment of a West River Branch Library to provide a temporary library facility pending the ultimate construction of a permanent West River library. Plans are also going forward to provide quarters for the Veterinary Medicine Library on the St. Paul Campus and the construction of additional library space in Diehl Hall.

Operational Highlights for the Biennium—Notable among the operational developments in the University Libraries during 1960-62 were the increased pressures on collections and reading room space throughout the system, as evidenced by statistics on the recorded use of Library materials, and mounting demands at the various service desks for publications and reference assistance. In various locations throughout the University Libraries it became increasingly difficult to obtain seats for readers during periods of heavy use. In spite of the provision of some additional study in non-library areas, such as the Main Engineering Building where two study halls were established, many students who could not be seated in regular reading rooms undertook to study their class notes and Library materials seated on stairways or on the floors in the corridors of various buildings. This condition will become aggravated until substantial additional library space can be made available.

The Freshman-Sophomore Library reported significant increases in demand for library materials resulting from an expansion in course offerings. The pressure of intensified use of the available book stock was illustrated by increased losses of books needed for class use, increased demand for duplication of heavily used titles, and the fact that at the central Circulation Desk almost one-half of the books requested could not be immediately produced, largely because they were already charged out to other patrons. In spite of the recurring student complaint that many requested books are reported to be "at the bindery" an analysis of books not delivered showed that only 1.2% of such titles were actually charged to the Bindery.

To better protect materials in heavy demand, exit turnstiles were installed at the main stack entrance, and in the Periodical Room, the Education Library and the Bio-Medical Library. On the other hand, in the interest of ease of access, the major portion of the Bio-Medical Library collection was installed on open shelves, and recent volumes of the most heavily-used journals were transferred to open shelf equipment in the Periodical Room and the Education Library.

While figures of use become increasingly less significant as books are transferred to open shelves, a number of units in the Library system mention marked increases in use. This was particularly notable in the Art Library, where the circulation this year was 12,510 as opposed to 9,814 last year. The Bio-Medical Library reported that the use of Library materials "more than doubled" since moving into its new quarters. During its first two months of operation, May and June 1962, the Education Library reported a total attendance of more than 17,000 patrons. Looking retrospectively at circulation trends, the Freshman-Sophomore Library reported that its two-hour loans (representing heavily used materials) rose from 23,000 to 43,000 since it opened a decade ago. The Circulation Department reported an increase of 46.1 per cent in loans from 1954-55 to 1961-62.

Increased student pressure for longer hours in all of the Library units has been felt during the past biennium. Within available funds, slight extensions of hours have been undertaken, particularly by offering some Sunday service in the Walter Library and the Bio-Medical Library. Pressure is presently mounting to extend the Walter Library Sunday afternoon hours to include evening service, and to open the general Library until 11 p.m. on week days. Some of the departmental libraries have been able to offer selected evening hours, financed from departmental funds, but many of these units are also being pressured to offer regular evening service as well as Saturday hours on regular Library budget support. As the number of people involved in research activity increases, it is clear that means to finance the extension of Library hours and to obtain the staff for the various service desks must be found.

Among the specialized Library facilities for which demands cannot be presently met are the provision of more individual study spaces, both on the Minneapolis and St. Paul Campuses, where graduate students and research workers can assemble Library materials for prolonged periods in order to carry on research work effectively. It is hoped that such specialized space can be generously provided in the proposed West River Library and in additions to the Bio-Medical and Agriculture Libraries.

Needs for the Immediate Future—The most urgent immediate need of the University Libraries for space in which to serve the rapidly increasing student and faculty population will not be met, however, until a major new library can be constructed to serve the West River campus area.

Perhaps the most important need of the Library in terms of its obligation to render effective service in the face of increasing patron demands is for additional staff and an improved personnel program that will attract and retain competent career librarians. In the face of a critical nation-wide shortage of professional personnel the salaries, status, and working conditions of librarians in the University have been falling seriously behind those of other institutions. Until the University Library is able to meet competitive conditions in the recruitment and retention of staff, and add a significant number of positions to meet the needs of the expanding University, the service it can render is certain to deteriorate.—EDWARD B. STANFORD, *director*

OFFICE OF ADMISSIONS AND RECORDS

A number of significant new steps were taken by the Office of Admissions and Records during the biennium to streamline its operations and keep pace with University expansion.

Records work for all four campuses was integrated in Minneapolis, extending the same machine tabulating services provided for the Minneapolis and St. Paul campuses to the Duluth and Morris campuses. All registration information and grade reports are now processed through the Minneapolis Campus office. This office now has the same information in its files for the two newer campuses as it has had for the Minneapolis and St. Paul campuses and can readily produce University-wide information for statistical and research purposes.

Work also began on a new computer facility to be operated jointly by the Admissions and Records Office and the Office of the Vice President for Business Administration. The facility, being constructed at the basement level in the space between the administration and physics buildings on the Minneapolis campus, is expected to serve this office by the spring quarter of 1963. The new complex of data-processing machines will enable the two departments to switch over from their present punched-card operations to a system incorporating magnetic tapes. With its "memory" features and far greater speed, the new system will open up important new possibilities for the Admissions and Records Office. For example, everything known about a student can be put on tape, and admissions decisions themselves can many times be indicated by the computer.

The Admissions and Records Office was involved during the biennium in the consideration of new patterns for cooperation among public institutions

of higher education in the Upper Midwest. There were proposals aimed at lessening barriers to movement of students among schools in the area—barriers such as the higher fees charged for non-resident students. Discussions of the plan, which is still in the formative stages, included such aspects as cases in which one state university has a program not found in another and the problem of students living in an area closer to the state university of a neighboring state than that of their own.

The office also promoted a complete restudy of the University enrollment outlook, both short- and long-range. The Savage Report, among its findings, indicated a 40 per cent increase in Minnesota public high school graduates between 1962-63 and 1964-65—substantially higher than earlier predictions. It tended to show that former expectations of a University enrollment of 47,000 by 1970 are probably too conservative.

Active in the planning for the new West River area of the Minneapolis Campus from the start, the Office also took the initiative during the biennium in consultations, computer studies, and decisions on the courses to be taught and the time schedule to be followed with the beginning of instruction there in the fall quarter, 1962. Reassignment of buildings vacated on the east side of the river as a result of the move was also a major task. In addition, a review of the 1956 report on University space needs was undertaken to bring up to date the statement of building requirements.

Working with the Committee on Institutional Research, the department conducted a review of the University academic calendar, investigating the possibility of a switch from the current quarter system to a year-round "trimester" plan. The faculty senate accepted the report of the committee, rejecting a change of program as not offering sufficient net advantages at Minnesota.

An unexpectedly large increase in enrollment during the second year of the biennium and prospects for further increases forced the University to adopt higher tuitions effective in the fall of 1962. The increases ranged from \$9 to \$15 a quarter for most resident students and from \$20 to \$25 for non-residents. The problem resulted in part from the fact that many more students than were anticipated and budgeted for enrolled in the fall of 1961. Since tuition dollars cover only a part of the cost of a student's education, the University had to find the funds to cover the rest of the cost by temporarily diverting money earmarked for other instructional purposes. Teaching assistants and instructors in excess of the number budgeted for were hired from funds available because of vacancies in positions at the higher levels of associate professor and professor. The University believed it had to replace the funds through a tuition increase in order to fill these positions and to maintain a distinguished faculty, as well as providing added staff and supplies for further expected enrollment increases.

The Admissions and Records Office accelerated its policy of granting early admission to well-qualified high school seniors during the biennium, particularly the last year. In the past, only top-ranked students had been encouraged to apply for admission before completion of their senior year of high school. Now, however, largely as a result of conversations between University admissions officers and secondary school principals, the policy has been expanded to include all "well-qualified" Minnesota high school seniors—an estimated three-quarters of all applicants. A big portion of applications now come in after completion of the high school senior's first semester in January instead of during the summer: the total reached 2,000 through winter and spring of 1962.

Another step taken during the biennium to improve contacts between the University and the high schools of the state was publication of a new handbook for University visitors. The handbook is designed to answer questions asked by typical high school groups.

Korean veterans attending the University, largely under the benefits of Chapter 33 of Title 38, U.S. Code (formerly Public Law 550), declined from an average of about 2,500 at the close of the previous biennium to a total of 1,459 in 1960-61 and 772 in 1961-62. Disabled veterans from World War II and from the Korean Conflict, in training under Chapter 31, Title 38 (formerly Public Laws 16 and 894), dropped to 20 in 1960-61 and 13 in 1961-62. Children

of veterans who died of injury or disease resulting from military service, attending under Chapter 35, Title 38 (formerly Public Law 634), totaled 65 in 1960-61 and 95 in 1961-62. This office continued to provide Selective Service Boards with information and certification on students enrolled under educational deferment, a group that numbered about 3,500 in 1960-61 and 5,500 in 1961-62.

Annual Enrollment—Record-breaking totals of persons again received instruction from the University during the biennium. The total of different persons served by the University was 90,165 in 1960-61 and 90,725 in 1961-62, compared with 87,596 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 38,905 in the first year of the biennium (Table I) and 41,614 in the second year. This compared with 36,923 in the last year of the preceding biennium. Other collegiate-level enrollments, including extension and correspondence courses and instruction at the Center for Continuation Study, also recorded increases during the period—the total gain for collegiate-level instruction being 3,586 to a mark of 75,522 in 1961-62. However, enrollments below the college grade fell 3,026 during the two-year period, almost entirely the result of a drop in agricultural short course enrollment (Table III).

Enrollment in Day Colleges—(Table I)—Day-college enrollment during the regular academic year, exclusive of summer sessions, rose to 33,183 in 1960-61 and 35,563 in 1961-62, after just under 31,000 in the last year of the preceding biennium. In 1961-62, the Duluth campus accounted for 3,218 students, a gain of 233, and the Morris campus, in its second year, added another class and doubled its enrollment to 530. In Minneapolis-St. Paul, major enrollment gains during the biennium came in the College of Science, Literature, and the Arts; the General College, and the Graduate School, with lesser but significant gains in Pharmacy, Medicine, and Law. There was another sizable decline in the Institute of Technology and significant drops in Education, Nursing, and Business Administration.

Men and Women—The percentage of men students to women in the day-college enrollment during the regular academic year continued to edge downward in the biennium, reaching 70 per cent in the first year and 68.5 per cent in the second year. At the close of the previous biennium the proportion of men in the total student body had been 72 per cent (Table I).

Out-of-State Enrollment—(Tables XA, XB)—The proportion of out-of-state students in the total student body declined from about 14 per cent during the previous biennium to 12.6 per cent in 1961-62. The Graduate School, School of Public Health, and College of Veterinary Medicine continued to have the biggest proportions of students from outside Minnesota, but the ratio dipped in all three units—from 50 to 48 per cent in the Graduate School, from 51 to 46.6 per cent in Public Health, and from 34 to 27.6 in Veterinary Medicine. The number of foreign students totaled 1,170 in 1960-61 and 1,175 in 1961-62—about 3 per cent of the student body, as in the two preceding bienniums.

New Matriculants—There were 11,040 new students in 1960-61 and 12,165 in the second year, against a level of 8,259 in the final year of the previous biennium. The 1961-62 total included 8,342 freshmen and 3,823 students with advanced standing; the 1960-61 totals were 7,420 and 3,620 respectively (Tables VIII and IX). In 1959-60 there had been 5,958 freshmen and 2,301 students with advanced standing.

Source of New Matriculants—As in the preceding biennium, approximately 94 per cent of the entering freshmen were from Minnesota. Of these, in 1961-62, 20 per cent came from Minneapolis public schools, 9.3 per cent from St. Paul, 54 per cent from other Minnesota public schools and 11.2 per cent from the state's private schools.

The proportion of undergraduate advanced standing students entering from Minnesota colleges was 66 per cent in 1960-61 and 67 in 1961-62. This

reflected the increased enrollments in other Minnesota colleges and the tendency of increasing numbers of students to start their college work there and subsequently transfer to the University for advanced studies.

Degrees Conferred—The number of degrees conferred by the University dropped during the first year of the biennium. The University granted 5,591 degrees in 1960-61 compared with 5,785 in 1959-60. In 1961-62 the total rebounded to 5,671 (Table VIIA).

Summer Sessions—Enrollment in the summer totaled 12,221 different persons in 1960, a decline from the 12,805 in 1959. However, the summer enrollment climbed back strongly to 12,938 in the second year of the latest biennium. Second term enrollment was about 69 per cent of the first in 1960 and 71 per cent in 1961, continuing the relatively more rapid rise in second term attendance.

Extension Division—Evening class enrollment (Table IVA), General Extension) climbed to 15,101 in 1960-61 and 16,051 in 1961-62. The mark in 1959-60 had been 13,851. Extension short course enrollment fell back to 3,138 in the first year of the biennium and 2,239 in the second. Attendance at the Center for Continuation Study (Table IVB) dipped to 9,914 in 1960-61 but came back to 10,451 in the second year, a hundred short of the total the last year of the previous biennium. Correspondence study (Table IVA) reached a total enrollment of 8,740 in 1960-61 and 9,289 in 1961-62.

Subcollegiate Enrollments—Subcollegiate programs rose to an enrollment of 18,229 in 1960-61 but then fell off to 15,203 in the second year. The main drop came in agricultural short courses. The closing out of the School of Agriculture on the St. Paul campus and the dwindling enrollment in the School of Agriculture at Morris also cut into the subcollegiate totals. For detailed figures see Table III.

Tables—Various other enrollment data and trends are indicated in the accompanying tables. Special attention is directed to Table V, which summarizes the number of different students instructed at every level each year. —ROBERT EDWARD SUMMERS, *dean*

TABLE I. COLLEGIATE ENROLLMENT BY COLLEGES AND SCHOOLS, 1960-1962

College or School	Year 1960-61			Year 1961-62			Gain	Loss
	Men	Women	Total	Men	Women	Total		
General College								
Second year	977	256	1,233	1,124	326	1,450	217	.....
First year	1,373	380	1,753	1,626	525	2,151	398	.....
Adult Special	154	27	181	119	26	145	.....	36
Totals	2,504	663	3,167	2,869	877	3,746	579	.....
University College								
Senior	12	13	25	7	18	25	.....	.....
Junior	4	13	17	3	15	18	1	.....
Sophomore .....	.....	3	3	.....	1	1	.....	2
Adult Special	4	1	5	1	1	2	.....	3
Totals	20	30	50	11	35	46	.....	4
Science, Literature, and Arts								
Senior	1,014	451	1,465	1,010	479	1,489	24	.....
Junior	1,067	533	1,600	1,257	650	1,907	307	.....
Sophomore	1,699	1,011	2,710	1,840	1,304	3,144	434	.....
Freshman	1,945	1,470	3,415	2,231	1,974	4,205	790	.....
Adult Special	301	205	506	241	223	464	.....	42
Totals	6,026	3,670	9,696	6,579	4,630	11,209	1,513	.....

BIENNIAL REPORT

TABLE I.—Continued

College or School	Year 1960-61			Year 1961-62			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Institute of Technology								
5th year	529	2	531	494	.....	494	.....	37
4th year	621	6	627	584	4	588	.....	39
3rd year	714	5	719	528	6	534	.....	185
2nd year	718	13	731	898	16	914	183	.....
1st year	829	13	842	835	10	845	3	.....
Adult Special	186	1	187	112	5	117	.....	70
Totals	3,597	40	3,637	3,451	41	3,492	.....	145
Agriculture, Forestry, and Home Economics								
Senior	270	134	404	239	153	392	.....	12
Junior	232	134	366	206	130	336	.....	30
Sophomore	370	211	581	437	238	675	94	.....
Freshman	422	196	618	392	211	603	.....	15
Adult Special	113	31	144	78	56	134	.....	10
Totals	1,407	706	2,113	1,352	788	2,140	27	.....
Law School								
Senior	89	2	91	63	.....	63	.....	28
Junior	12	.....	12	5	.....	5	.....	7
Sophomore	69	1	70	102	1	103	33	.....
Freshman	139	1	140	158	6	164	24	.....
Adult Special	6	.....	6	3	.....	3	.....	3
Totals	315	4	319	331	7	338	19	.....
Medical School								
Senior	112	5	117	115	9	124	7	.....
Junior	113	10	123	123	6	129	6	.....
Sophomore	121	5	126	123	1	124	.....	2
Freshman	130	4	134	134	13	147	13	.....
Adult Special	2	1	3	.....	.....	.....	.....	3
Totals	478	25	503	495	29	524	21	.....
Medical Technology								
Senior	.....	30	30	4	36	40	10	.....
Junior	4	40	44	3	38	41	.....	3
Adult Special	5	18	23	.....	20	20	.....	3
Totals	9	88	97	7	94	101	4	.....
Nursing								
3rd year	1	97	98	1	123	124	26	.....
2nd year	1	72	73	.....	53	53	.....	20
1st year	1	119	120	.....	82	82	.....	38
Affiliate	.....	55	55	.....	59	59	4	.....
Adult Special	1	18	19	.....	15	15	.....	4
Totals	4	361	365	1	332	333	.....	32
Occupational Therapy								
Senior	.....	18	18	2	14	16	.....	2
Junior	2	21	23	1	20	21	.....	2
Adult Special	.....	.....	.....	1	1	2	2	.....
Totals	2	39	41	4	35	39	.....	2
Physical Therapy								
Senior	3	16	19	2	17	19	.....	.....
Junior	2	16	18	3	21	24	6	.....
Adult Special	.....	1	1	.....	.....	.....	.....	1
Totals	5	33	38	5	38	43	5	.....

TABLE I.—Continued

College or School	Year 1960-61			Year 1961-62			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Public Health								
Senior	68	47	115	55	48	103	.....	12
Junior	.....	13	13	17	25	42	29	.....
Sophomore	.....	20	20	.....	24	24	4	.....
Adult Special	30	41	71	30	23	53	.....	18
Totals	98	121	219	102	120	222	3	.....
Dentistry								
Senior	94	.....	94	83	.....	83	.....	11
Junior	84	.....	84	88	.....	88	4	.....
Sophomore	90	.....	90	93	.....	93	3	.....
Freshman	100	.....	100	112	.....	112	12	.....
Adult Special	1	.....	1	2	.....	2	1	.....
Totals	369	.....	369	378	.....	378	9	.....
Dental Hygiene								
2nd year	.....	39	39	.....	38	38	.....	1
1st year	.....	51	51	.....	45	45	.....	6
Adult Special	.....	.....	.....	.....	.....	.....	.....	.....
Totals	.....	90	90	.....	83	83	.....	7
Pharmacy								
Senior	30	4	34	28	7	35	1	.....
Junior	27	7	34	30	8	38	4	.....
Sophomore	39	9	48	64	3	67	19	.....
Freshman	57	4	61	60	5	65	4	.....
Adult Special	2	.....	2	3	.....	3	1	.....
Totals	155	24	179	185	23	208	29	.....
Education								
Senior	435	718	1,153	395	737	1,132	.....	21
Junior	264	609	873	288	630	918	45	.....
Sophomore	91	340	431	86	395	481	50	.....
Freshman	103	347	450	80	122	202	.....	248
Adult Special	283	295	578	236	233	469	.....	109
Totals	1,176	2,309	3,485	1,085	2,117	3,202	.....	283
Business Administration								
Senior	372	7	379	367	7	374	.....	5
Junior	405	8	413	360	7	367	.....	46
Adult Special	45	4	49	58	4	62	13	.....
Totals	822	19	841	785	18	803	.....	38
Veterinary Medicine								
Senior	42	1	43	34	.....	34	.....	9
Junior	35	.....	35	46	.....	46	11	.....
Sophomore	48	.....	48	34	2	36	.....	12
Freshman	38	4	42	47	4	51	9	.....
Adult Special	5	.....	5	7	.....	7	2	.....
Totals	168	5	173	168	6	174	1	.....
Graduate School								
Mpls., St. P. and Dul.	4,115	874	4,989	4,222	950	5,172	183	.....
Mayo	635	19	654	645	22	667	13	.....
Totals	4,750	893	5,643	4,867	972	5,839	196	.....

BIENNIAL REPORT

TABLE I.—Continued

College or School	Year 1960-61			Year 1961-62			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Duluth								
Senior	331	122	453	309	162	471	18	.....
Junior	318	162	480	389	165	554	74	.....
Sophomore	503	222	725	526	299	825	100	.....
Freshman	684	413	1,097	742	431	1,173	76	.....
Adult Special	138	92	230	107	88	195	.....	35
Totals	1,974	1,011	2,985	2,073	1,145	3,218	233	.....
Morris								
Sophomore .....	.....	.....	.....	126	41	167	167	.....
Freshman	189	64	253	186	97	283	30	.....
Adult Special	10	6	16	26	54	80	64	.....
Totals	199	70	269	338	192	530	261	.....
Total Academic								
Year	24,078	10,201	34,279	25,086	11,582	36,668	2,389	.....
Less Dups.	754	342	1,096	712	393	1,105	9	.....
Net Total Academic Year	23,324	9,859	33,183	24,374	11,189	35,563	2,380	.....
Summer Session								
First Term	6,120	3,741	9,861	6,236	4,161	10,397	536	.....
Second Term	4,581	2,266	6,847	4,776	2,595	7,371	524	.....
Totals	10,701	6,007	16,708	11,012	6,756	17,768	1,060	.....
Less Dups.	3,461	1,660	5,121	3,609	1,869	5,478	357	.....
Net Total Summer Session	7,240	4,347	11,587	7,403	4,887	12,290	703	.....
Mayo Graduates	617	17	634	634	14	648	14	.....
Net Total Summer Session (including Mayo)	7,857	4,364	12,221	8,037	4,901	12,938	717	.....
Grand Total	31,181	14,223	45,404	32,411	16,090	48,501	3,097	.....
Less Dups.	4,741	1,758	6,499	4,815	2,072	6,887	388	.....
Net Grand Totals Collegiate	26,440	12,465	38,905	27,596	14,018	41,614	2,709	.....

TABLE IIA

COLLEGIATE ENROLLMENT BY QUARTERS

1960-1961

College or School	First Summer Session 1960			Second Summer Session 1960			Fall 1960			Winter 1961			Spring 1961			Total Individual Registration*		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
General College	171	35	206	123	27	150	1,960	537	2,497	1,877	489	2,366	1,753	470	2,223	2,599	679	3,278
University	7	9	16	4	3	7	20	26	46	16	22	38	12	22	34	24	33	57
Science, Literature, Arts	1,179	936	2,115	878	573	1,451	5,120	3,259	8,379	4,880	3,041	7,921	4,482	2,825	7,307	6,804	4,362	11,166
Institute of Technology	601	9	610	430	6	436	3,454	41	3,495	3,105	30	3,135	2,814	31	2,845	3,758	45	3,803
Ag., For., and H.E.	170	170	340	183	69	252	1,156	634	1,790	1,204	615	1,819	928	585	1,513	1,495	791	2,286
Law School	80	2	82	81	1	82	313	4	317	289	4	293	271	4	275	306	5	311
Medicine	258	15	273	255	16	271	472	26	498	471	22	493	459	23	482	499	26	525
Medical Technology	1	12	13	2	8	10	7	81	88	8	74	82	4	66	70	9	81	90
Nursing and Affiliates	243	243	.....	230	230	.....	5	315	320	3	278	281	3	215	218	4	467	471
Occupational Therapy	20	20	.....	20	20	.....	2	39	41	2	38	40	2	33	35	1	40	41
Physical Therapy .....	.....	1	1	.....	.....	.....	5	33	38	5	32	37	5	31	36	4	32	36
Public Health	98	158	256	79	101	180	89	97	186	91	86	177	89	87	176	164	259	423
Dentistry	56	.....	56	30	.....	30	371	.....	371	361	.....	361	358	.....	358	362	.....	362
Dental Hygiene .....	.....	3	3	.....	3	3	.....	90	90	.....	82	82	.....	76	76	.....	90	90
Pharmacy	11	4	15	12	6	18	148	23	171	144	24	168	143	23	166	143	21	164
Education	511	1,079	1,590	303	585	888	813	1,782	2,595	798	1,697	2,495	812	1,620	2,432	1,597	3,154	4,751
Business Administration	217	10	227	162	5	167	659	14	673	635	13	648	585	13	598	901	31	932
Veterinary Medicine	24	.....	24	22	1	23	169	5	174	166	5	171	161	4	165	163	4	167
Graduate:																		
Mpls., St.P., and Duluth	2,223	604	2,827	1,656	347	2,003	3,375	678	4,053	3,299	647	3,946	3,241	640	3,881	5,261	1,293	6,554
Mayo	617	17	634	617	17	634	611	16	627	588	16	604	565	14	579	688	19	707
Duluth	513	431	944	361	265	626	1,740	928	2,668	1,705	844	2,549	1,546	743	2,289	2,359	1,405	3,764
Morris .....	.....	.....	.....	.....	.....	.....	176	64	240	177	59	236	152	58	210	198	70	268
Totals	6,737	3,758	10,495	5,198	2,283	7,481	20,665	8,692	29,357	19,824	8,118	27,942	18,385	7,583	25,968	27,339	12,907	40,246
Less Duplicates	67	69	136	39	19	58	170	97	267	176	118	294	203	137	340	899	442	1,341
NET TOTALS	6,670	3,689	10,359	5,159	2,264	7,423	20,495	8,595	29,090	19,648	8,000	27,648	18,182	7,446	25,628	26,440	12,465	38,905

* This represents a net count of individuals with duplicates deducted.

TABLE IIB

COLLEGIATE ENROLLMENT BY QUARTERS

1961-1962

College or School	First Summer Session 1961			Second Summer Session 1961			Fall 1961			Winter 1962			Spring 1962			Total Individual Registration*		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
General College	193	51	244	130	38	168	2,346	736	3,082	2,212	676	2,888	1,975	639	2,614	2,969	902	3,871
University	1	6	7	2	7	9	9	23	32	10	24	34	10	29	39	12	35	47
Science, Literature, Arts	1,371	1,142	2,513	1,025	753	1,778	5,772	4,224	9,996	5,486	3,943	9,429	4,899	3,653	8,552	7,449	5,433	12,882
Institute of Technology	634	12	646	450	8	458	3,280	41	3,321	2,940	33	2,973	2,691	32	2,723	3,640	48	3,688
Ag., For., and H.E.	166	236	402	131	97	228	1,152	711	1,863	1,160	662	1,822	914	626	1,540	1,440	905	2,345
Law School	109	1	110	110	1	111	329	7	336	317	6	323	297	4	301	329	6	335
Medicine	204	13	217	199	13	212	481	29	510	463	27	490	465	23	488	510	29	539
Medical Technology	1	20	21	1	16	17	7	89	96	7	75	82	6	69	75	8	96	104
Nursing and Affiliates	3	200	203	3	198	201	1	302	303	1	263	264	1	203	204	3	426	429
Occupational Therapy	2	15	17	2	16	18	3	36	39	1	35	36	3	34	37	4	33	37
Physical Therapy		1	1		1	1	5	37	42	5	34	39	5	35	40	4	34	38
Public Health	84	141	225	46	95	141	94	102	196	92	86	178	90	84	174	158	230	388
Dentistry	72		72	42		42	380		380	374		374	361		361	369		369
Dental Hygiene		9	9		5	5		83	83		80	80		76	76		84	84
Pharmacy	24	2	26	22	4	26	176	23	199	172	23	195	163	23	186	174	22	196
Education	616	1,186	1,802	422	634	1,056	787	1,648	2,435	796	1,602	2,398	772	1,570	2,342	1,637	3,022	4,659
Business Administration	201	10	211	154	5	159	572	13	585	579	13	592	565	15	580	871	24	895
Veterinary Medicine	19		19	17		17	168	7	175	164	7	171	159	6	165	159	6	165
Graduate:																		
Mpls., St.P., and Duluth	2,103	659	2,762	1,673	425	2,098	3,531	752	4,283	3,424	727	4,151	3,356	705	4,061	5,387	1,469	6,856
Mayo	634	14	648	634	14	648	618	15	633	608	15	623	574	17	591	722	19	741
Duluth Campus	433	457	890	347	279	626	1,853	1,052	2,905	1,788	919	2,707	1,673	813	2,486	2,317	1,512	3,829
Morris Campus							301	140	441	288	135	423	253	174	427	335	188	523
Totals	6,870	4,175	11,045	5,410	2,609	8,019	21,865	10,070	31,935	20,887	9,385	30,272	19,232	8,830	28,062	28,497	14,523	43,020
Less Duplicates	76	56	132	48	25	73	127	107	234	188	131	319	165	142	307	901	505	1,406
NET TOTALS	6,794	4,119	10,913	5,362	2,584	7,946	21,738	9,963	31,701	20,699	9,254	29,953	19,067	8,688	27,755	27,596	14,018	41,614

* This represents a net count of individuals with duplicates deducted.

DIVISIONS OF ACADEMIC ADMINISTRATION

209

TABLE III SUB-COLLEGIATE ENROLLMENT 1960-1962

School or Course	Year 1960-61			Year 1961-62			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Northwest School and Station, Crookston								
Senior	81	14	95	57	17	74		21
Junior	61	17	78	64	19	83	5	
Sophomore	48	12	60	71	11	82	22	
Freshman	49	10	59	56	11	67	8	
Unclassed		1	1					1
Totals	239	54	293	248	58	306	13	
West Central School and Station, Morris								
Senior	44	16	60	41	15	56		4
Junior	41	17	58	18	2	20		38
Sophomore	28	10	38					38
Freshman								
Unclassed								
Totals	113	43	156	59	17	76		80
North Central School and Station, Grand Rapids								
Senior	17		17	14		14		3
Junior	23		23	18		18		5
Sophomore	13		13	21		21	8	
Freshman	12		12					12
Unclassed								
Totals	65		65	53		53		12
Southern School and Station, Waseca								
Senior	41	16	57	39	18	57		
Junior	45	20	65	46	18	64		1
Sophomore	46	19	65	40	21	61		4
Freshman	35	21	56	43	15	58	2	
Unclassed								
Totals	167	76	243	168	72	240		3
University High School, Minneapolis								
Nursery School, Minneapolis	235	240	475	228	226	454		21
Kindergarten, Minneapolis	42	40	82	43	41	84	2	
Elementary School, Minneapolis	12	11	23	13	12	25	2	
Laboratory School, Duluth	76	75	151	76	74	150		1
	112	107	219	108	110	218		1
Net Totals Schools	1,061	646	1,707	996	610	1,606		101
Agricultural Short Courses, St. Paul								
Aircraft Sprayers	56		56	58		58	2	
Amer. Soc. Agro. Meeting	285	81	366					366
Animal Nutrition	125	2	127					127
Beef Cattle—Grassland								
Field Day	384	7	391	410	2	412	21	
Beekeepers	35	11	46	37	11	48	2	
Boys State	365		365	369		369	4	
Cleaning and Sanitizing				118	1	119	119	
Concrete Drain Tile Mfg.	57		57	61	2	63	6	
Crops Judging				40		40	40	
Dairy Herd Improvement	46	4	50	86	8	94	44	
Dairy Products	414	1	415	442		442	27	
Dome Club		65	65					65
Editor's Short Course	66		66	60		60		6
Elect. Controls				24		24	24	
Fair Management	80	17	97	150	34	184	87	
Farm and Home Week	3,375	1,125	4,500	536	673	1,209		3,291
Farm Income Tax	296	55	351	342	64	406	55	
Farm Mutual	77	7	84	87	2	89	5	
F.F.A. Convention	2,211		2,211	2,300		2,300	89	
F.F.A. Dist. 8 Contest	158		158					158
Flock Selection and Pullorum Testing								
	39	3	42	63	4	67	25	
4-H Club Week	277	487	764	285	441	726		37
Garden Store	151	26	177	134	22	156		21
Hog Cholera Symposium				175	1	176	176	

BIENNIAL REPORT

TABLE III—Continued

School or Course	Year 1960-61			Year 1961-62			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Home Econ. Career Day		350	350		219	219		131
Horticulture	220	243	463	194	191	385		78
Horticulture Tech. Comm.	25		25					25
Ice Cream Mfg.	67		67					67
L-P Gas	81		81	98		98	17	
Lumberman's Conf.	45		45	32		32		13
Milk and Milk Producers				22	9	31	31	
Milk Judging	25		25	121	2	123	98	
Milk Pasteurization				33		33	33	
Minn. Alumni and Garden Club	47	93	140					140
Minn. Nutrition				183		183	183	
Minn. State Fire School	403		403	395		395		8
Post-Grad. Conf.	124		124	155		155	31	
Poultry Breeders	63		63	37	1	38		25
Quarter Horse Conf.				279	194	473	473	
Retail Feed Dealers	16		16					16
Rose Growers	44	76	120					120
School Lunch Workshop	2	122	124	20	476	496	372	
Soils and Fertilizer	437	1	438	601	3	604	166	
Town and Country Churches	120	5	125					125
Vocational-Ag. Conf.	109		109	112	1	113	4	
Weed and Seed Inspection	91		91	114		114	23	
Totals	10,416	2,781	13,197	8,173	2,361	10,534		2,663
Northwest School of Agriculture, Crookston								
4-H Club	207	300	507	341	201	542	35	
Women's Week		46	46		48	48	2	
West Central School and Station, Morris								
4-H Club	360	424	784	279	380	659		125
Homemaker's Workshop		318	318		427	427	109	
Lamb Feeder's Day	276	4	280	209	11	220		60
Livestock-Corn and Soybean Day	117	3	120	136	4	140	20	
Station Day	580	61	641	455	33	488		153
Swine Feeders Day	270		270	191		191		79
North Central School and Station, Grand Rapids								
4-H Club	114	196	310	142	194	336	26	
Homemakers Camp		37	37					37
Southern School and Station, Waseca								
Arc Welding Course	12		12	12		12		
Total Short Courses	12,352	4,170	16,522	9,938	3,659	13,597		2,925
Net Totals, Schools and Short Courses	13,413	4,816	18,229	10,934	4,269	15,203		3,026

DIVISIONS OF ACADEMIC ADMINISTRATION

211

TABLE IV A EXTENSION ENROLLMENT 1960-1962

Department or Course	Year 1960-61			Year 1961-62			Gain	Loss
	Men	Women	Total	Men	Women	Total		
General Extension	9,424	5,677	15,101	9,871	6,180	16,051	950	
Extension Short Courses								
Air Force and Ind. Pers.								
Training				5		5	5	
American Government				8	38	46	46	
Anatomy and Medical Terminology	28	104	132	99	67	166	34	
Architecture				24		24	24	
Arts of Reading		34	34		4	4		30
Basic Arrest and Criminal Investigations	43		43	50		50	7	
Basic Science for X-Ray Technique	17	102	119	21	62	83		36
Better Letter Course	158	10	168	82	23	105		63
Better Technical Writing				36	20	56	56	
Birds of Minnesota	7	19	26	8	11	19		7
Business Correspondence	12	13	25					25
Business English Review		60	60					60
Contributions of Psych. and Medicine to Fitness				2	32	34	34	
Critic, Artist and Public		3	3					3
Current Labor Problems				7	2	9	9	
Depressed Area Problems	51		51					51
Efficient Reading	128	37	165	189	47	236	71	
Electrical Engineers	21		21	2		2		19
Federal Income Tax	14		14					14
Financing Education				14	2	16	16	
Frontiers of 20th Century Science					36	36	36	
Glass Blowing	21		21	6	4	10		11
Golf	111	236	347	83	169	252		95
Grievance Procedure	27		27					27
Highway Traffic Eng.	26		26					26
Humanities in Modern World					20	20	20	
Int'l. Affairs Center				1	1	2	2	
Int'l. Relations				6	6	12	12	
Law Office Mgt.		3	3					3
Laws and Agreement	94	1	95					95
Laws and Legal Opinions				10	6	16	16	
Leadership Training	109	30	139	79	4	83		56
Legal Secretaries		52	52					52
Maturation of Children	7	51	58					58
Mechanical Engineers	25		25	11		11		14
New Worlds of Knowledge		44	44		31	31		13
Parliamentary Law	12		12	12	2	14	2	
Public Speaking	12	2	14					14
Psychology, General				1		1	1	
Russian Culture				9	7	16	16	
School Law and Finance								
Education	65	9	74					74
Steward Training	36		36	25		25		11
Structural Design for Architects	27		27					27
Swimming	303	675	978	248	573	821		157
Taxation and Public Finance	51	14	65					65
Tennis		22	22		21	21		1
Time and Motion Study				2	5	7	5	
Union Administration	191	10	201	2	1	3		198
Wild Game of Minnesota	8	3	11	5		5		6
Total Short Courses	1,604	1,534	3,138	1,050	1,189	2,239		899
Correspondence Study	4,801	3,939	8,740	5,170	4,119	9,289	549	
Grand Total, Extension	15,829	11,150	26,979	16,091	11,488	27,579	600	
Less Duplicates	423	233	656	449	248	697	41	
Net Grand Totals	15,406	10,917	26,323	15,642	11,240	26,882	559	

TABLE IV B CENTER FOR CONTINUATION STUDY ENROLLMENT 1960-1962

Course	Year 1960-61			Year 1961-62			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Adm. Dietetics	3	61	64					64
Adv. Safety Eng.	33		33					33
Aerodynamic Deceleration				46		46	46	
Aging and the Aged				28	41	69	69	
Alcohol Education	24	11	35					35
Allergy	37	1	38					38
Anesthesiology	47	4	51	60	1	61	10	
Anti-Trust Law				84		84	84	
Arms Control				24	12	36	36	
Assessors School	243	19	262	239	18	257		5
Audio-Visual Inst.	103	17	120	59	6	65		55
Automotive Crash and Field Dem.				76	1	77	77	
Basic Tailoring		37	37		35	35		2
Bituminous Conf.	137		137	141		141	4	
Blood Group Serology	15	121	136					136
Building Inspectors	50		50					50
Building Officials				59		59	59	
Cancer Detection	27		27	2		2		25
Cardiovascular Nursing					215	215	215	
Care of the Aged	38	58	96	31	47	78		18
Child-Caring Inst.	33	63	96	17	39	56		40
Child's Adjustment to Illness		78	78					78
Child with Cleft Palate		42	42					42
Choral Art	53	45	98	34	25	59		39
City Engineers Conf.	111		111					111
City and Village Eng.				86		86	86	
City Managers	24	4	24	24		24		27
Civic and Political Leadership	23	4	27					27
Clerks and Finance Officers	75	22	97	52	21	73		24
Clinical Dietetics		90	90		143	143	53	
Closed Chest Resuscitation				59	5	64	64	
College Student Personnel Workers				23	11	34	34	
Communication	16		16					16
Communication Workers of America	38	16	54	40	25	65	11	
Community Theater	13	26	39					39
Compensation Aspects of Employment				46	1	47	47	
Competence in Research				103	43	146	146	
Concrete Conf.	200		200	199		199		1
Consulting Engineer	23		23	26		26	3	
Consumer Credit	99	19	118	41	5	46		72
County Hgwy. Eng.	90		90	87		87		3
County Welfare Boards	75	18	93					93
County Welfare Directors				78	13	91	91	
Credit and Financial Mgt.	58	4	62					62
Credit Law				41	17	58	58	
Credit Union Leaders				41	5	46	46	
Credit Union Mgt.	43	6	49					49
Crown and Bridge	11		11	10		10		1
Curriculum and Supervision	105	42	147	54	11	65		82
Dairy Mgt.	11		11					11
Dental Assistants		83	83		85	85	2	
Dental Prosthesis	240		240					240
Dentistry for Children				9		9	9	
Dermatology	34	2	36	49	2	51	15	
Design and Corporate Image	32		32	13		13		19
Disturbed Children				50	40	90	90	
Driver Education	79	4	83	86	6	92	9	
Electrocardiography	56	2	58	57	4	61	3	
Elementary Education	1	46	47	29	52	81	34	
Endodontia	16		16	15		15		1
Ethics and Foreign Policy				26	18	44	44	
Evaluative Criteria	28	24	52					52
Federal Govt. and Higher Education				59	14	73	73	
Film Seminar				11	2	13	13	
Fisheries and Wildlife	49	1	50					50
Food Management				31	11	42	42	
Foreign Trade				45	2	47	47	
Gifted Children	43	23	66					66
Government Contracts				103	2	105	105	
Group Work Exec.	8	13	21					21
Guidance Aspects					126	126	126	

TABLE IV B—Continued

Course	Year 1960-61			Year 1961-62			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Gynecology	42	3	45	29	1	30		15
Heat Transfer				66		66	66	
Hematology				12	129	141	141	
History Books	10	85	95					95
Hospital Adm.	51	49	100	170	70	240	140	
Hospital Dentistry	11		11	8		8		3
Housing for Retirement				37	4	41	41	
Individual and Freedom				35	22	57	57	
Industrial Relations	111		111	77	2	79		32
Ind. Relations Central								
Labor Conf.	88	2	90	111	16	127	37	
Infrared Spectra	102		102	94	5	99		3
Inst. Housekeeping	10	58	68					68
Internal Medicine	69	2	71	66	2	68		3
Interstate Commerce								
Commission				35		35	35	
Juvenile Court Judges	63	1	64	46	1	47		17
Juvenile Officers	28	3	31					31
Labor Educators				83	7	90	90	
Law Enforcement Officers	63	3	66	83	7	90	24	
Maternal and Child Health								
Nursing					110	110	110	
Maternal and Child Health								
Teaching				67	39	106	106	
Maternity Care		134	134					134
Mayors and Councilmen	107	4	111	133	7	140	29	
Medical Education				31	2	33	33	
Medical Technologists				17	37	54	54	
Mentally Retarded					20	20	20	
Micro. Contam. Oper. Room		30	30					30
Micro. Principles					38	38	38	
Middle Mgt. Seminar	20		20					20
Mining Symposium	674		674	813		813	139	
Mortuary Science	76	3	79	11		11		68
Multiple Restoration	23		23	11		11		12
National Research Seminar	14	9	23					23
Neurology	61	3	64	70	6	76	12	
Newer Concepts of Growth	16	71	87					87
Nursing Anesthesia				6	83	89	89	
Nursing Home Adm.	49	59	108	49	64	113	5	
Nutrition Education					58	58	58	
Obstetrics	49		49	24	2	26		23
Occupational Health Nurses		77	77	1	80	81	4	
Operating Room Environ.		57	57					57
Ophthalmology	59		59	61	2	63	4	
Oral Medicine	75		75	62		62		13
Oral Surgery	9		9	8		8		1
Orthodontia	34		34	63		63	29	
Orthopedics	99		99					99
Otolaryngology	97	3	100	36	1	37		63
Parent and Family Life Educ.	14	234	248	7	179	186		62
Parents of Deaf Children	14	26	40	20	37	57	17	
Pastoral Counseling	23	3	26	33		33	7	
Pediatrics	35	4	39	25	4	29		10
Periodontics	20		20	21		21	1	
Pharmacology	17		17	14		14		3
Pharmacy				49	7	56	56	
Phenomenon of Regression		91	91					91
Physical Medicine	16		16					16
Plant Engineering	71		71	83		83	12	
Poland through 1,000 years	36	125	161					161
Police Chiefs	61		61	90		90	29	
Post Office Mgt.	60		60					60
Practical Nursing Educ.		37	37		51	51	14	
Proctology	32		32	23		23		9
Property Tax	25	1	26	36		36	10	
Psychiatric Nursing					62	62	62	
Psychiatry	30	2	32	12	2	14		18
Public Health Nursing Service		104	104		132	132	28	
Public School Law	98	4	102	105		105	3	
Public Works Adm.	49		49	32		32		17
Radiation Therapy	239	10	249					249
Radiographic Interpretation	6		6	6		6		
Radiology				350	5	355	355	
Records Adm.	39	18	57	26	10	36		21
Recreation Conf.				71	8	79	79	

BIENNIAL REPORT

TABLE IV B—Continued

Course	Year 1960-61			Year 1961-62			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Religious Educ.	16	71	87	23	37	60		27
Right of Way Seminar	136		136					136
Rock Mechanics Symposium				266		266	266	
Sacred Music		19	19					19
Safety Engineering				30		30	30	
School Business Mgt.				33	2	35	35	
School-Community Relations	59	27	86	49	16	65		21
Seaway	66		66					66
Second Civil War Seminar				16	2	18	18	
Sec. School Principals	140	6	146	123	11	134		12
Secretarial Inst.		39	39					39
Sewage Works Operators	114		114	110		110		4
Social Welfare	31	11	42					42
Social Work	26	17	43	54	38	92	49	
Social Worker's Dilemma	7	26	33					33
Soils Mech. and Found. Eng.	91		91	111		111	20	
State-wide Planning Conf.	228	27	255	122	16	138		117
Steelworkers	81		81	65		65		16
Student Pers. and Intell. Dev.	32	22	54					54
Surgery	134	1	135	112		112		23
Surgery of the Hand				163		163	163	
Surg. Tech. Aids		13	13					13
Tax Inst.	202	12	214	210	5	215	1	
Television in Education				109	4	113	113	
Traffic Court and Municipal Court	47		47	49	7	56	9	
Trauma	55	1	56	59	1	60	4	
War in the West	23	5	28					28
Wastes Eng.	52		52	57		57	5	
Water and Sewage Operators	53		53	51		51		2
Water Works Operators	130		130	165		165	35	
Welding	75		75					75
World Affairs	53	10	63					63
X-Ray Diffraction				8		8	8	
Totals	7,290	2,624	9,914	7,896	2,555	10,451	537	

TABLE V ENROLLMENT SUMMARY 1960-1962

	Year 1960-61			Year 1961-62			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Collegiate Students	26,440	12,465	38,905	27,596	14,018	41,614	2,709	
Sub-Collegiate	13,413	4,816	18,229	10,934	4,269	15,203		3,026
Totals	39,853	17,281	57,134	38,530	18,287	56,817		317
Less Duplicates								
Net Totals	39,853	17,281	57,134	38,530	18,287	56,817		317
Extension	15,406	10,917	26,323	15,642	11,240	26,882	559	
Center for Continuation Study	7,290	2,624	9,914	7,896	2,555	10,451	537	
Grand Totals	62,549	30,822	93,371	62,068	32,082	94,150	779	
Less Duplicates	2,191	1,015	3,206	2,265	1,160	3,425	219	
Net Grand Totals	60,358	29,807	90,165	59,803	30,922	90,725	560	

TABLE VI COMPARATIVE ENROLLMENT FIGURES 1960-1962

	1960-1961			1961-1962			Gain		Loss	
	Men	Women	Total	Men	Women	Total	M	W	M	W
General College	2,504	663	3,167	2,869	877	3,746	365	214		
University College	20	30	50	11	35	46		5	9	
Science, Literature, and Arts	6,026	3,670	9,696	6,579	4,630	11,209	553	960		

TABLE VI—Continued

	1960-1961			1961-1962			Gain		Loss	
	Men	Women	Total	Men	Women	Total	M	W	M	W
Institute of Technology Ag., For., Home Ec., and Vet. Med. (including schools of Ag. and Ag. short courses)	3,597	40	3,637	3,451	41	3,492	.....	1	146	.....
Law School	14,511	5,054	19,565	11,986	4,600	16,586	.....	.....	2,525	454
Medicine (including Med. Tech., Nursing, Phys. and Occup. Therapy, and Public Health)	315	4	319	331	7	338	16	3	.....	.....
Dentistry (including Dent. Hyg.)	596	667	1,263	614	648	1,262	18	.....	.....	19
Pharmacy	369	90	459	378	83	461	9	.....	.....	7
Education (including High School, Nursery and Kindergarten, and Elementary Grades)	155	24	179	185	23	208	30	.....	.....	1
Business Administration Graduate School (incl. Mayo)	1,653	2,782	4,435	1,553	2,580	4,133	.....	.....	100	202
Duluth Campus	822	19	841	785	18	803	.....	.....	37	1
Morris Campus	4,750	893	5,643	4,867	972	5,839	117	79	.....	.....
Summer Session (Net)	1,974	1,011	2,985	2,073	1,145	3,218	99	134	.....	.....
Totals	199	70	269	338	192	530	139	122	.....	.....
Less Duplicates	7,857	4,364	12,221	8,037	4,901	12,938	180	537	.....	.....
Net Totals	45,348	19,381	64,729	44,057	20,752	64,809	.....	1,371	1,291	.....
Extension	5,495	2,100	7,595	5,527	2,465	7,992	32	365	.....	.....
General Extension	39,853	17,281	57,134	38,530	18,287	56,817	.....	1,066	1,323	.....
Short Courses	9,424	5,677	15,101	9,871	6,180	16,051	447	503	.....	.....
Correspondence	1,604	1,534	3,138	1,050	1,189	2,239	.....	.....	554	345
Totals	4,801	3,939	8,740	5,170	4,119	9,289	369	180	.....	.....
Less Duplicates	15,829	11,150	26,979	16,091	11,488	27,579	262	338	.....	.....
Net Totals	423	233	656	449	248	697	26	15	.....	.....
Center for Continuation Study	15,406	10,917	26,323	15,642	11,240	26,882	236	323	.....	.....
Summary:	7,290	2,624	9,914	7,896	2,555	10,451	606	.....	.....	69
Totals,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Resident Students	39,853	17,281	57,134	38,530	18,287	56,817	.....	1,066	1,323	.....
Extension Students	15,406	10,917	26,323	15,642	11,240	26,882	236	323	.....	.....
C.C.S.	7,290	2,624	9,914	7,896	2,555	10,451	606	.....	.....	69
Grand Totals	62,549	30,822	93,371	62,068	32,082	94,150	.....	1,260	481	.....
Less Duplicates	2,191	1,015	3,206	2,265	1,160	3,425	74	145	.....	.....
Net Grand Totals	60,358	29,807	90,165	59,803	30,922	90,725	.....	1,115	555	.....

TABLE VII A

DEGREES CONFERRED

1960-1962

Colleges and Degrees	Year 1960-1961			Year 1961-1962		
	Men	Women	Total	Men	Women	Total
Agriculture and Business Administration	.....	.....	.....	.....	.....	.....
Bachelor of Agricultural Business Administration with high distinction	.....	.....	.....	2	.....	2
Bachelor of Agricultural Business Administration with distinction	.....	.....	.....	1	.....	1
Bachelor of Agricultural Business Administration	8	.....	8	6	.....	6

TABLE VII A—Continued

Colleges and Degrees	Year 1960-1961			Year 1961-1962		
	Men	Women	Total	Men	Women	Total
Agriculture and Education						
B.S. with high distinction (Ag Ed)	1	.....	1	1	.....	1
B.S. with distinction (Ag Ed)	7	.....	7	2	.....	2
B.S. (AgEd)	33	.....	33	23	.....	23
B.S. with high distinction (Home Ec Ed) .....	.....	4	4	.....	2	2
B.S. with distinction (Home Ec Ed) .....	.....	6	6	.....	9	9
B.S. (Home Ec Ed) .....	.....	45	45	.....	40	40
Agriculture, Forestry, and Home Economics						
B.S. with high distinction (Agriculture).....	2	.....	2	1	.....	1
B.S. with distinction (Agriculture)	14	.....	14	6	.....	6
B.S. (Agriculture)	71	.....	71	74	1	75
B.S. with high distinction (Forestry)	1	.....	1	2	.....	2
B.S. with distinction (Forestry)	9	.....	9	11	.....	11
B.S. (Forestry)	54	.....	54	59	.....	59
B.S. with high distinction (Home Economics)	.....	2	2	.....	.....	.....
B.S. with distinction (Home Economics) .....	.....	6	6	.....	4	4
B.S. (Home Economics) .....	.....	34	34	.....	35	35
Business Administration, School of						
B.B.A. with high distinction	2	.....	2	1	.....	1
B.B.A. with distinction	15	.....	15	2	.....	2
B.B.A.	146	6	152	57	1	58
B.S. in Business with high distinction	1	.....	1	1	.....	1
B.S. in Business with distinction	8	1	9	11	.....	11
B.S. in Business	123	1	124	182	5	187
B.S. in Economics with high distinction	1	.....	1	1	.....	1
B.S. in Economics with distinction	1	.....	1	1	.....	1
B.S. in Economics	4	.....	4	16	.....	16
Dentistry, School of						
B.S. with high distinction	1	.....	1	2	.....	2
B.S. with distinction	8	.....	8	7	.....	7
B.S.	49	.....	49	49	.....	49
Doctor of Dental Surgery	92	.....	92	81	.....	81
Graduate Dental Hygienist .....	.....	36	36	.....	35	35
Education, College of						
B.S. with high distinction	8	21	29	3	19	22
B.S. with distinction	27	107	134	21	94	115
B.S.	188	381	569	180	384	564
Master of Education	9	34	43	15	17	32
General College						
Associate in Arts	327	59	386	325	75	400
Institute of Technology						
Bachelor of Aeronautical Engineering with distinction	5	.....	5	2	.....	2
Bachelor of Aeronautical Engineering	24	1	25	28	.....	28
Bachelor of Agricultural Engineering	9	.....	9	7	.....	7
Bachelor of Applied Mathematics	3	.....	3	.....	.....	.....
Bachelor of Architecture with high distinction	1	.....	1	2	.....	2
Bachelor of Architecture with distinction	6	.....	6	5	.....	5
Bachelor of Architecture	25	.....	25	24	.....	24
Bachelor of Chemical Engineering with high distinction	1	.....	1	.....	.....	.....
Bachelor of Chemical Engineering with distinction	5	.....	5	2	.....	2
Bachelor of Chemical Engineering	29	.....	29	26	.....	26
Bachelor of Chemistry with high distinction .....	.....	.....	.....	3	.....	3
Bachelor of Chemistry with distinction	5	.....	5	6	.....	6
Bachelor of Chemistry	11	1	12	14	1	15
Bachelor of Civil Engineering with high distinction	1	.....	1	.....	.....	.....
Bachelor of Civil Engineering with distinction	7	.....	7	3	.....	3
Bachelor of Civil Engineering	44	.....	44	35	1	36
Bachelor of Electrical Engineering with distinction	2	.....	2	8	.....	8

TABLE VII A—Continued

Colleges and Degrees	Year 1960-1961			Year 1961-1962		
	Men	Women	Total	Men	Women	Total
Bachelor of Electrical Engineering	96		96	99		99
Bachelor of Geological Engineering	4		4	4		4
Bachelor of Geophysics with distinction	1		1			
Bachelor of Geophysics	1		1	1		1
Bachelor of Mathematics with high distinction	1		1	2		2
Bachelor of Mathematics with distinction	5		5	2		2
Bachelor of Mathematics				5		5
Bachelor of Mechanical Engineering with high distinction	2		2			
Bachelor of Mechanical Engineering with distinction	7		7	10		10
Bachelor of Mechanical Engineering	99		99	92		92
Bachelor of Metallurgical Engineering	1		1	4		4
Bachelor of Metallurgy with distinction				1		1
Bachelor of Metallurgy	5		5	4		4
Bachelor of Mining Engineering	8		8	1		1
Bachelor of Physics with high distinction	6		6	1		1
Bachelor of Physics with distinction	10		10	13		13
Bachelor of Physics	18		18	18		18
B.S. with high distinction	16	1	17	16		16
B.S. with distinction	38		38	28		28
B.S.	7		7	9		9
Law School						
Bachelor of Laws <i>summa cum laude</i>	1		1			
Bachelor of Laws <i>magna cum laude</i>	2		2	6		6
Bachelor of Laws <i>cum laude</i>	18	1	19	4	1	5
Bachelor of Laws	64		64	48		48
Bachelor of Science in Law	10		10	4		4
Master of Laws				1		1
Medical Science, College of						
B.S. with high distinction (Medical Tech)		1	1		2	2
B.S. with distinction (Medical Tech)		4	4		5	5
B.S. (Medical Tech)		18	18	4	21	25
B.S. (Medicine)	78	3	81	54	7	61
B.S. in Nursing with high distinction		9	9		8	8
B.S. in Nursing with distinction		15	15		11	11
B.S. in Nursing		37	37		41	41
B.S. in Nursing Administration with high distinction		2	2			
B.S. in Nursing Administration with distinction		9	9	1	10	11
B.S. in Nursing Administration		5	5		1	1
B.S. with high distinction (Occup Therapy)		2	2		1	1
B.S. with distinction (Occup Therapy)		3	3		3	3
B.S. (Occup Therapy)		15	15	1	9	10
B.S. with high distinction (Physical Therapy)		2	2		2	2
B.S. with distinction (Physical Therapy)		3	3	1	6	7
B.S. (Physical Therapy)	3	10	13	1	9	10
B.S. with distinction (Pub Health Nurs)		4	4		5	5
B.S. (Pub Health Nurs)		30	30		23	23
Doctor of Medicine	109	4	113	115	9	124
Master of Hospital Administration	30	1	31	27		27
Master of Nursing Administration		19	19		16	16
Master of Public Health	17	21	38	19	19	38
Mortuary Science						
Associate in Mortuary Science	37	1	38	51		51
Pharmacy, College of						
B.S. in Pharmacy	30	4	34	24	7	31
Science, Literature, and Arts						
Associate in Liberal Arts	23	47	70	21	36	57
B.A. <i>summa cum laude</i>	4	3	7	5	2	7
B.A. <i>magna cum laude</i>	39	31	70	31	39	70
B.A. <i>cum laude</i>	66	53	119	58	57	115
B.A.	563	207	770	527	197	724

TABLE VII A—Continued

Colleges and Degrees	Year 1960-1961			Year 1961-1962		
	Men	Women	Total	Men	Women	Total
University College						
B.A. <i>magna cum laude</i>	2		2	1		1
B.A. <i>cum laude</i>	2	1	3	1		1
B.A.	2	6	8	5	3	8
B.S.	1		1	3	2	5
Veterinary Medicine, College of						
B.S. with high distinction	6		6			
B.S. with distinction	5		5	6	1	7
B.S.	27		27	29	1	30
Doctor of Veterinary Medicine	42	1	43	34		34
Graduate School						
Master of Arts	324	131	455	349	159	508
Master of Arts in Public Administration ...	14		14	8	1	9
Master of Business Administration	9		9	11		11
Master of Fine Arts	1		1	3		3
Master of Forestry	4		4	2		2
Master of Science	124	18	142	161	24	185
M.S. in Aeronautical Engineering	7		7	9		9
M.S. in Agricultural Engineering	3		3	3		3
M.S. in Anesthesiology	2		2	1		1
M.S. in Chemical Engineering	8		8	12		12
M.S. in Civil Engineering	31		31	31	2	33
M.S. in Dental Surgery				3		3
M.S. in Dentistry	8		8	3		3
M.S. in Dermatology	7		7	3		3
M.S. in Electrical Engineering	20		20	28		28
M.S. in Industrial Engineering	7		7	2		2
M.S. in Mechanical Engineering	15		15	14		14
M.S. in Medicine	27	1	28	18		18
M.S. in Metallurgical Engineering	2		2	1		1
M.S. in Mineral Engineering				2		2
M.S. in Mining Engineering				2		2
M.S. in Neurology	3		3			
M.S. in Neurosurgery	2		2			
M.S. in Obstetrics and Gynecology	2		2			
M.S. in Ophthalmology				1		1
M.S. in Orthopedic Surgery	5		5	2		2
M.S. in Otolaryngology and Rhinology ...	1		1	1		1
M.S. in Pathology	1		1	1		1
M.S. in Pediatrics				2		2
M.S. in Plastic Surgery	3		3		1	1
M.S. in Psychiatry				1		1
M.S. in Radiology	4		4	3		3
M.S. in Surgery	18		18	7		7
M.S. in Urology	1		1			
Master of Social Work	14	11	25	14	14	28
Doctor of Philosophy	197	14	211	241	25	266
Ph.D. in Medicine	2		2	3		3
Ph.D. in Neurology				1		1
Ph.D. in Neurosurgery				1		1
Ph.D. in Pathology				1		1
Ph.D. in Pediatrics	1		1			
Ph.D. in Surgery	6		6	3		3
Ph.D. in Physical Medicine				1		1
Duluth						
Associate in Arts	5	7	12	8	7	15
B.A. <i>summa cum laude</i>	1	2	3	1	1	2
B.A. <i>magna cum laude</i>	3	1	4			
B.A. <i>cum laude</i>	6	1	7	8	5	13
B.A.	119	15	134	160	15	175
B.S. <i>summa cum laude</i>		2	2		1	1
B.S. <i>magna cum laude</i>		3	3		6	6
B.S. <i>cum laude</i>	2	9	11	9	21	30
B.S.	78	77	155	132	145	277
Grand Totals	3,981	1,610	5,591	3,967	1,704	5,671
Honorary Degrees				3		3
Grand Totals	3,981	1,610	5,591	3,970	1,704	5,674

DIVISIONS OF ACADEMIC ADMINISTRATION

TABLE VII B CERTIFICATES CONFERRED 1960-1962

School, Division, or Course	1960-1961			1961-1962		
	Men	Women	Total	Men	Women	Total
Agriculture, Forestry, and Home Economics						
Technical Certificate in Agriculture	6		6	13		13
Extension						
Accounting Certificate						
Junior	2		2	1		1
Senior	1		1			
Business Administration Certificate						
Junior	8		8	1		1
Senior	6		6	11	1	12
Electrical Engineering Aide Certificate				1		1
Electrical Engineering Technician Certificate				1		1
Engineering Certificate						
Basic Engineering Aide	3		3	2		2
Basic Engineering Science	12		12	8		8
Engineering Science Certificate				1		1
General Engineering						
Junior	3		3	1		1
Senior	6		6	7		7
Industrial Engineering Certificate						
Junior				2		2
Senior	2		2	2		2
Industrial Engineering Technician Certificate	1		1			
Industrial Relations Certificate	3		3			
Interior Design Certificate				2	3	5
Liberal Arts Certificate	1	1	2	3	3	6
Management of Administrative Services						
Certificate	2		2			
Public Administration Certificate	3		3			
General College						
Certificate of Dental Assistant		16	16		26	26
Graduate						
Certificate of Specialist in Education						
School Administration	1		1	2	1	3
School Psychological Services	3	3	6	1	1	2
Institute of Technology						
Certificate in Science	4		4	2		2
Medical Laboratory Assistant Certificate						
		53	53		55	55
Nursing						
Certificate in Practical Nursing		31	31	1	32	33
North Central School of Agriculture, Grand Rapids						
Diplomas						
Agriculture Course	16		16	14		14
Auto Mechanics Certificate				1		1
Special Certificate	4		4	1		1
Woodsmen Certificate	6		6	13		13
Northwest School of Agriculture, Crookston						
Diplomas	73	14	87	54	16	70
Southern School of Agriculture, Waseca						
Diplomas	39	16	55	34	17	51
West Central School of Agriculture, Morris						
Diplomas	43	15	58	38	15	53
University High School, Minneapolis						
Diplomas						
Certificates	39	34	73	35	35	70
Certificates	1	1	2	1	1	2
Totals	288	184	472	253	206	459

BIENNIAL REPORT

TABLE VIII A STUDENTS ENTERING FROM HIGH SCHOOLS 1960-1961

	General	S., L., and A.	Inst. of Tech.	Ag., For., and H.E.	Nursing	Dental Hygiene	Education	Duluth	Morris	Total
Minneapolis Public Schools..	429	772	169	65	2	5	131	9	3	1,585
St. Paul Public Schools	169	351	53	40	6	4	45	2	1	671
Other Minnesota High Schools	535	1,460	414	376	17	15	178	851	210	4,056
Minnesota Private Schools.....	184	349	43	30	5	2	19	47	25	704
Total, Minnesota Schools..	1,317	2,932	679	511	30	26	373	909	239	7,061
Other States and Territories	68	148	41	13	3	6	20	40	5	344
Foreign Countries	6	15	8	2	.....	.....	.....	10	.....	41
Total	1,391	3,095	728	526	33	32	393	959	244	7,401
Special Students	9	3	1	5	.....	.....	.....	1	.....	19
Grand Totals	1,400	3,098	729	531	33	32	393	960	244	7,420

TABLE VIII B STUDENTS ENTERING FROM HIGH SCHOOLS 1961-1962

	General	S., L., and A.	Inst. of Tech.	Ag., For., and H.E.	Nursing	Dental Hygiene	Education	Duluth	Morris	Total
Minneapolis Public Schools..	484	907	152	66	2	3	32	5	.....	1,651
St. Paul Public Schools	254	413	54	31	3	.....	18	2	.....	775
Other Minnesota High Schools	631	1,820	395	347	11	16	85	917	264	4,486
Minnesota Private Schools.....	247	492	78	33	6	1	4	71	4	936
Total, Minnesota Schools..	1,616	3,632	679	477	22	20	139	995	268	7,848
Other States and Territories	69	140	45	14	1	4	12	32	5	322
Foreign Countries	1	7	7	2	.....	.....	.....	10	.....	27
Total	1,686	3,779	731	493	23	24	151	1,037	273	8,197
Special Students	29	41	9	1	2	.....	2	6	44	134
Missing Information .....	.....	.....	.....	.....	.....	.....	.....	11	.....	11
Grand Totals	1,715	3,820	740	494	25	24	153	1,054	317	8,342

TABLE IX A

SUMMARY OF STUDENTS ENTERED WITH ADVANCED STANDING

1960-1961

	General	University	Sci., Lit., and Arts	Institute of Tech.	Ag., For., and H.E.	Law	Medicine	Medical Tech.	Nursing	Occup. Therapy	Physical Therapy	Public Health	Dentistry	Dental Hygiene	Pharmacy	Education	Business	Vet. Medicine	Grad., and Mayo	Duluth	Morris	Total
Institutions in Minnesota	93	.....	456	163	97	27	28	5	23	.....	1	27	18	.....	16	191	46	.....	89	158	9	1,447
Institutions in Other States and Territories	28	1	310	75	43	23	6	3	18	.....	2	45	19	5	7	99	32	10	478	55	8	1,267
Institutions in Foreign Countries .....	.....	.....	10	7	3	.....	.....	1	.....	.....	.....	1	1	.....	.....	4	2	.....	251	8	.....	288
Totals	121	1	776	245	143	50	34	9	41	.....	3	73	38	5	23	294	80	10	818	221	17	3,002
Special Students	6	.....	179	72	62	2	1	7	14	.....	1	24	.....	.....	1	164	20	.....	40	7	1	601
Missing Information .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	12	4	.....	17
Grand Totals	127	1	955	317	205	52	35	16	55	.....	4	97	38	5	24	459	100	10	870	232	18	3,620

TABLE IX B

SUMMARY OF STUDENTS ENTERED WITH ADVANCED STANDING

1961-1962

	General	University	Sci., Lit., and Arts	Institute of Tech.	Ag., For., and H.E.	Law	Medicine	Medical Tech.	Nursing	Occup. Therapy	Physical Therapy	Public Health	Dentistry	Dental Hygiene	Pharmacy	Education	Business	Vet. Medicine	Grad., and Mayo	Duluth	Morris	Total
Institutions in Minnesota	105	1	507	185	96	39	34	3	20	.....	1	31	25	7	13	207	45	1	106	127	9	1,562
Institutions in Other States and Territories	34	3	330	76	45	35	25	2	17	1	2	41	24	1	1	128	24	8	545	48	7	1,397
Institutions in Foreign Countries	1	.....	9	8	2	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	2	.....	.....	262	6	.....	292
Totals	140	4	846	269	143	74	59	5	37	1	3	74	49	8	14	337	69	9	913	181	16	3,251
Special Students	3	.....	174	35	68	2	.....	6	8	1	.....	17	.....	.....	.....	151	20	7	51	11	.....	554
Missing Information .....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....	.....	4	6	5	18
Grand Totals	143	4	1,021	304	211	76	59	11	45	2	3	92	49	8	14	439	89	16	968	193	21	3,823

TABLE X A

SUMMARY OF GEOGRAPHICAL DISTRIBUTION OF STUDENTS OF COLLEGIATE GRADE
(OTHER THAN SUMMER SESSION)

1960-1961

	General	University	S.L.A.	Inst. of Tech.	Ag., For., and H.E.	Law	Medicine	Medical Tech.	Nursing	Occup. Therapy	Physical Therapy	Public Health	Dentistry	Dental Hygiene	Pharmacy	Education	Business	Veterinary Med.	Grad., and Mayo	Duluth	Morris	Duplicates	Total	
Counties in Minnesota																								
Hennepin...	1,971	23	4,821	1,390	443	131	167	44	89	25	9	45	81	32	47	1,622	359	17	1,147	61	3	398	12,527	
Ramsey	702	10	1,827	578	254	57	79	9	38	6	7	20	35	14	29	586	130	8	540	18	2	178	4,949	
Other Minn. Counties	435	11	2,533	1,387	1,255	102	212	38	122	9	12	46	172	22	96	1,052	299	99	1,153	2,794	262	468	12,111	
Totals	3,108	44	9,181	3,355	1,952	290	458	91	249	40	28	111	288	68	172	3,260	788	124	2,840	2,873	267	1,044	29,587	
Other States and Terr...	55	5	460	226	97	27	43	6	56	.....	10	85	79	22	5	210	47	48	1,893	71	1	46	3,446
Foreign Countries..	4	1	55	56	64	2	2	.....	5	1	.....	23	2	.....	2	15	6	1	902	29	.....	5	1,170
Missing Information .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8	12	1	.....	21
Grand Totals	3,167	50	9,696	3,637	2,113	319	503	97	310	41	38	219	369	90	179	3,485	841	173	5,643	2,985	269	1,095	34,224	

TABLE X B

SUMMARY OF GEOGRAPHICAL DISTRIBUTION OF STUDENTS OF COLLEGIATE GRADE
(OTHER THAN SUMMER SESSION)

1961-1962

	General	University	S.L.A.	Inst. of Tech.	Ag., For., and H.E.	Law	Medicine	Medical Tech.	Nursing	Occup. Therapy	Physical Therapy	Public Health	Dentistry	Dental Hygiene	Pharmacy	Education	Business	Veterinary Med.	Grad., and Mayo	Duluth	Morris	Duplicates	Total	
Counties in Minnesota																								
Hennepin..	2,276	27	5,624	1,313	500	120	165	42	87	21	12	44	90	30	64	1,431	335	16	1,222	73	6	411	13,498	
Ramsey	938	8	2,210	556	243	53	64	11	37	6	8	23	32	14	31	563	124	14	596	20	3	163	5,554	
Other Minn. Counties	473	6	2,872	1,333	1,257	128	239	40	98	10	14	52	169	23	107	982	278	96	1,214	3,018	518	465	12,927	
Totals ..	3,687	41	10,706	3,202	2,000	301	468	93	222	37	34	119	291	67	202	2,976	737	126	3,032	3,111	527	1,039	31,979	
Other States and Terr....	55	4	445	230	88	36	51	8	51	1	9	87	86	16	5	206	58	41	1,893	71	3	59	3,444	
Foreign Countries..	4	1	57	60	51	1	5	.....	1	1	.....	16	1	.....	1	20	8	7	912	29	.....	6	1,175
Missing Information .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	6	.....	.....	8
Grand Totals	3,746	46	11,208	3,492	2,139	338	524	101	274	39	43	222	378	83	208	3,202	803	174	5,839	3,217	530	1,104	36,606	

BUREAU OF INSTITUTIONAL RESEARCH

Aside from changes in student membership, and the departure of one Committee member from the University faculty, the only alterations in the membership of the Senate Committee on Institutional Research occurred with a change in chairman from John R. Borchert in 1960 to Philip M. Raup in 1961. Other members of the Committee remained: John A. Buttrick, Thomas W. Chamberlin, Robert J. Keller, Keith N. McFarland, Paul R. O'Connor, Sheldon C. Reed, Robert E. Summers, E. Paul Torrance, Maurice B. Visscher and Malcolm M. Willey.

Administrative Research Unit—Much of the time of the Administrative Unit was spent in making regular analyses of the data contained in the Course Inventory. Each quarter some of the following kinds of information are tabulated for each department and college in the University: course enrollments, number of credits taught, and number of courses taught by level; average enrollment per section; average number of instructor hours by rank; number and per cent of five credit courses; and number and per cent of sections enrolling fewer than ten students.

Each year since 1956 the annual enrollment surveys for the Committee for the Continuing Study of Higher Education of the Association of Minnesota Colleges has been prepared.

A number of questionnaires and surveys are normally routed to this Unit for response. During the past two years, questionnaires were completed for the American Association of University Professors, the National Education Association, the Department of Health, Education and Welfare, the Department of Health, Education and Welfare, the National Science Foundation.

Members of the staff of the Administrative Unit have also participated in the design, analysis and writing of the following research reports: (1) *Faculty Attitudes Toward the Use of Closed-Circuit Television in University Instruction*; (2) *A Follow-up Study of Students Enrolled at the University of Minnesota Spring Quarter 1959 and Who Did Not Return Fall Quarter 1959* (two parts). A study of faculty characteristics was in the data collection stage at the close of the biennium.

A part of the effort of the Administrative Unit has been directed toward the analysis of instructional costs. During the past year an approach to estimating "per student costs," by college and by level was developed and applied to the data for the academic year 1960-61 and is now being applied to 1961-62 expenditures.

General Educational Research Unit—Following a continuing theme of research on faculty, the Bureau published a significant investigation of the interests of distinguished undergraduate scholars in the choice of an academic career. The study is designed to explore the degree of attention given to a career in college teaching and revealed substantial consideration of this possibility among a group of academically select seniors.

In the fall of 1961 at the request of the Senate Committee on ROTC and the University administration, a survey of *Student Attitudes Toward Reserve Officer Training Corps Programs* was conducted by this Bureau. The findings of this investigation were of sufficient significance to military personnel and educators generally that a national meeting was called at the University to discuss enrollment and other problems of military education in civilian institutions of higher education.

A third major project carried on during the biennium was an analysis of the degree productivity of institutions in the Council of Ten and the University of Chicago. The study was undertaken for the Committee on Institutional Cooperation and led to their publication of *A Fact Book on Degrees Conferred by the CIC Universities*.

Other projects of smaller dimension completed during the biennium were an analysis of upper division programs of University of Minnesota Arts College graduates, a review of literature related to a possible University calendar change, and a follow-up evaluation of a Navy research and development clinic.

Projects in progress at the close of the biennium were an exploratory analysis of trends in faculty publications during the period from 1935-36 to 1955-56. The analysis is particularly concerned with taxonomic problems of classifying publications, with identification of changes in the incidence of multiple authorship, and with changes in the form and type of publication reported.

Other projects in progress were a follow-up survey of career interests in college teaching, a survey of student decisions to enter ROTC during the winter term, and an analysis of Graduate School admission records.

In addition to the research activities of the General Educational Unit, two Bulletins, numbers 11 and 12, dealing with grading practices were added to the popular *Examinations Service* series. Distribution of these aids to college teachers has now passed the 60,000 mark. In addition to the publication of this series, the Bureau's Examinations Consultant has met with numerous individuals and faculty groups interested in problems of classroom testing.

Other Bureau Activities—The Bureau has continued to carry a major responsibility for educational psychology courses in the areas of measurement and evaluation, as well as providing counsel for graduate students and faculty interested in psychometric and survey design problems. Each year the Bureau also finds itself faced with an increasing number of requests to assist state-wide, regional, national organizations. The frequency of these requests is clear indication of the increasing interest of groups involved in the planning of higher education to base their decisions upon careful analysis and study, and forecasts even further demands on bureaus of institutional research who are willing and staffed to assume broadened responsibilities.—JOHN E. STECKLEIN, *director*

MINNESOTA STUDENT UNIONS

Significant programs, events, and construction projects usually receive the most publicity and public interest. But the day-by-day activities of the Department of Student Unions at the University of Minnesota function at an entirely different level of responsibility. It is on this day-by-day level that the real function of a college union is performed.

During the 1960-62 biennium, many significant events took place within the three branches of the Department of Student Unions—Coffman Memorial Union, St. Paul Campus Student Center and the Village Union. Social events are usually the most conspicuous segment of a college union program. Recreational events were popular during this period, too. Educational aspects of the Union program received greater emphasis during this two-year period than at any previous time.

During the biennium many non-student organizations also made use of Union facilities. Often these were professional organizations and organizations sponsored by the University. The Russian Medical Exhibit appeared in Coffman Union and was viewed by an estimated 150,000 people. Minneapolis and Chicago were the only two cities to see the exhibit.

The ever-increasing student enrollments at both the Minneapolis and St. Paul campuses have created unusually severe pressures in the Department of Student Unions. Because it is a new building, the Student Center has not yet been confronted with the pressing demands for meeting space as has Coffman Memorial Union. But storage space is already at a premium in the St. Paul Campus Student Center, and a significant enrollment increase will cause problems similar to those confronting the Minneapolis Union.

Coffman Memorial Union was designed a little over 22 years ago when there were 14,000 students on campus. On an average day, according to traffic surveys, approximately 12,000 people use the building for one reason or another. The Minneapolis campus student body in 1961 was 26,800 students.

During this biennium period an area under the cafeteria on the east side of Coffman Union has been excavated and a room of approximately 7,300 square feet has been developed to provide additional eating and recreation space. It has been named "The Gopher Hole." The North Star and Ski-U-Mah rooms serve the commuter with a bag lunch, but are usually crowded. The Main Ballroom also attracts many of these students during the Noon Hour

programs. It is hoped that The Gopher Hole will relieve a little of the tremendous pressure.

Coffman Memorial Union

A series of chamber music programs and Kaffee Konzerts were held in the Main Ballroom during the noon hour. Students ate their bag lunches while listening to some of the finest professional concert musicians in the Northwest. This program, which reached an average of 900 students at each performance, grew out of the previous year's successful experience with an evening series of chamber music concerts. The Kaffee Konzerts were co-sponsored by the Classics Corner committee and the Department of Concerts and Lectures. In addition, three appearances of the Minneapolis Civic Orchestra were sponsored by the Classics Corner. Also popular was the Jazz Goes to School series, which traced the development of this American form of music.

Renovation of WMMR neared completion during the second half of the biennium and regular programming activities will be on the increase in the future.

The Union functions not only to entertain and educate the University student, but to serve as an outlet for his energies and as a testing ground for the development of leadership capabilities and the expression of talent. During the past two years the Coffman Union leadership training area has worked for greater participation and better training among students taking an active part in the Union program. While the first half of the biennium showed increased activity, even greater progress was made during the second half when over twice as many students actively participated in Union committees. The Union-developed Leadership Kits were being used throughout the nation in government, education and industry.

The annual spring Creative Arts Festival illustrates the Union's development of University talent. The theme of the 1961-62 Festival was "A Showcase of Campus Talent." By using students, faculty and staff in discussions, sponsored plays, interpretive readings and demonstrations of art and music, the Creative Arts Festival committee produced the most successful program in the seven-year history of the Festival. The program was co-ordinated with the talent of Leon Bibb, Boris Goldovsky and Van Cliburn.

The past biennium has demonstrated most dramatically the inadequacy of the present Coffman Memorial Union facilities to serve the large student population. The Union is the meeting place for many "homeless" campus organizations, organizations not formally a part of the Union program. But the demands upon free Union space just can not be met. There are far more requests for space than there is space available. The West Bank campus will create even more difficulties in serving students adequately.

The increasing number of foreign students on campus has permitted the realization of a long awaited International Lounge, which is being placed in the cross lounge on the second floor of Coffman Union. This will provide a place for national expression from the different groups while serving the indigenous student. It is hoped that this will contribute to greater understanding between American students and students from foreign countries.

In spite of the constant pressure upon Union resources during class hours, there is a need to use the facilities to capacity during slack periods, such as during vacations and summers. In 1960-61 more than 10,600 persons took part in non-student organizational meetings. In the second half of the biennium this increased to 10,816. Most of these groups used the facilities when there was little or no use by students.

Student Center St. Paul Campus

The 1960-61 programming year was a test for the St. Paul Campus Student Center personnel. The second half of the previous biennium had shown a marked increase in the use of Union facilities on the St. Paul campus, partly because of the newness of the Student Center.

But 1960-61 surpassed all expectations. Students and staff of the Student Center increased their planning and execution of events by 27 per cent; one

fourth more events were carried out during the year than had been held the previous year. This led to an increase in attendance of 21.4 per cent.

The next year's attendance remained at a high level, although one or two events showed a decline, partly a result of a re-orientation and evaluation of the worth of certain programs. This was especially true in the matter of building tours and coffee hours, shows, and demonstrations. Other areas, dance instruction, parties, leadership seminars, and counselor orientation showed an increase.

Nevertheless, at the end of this biennium, the Student Center showed an increase in total traffic of almost 30 per cent over that use reported for the 1958-60 biennium which demonstrates that it has become *the* focal point of the campus.

But attendance figures do not tell the entire story of a Union's worth nor of its functional ability to meet the needs of its constituents. An emphasis on expanding activities in the cultural areas was continued in 1960-61 and accelerated throughout the biennium. The Student Center maintained a policy of continuous showings of art exhibits. The increase of the program consultant's time from nine months to full-time provided needed staff for effective summer programming and also helped to stabilize the position.

The Student Center took the initiative in organizing the St. Paul Campus Leadership Recognition Banquet in cooperation with the St. Paul Campus Student Council. The addition of a Toastmistress organization was completed during the second year of this biennium. Women faculty members were admitted during 1961-62 to full membership status.

The Student Center continued to exhibit patronage increases. Patronage at the information desk increased markedly as did the use of vending machines and the billiard room. Total patronage of the varied services of the Student Center increased 12 per cent during the last half of the biennium. Unlike most bowling establishments throughout the Twin Cities, use of the bowling facilities did not take a drastic drop, although the total lineage was down about 5 per cent. This is in line with the experience of other college unions throughout the country. It can be attributed, in large part, to the great increase in the number and luxury of commercial bowling lanes which have been built recently.

Total measurable traffic, including organizational use and patronage of the Student Center's services, was up over 10 per cent in the second half of the biennium.

Continued progress in the improvement of programming and of cultural offerings is being sought on the St. Paul campus. The experience of the past two years has indicated that an increased quality of programming will not only serve the needs of the students, faculty and staff, effectively, but will draw large numbers of them to take part. Experimentation in the use of more effective programming and the development of more efficient facilities will continue during the coming biennium.

University Village Union

The peculiar nature of the student population served by the Village Union has created an unusual and functional series of programs and services that have been designed specifically for the married student, his wife and his children. The Village Union showed an increase in use of the facilities during the latter half of the biennium, when more realistic accounting procedures were initiated.

Several programming improvements were initiated during the second half of the biennium, including an additional class at the Playcenter Nursery School. A film program series followed by coffee-discussions and a Saturday matinee program for children were also initiated.

Continual use of the Union's study hall facilities and accompanying conference rooms for study groups, demonstrated the practicality and utility of such facilities. The Village Union by providing such services and meeting places for village groups and organizations has helped to relieve the cramped condition of the University Village.

The problems of a slowly shrinking proximate population, as the University phases out the University Village, must be met by diversified program-

ming and by an active and energetic Union Board of Governors. The next two years may prove to be crucial years in light of this.—GORDON L. STARR, director

COFFMAN MEMORIAL UNION

Classified attendance figures, including service figures for the 1960-1962 biennium

Areas and Committees	1960-61	1961-62
<i>Fine Arts Area</i> —Art craft studio, gallery, talent associates	3,935	8,923
<i>Graduate Area</i> —programming	587	292
<i>Music Area</i> —Classics Corner, Christmas Sing, Coffman Musicale, Jazz Workshop	26,190	31,897
<i>Recreation Area</i> —co-rec nights, outings, bowling, ski train, billiards	7,331	10,263
<i>Social Area</i> —dance instruction, single swing, square dance, variety dance	16,306	27,169
<i>Topics Area</i> —Focus, student-faculty relations, American-foreign students	8,505	8,800
<i>Variety Area</i> —charm, noon programs	76,961	78,247
<i>Personnel Area</i> —coke hours, merit reception	792	1,149
<i>Training Area</i> —leadership seminars, retreats, training sessions, Union Board Council	1,165	2,716
<i>Public Relations Area</i> —advertising agency, WMMR, President's reception	8,235	2,817
<i>Special Events</i> —Coffman capers, Homecoming, Christmas semi-formal, campus carnival	16,371	12,978
Total organization use	166,022	185,251
<i>Service Areas</i> —fine arts gallery, art craft studio, outing equipment, talent referrals	4,286*	55,423

* 1960-61 figures not kept for gallery attendance or for talent referrals.

COFFMAN MEMORIAL UNION

Classified Organizational Use of Coffman Memorial Union, with attendance figures, for the 1960-62 biennium

	1960-61	1961-62
Union Sponsored Events	189,010	132,707
Alumni Organizations	655	1,164
Cooperative Organizations		105
Faculty Organizations	1,894	669
Fraternalities and Sororities	4,339	3,757
Governing Bodies	9,196	7,165
Honorary Organizations	2,054	1,518
Language and Cultural	8,615	5,224
Music and Fine Arts	107	521
Orientation Activities	12,286	8,750
Political Organizations	7,863	5,372
Professional and Department	43,870	24,626
Recreation and Hobby	6,060	3,406
Religious Organizations	13,899	8,063
Residential Organizations	425	55
Social Service Organizations	3,430	1,212
Special Events	3,947	6,569
Miscellaneous	16,398	1,882
Conferences and Organization Meetings	10,698	15,468
Information Desk	19,753	20,233
Recreational Games: Billiards	54,711	63,876
Bowling	185,840	185,675
Table Tennis	10,820	9,334
Game Room	74,392	79,598

STUDENT CENTER ST. PAUL CAMPUS

Classified attendance figures, including patronage figures for the 1960-1962 biennium

Area	1960-61	1961-62
Dance—instruction, Homecoming, parties	3,895	5,181
Discussion—Toastmaster, convocation	3,041	2,879
Fine Arts and Crafts—demonstrations, exhibits, films, faculty use	2,813	1,840
Graduate and Married Students—activities, socials, tours	938	477
Hospitality—building tours, coffee hours, open house, Sanka seminars	7,520	5,635
International Students—discussions, socials	518	300
Outings and Games—tournaments, Co-Rec nights, bridge instruction	1,451	1,408
Music and Shows	5,045	4,056
Special Events—counselor orientation, leadership seminars, freshman orientation	1,241	1,348
Meetings of Clubs, Committees and other programs	47,619	46,035
Information Desk	71,905	75,778
Recreational Games: Billiards	30,831	35,415
Bowling	23,994	22,731
Table Tennis	5,868	5,656

UNIVERSITY VILLAGE UNION

Classified attendance figures for the 1960-1962 biennium

Areas and Committees—Events	1960-61	1961-62
Village Union Board of Governors sponsored activities:		
Adult program area—open house, dances, arts and crafts, art exhibit	763	1,607
Children's program area—Playcenter Nursery School, dancing lessons, parties	2,740	5,795
General program area—meetings, social hours, study groups, panel discussions	7,375	8,784
Non-sponsored activities:		
Adult program area—parties, Great Books discussion groups, volleyball	301	335
Children's program area—Cub Scouts, International Children's Song & Dance, Bluebirds, Sunday School	970	1,149
General program area—Tri-Village meetings, Civil Defense Committee, Minnesota Elementary Education Association, Voting (1960 elections)	2,622	980

UNIVERSITY HEALTH SERVICE

During the biennium the health of the students as a group has been very good. There was no unusual incidence of any illness on campus during the period. However, there has been a rather striking increase in the amount of hospitalization required for severe emotional illness during this period. During the biennium 42 psychiatric patients were hospitalized for 1604 days, as compared to 23 patients for 982 days in the previous biennium.

Six deaths occurred among our patients during the biennium—three from malignancies, two from pneumonia, and one from suicide.

During the 1961-62 academic year the Regents approved a program of periodic medical examinations to be required of all members of the Administrative Committee of the Senate, plus four or five key staff members in executive positions in the Department of Business Administration who are not members of the Administrative Committee. This periodic health appraisal was offered for the first time in the spring of 1962 and uncovered a number of defects requiring further medical attention.

Expansion of Services—The installation of several new pieces of equipment has allowed the Health Service to extend x-ray, laboratory, and dental services.

Blue Cross-Blue Shield—The supplemental Blue Cross-Blue Shield plan developed for University students in 1958 continues to be popular. This plan covers the student while he is away from school on week-ends and vacations and provides surgical benefits not provided by the Health Service.

General Program—The general program provides health examinations, hospital care, informal health counseling and supervision of the environmental health of the campus.

Foreign students still require more Health Service attention than do other students. Although there has been a noticeable improvement in the matter of tuberculosis among foreign students, severe emotional problems are still seen much more frequently in this group than among others.

Complete physical examinations were given to 29,326 students during the biennium. This includes the medical examination required of all entering students and the periodic health examination. Over 218,000 visits were made to the Health Service dispensary for medical attention during the biennium. This represents more visits than have ever occurred before. The dental section rendered 43,492 professional services during the biennium. The laboratory carried out 143,022 services during the biennium. This is an increase of 16.5 per cent over the figure for the previous biennium. Much of the increase is attributed to the extended services offered by the Health Service laboratory during this period. During the biennium, 18,122 x-rays were taken and interpreted in the Health Service x-ray department representing an increase of 16.6 per cent over the previous biennium. The Health Service pharmacy filled 73,580 prescriptions as compared with 70,960 during the previous biennium.

Over 2,800 students were hospitalized in the student hospital during the biennium. During the year 1961-62 the average length of hospital stay was slightly higher than at any time since 1949-50. These figures do not include the more severe psychiatric illnesses which have to be hospitalized in another section of the University Hospitals. During the biennium 1,024 new patients were referred to the mental hygiene clinic for care, and 307 cases were carried over from previous years for continued treatment, making a total of 1,331 patients interviewed. The total number of interview sessions was 6,530. In addition, 955 therapy hours of group therapy and CO₂ therapy were provided. Included in this total are 23 individual psychological testing sessions. Minnesota multiphasic personality tests were administered and interpreted for 836 patients. About 34 per cent of the students referred to mental hygiene were referred by physicians at the Health Service; another 34 per cent were self-referred; and the remainder were sent in by counselors, faculty members, outside physicians, friends, relatives and others.

The tuberculosis case-finding program constitutes an important routine part of the preventive medical program of the Health Service. Each new student and all students given the periodic health examination are given a tuberculin test. Those with positive tuberculin tests are given a chest x-ray. The same routine is followed for all new faculty and non-academic employees as part of their pre-employment examinations. Four cases of active tuberculosis among students and staff were discovered through routine examinations. There were 100 foreign students, 61 other students, and 67 staff members with arrested tuberculosis under observation in the Health Service during the biennium for a total of 228.

Special Diet Table—The Health Service has continued to provide a special diet table where students with severe dietary problems may learn how to choose their diets. During the biennium the number of meals available was reduced to two meals a day for five days a week. A total of 152 students have been served meals during the biennium. The most common types of diet required were low calorie diets, bland diets and diabetic diets. Dietary counseling by a physician and a dietitian were given to an additional 1,580 students who had dietary problems but did not need to eat at the special diet table.

Special Services—Consultation service in all of the medical specialties has continued to be available to students in the Health Service. We have found it necessary to increase the amount of time given for consultation in most of the specialties. The greatest increase in required consultation time was in internal medicine.

Health Education—During the biennium the Health Service staff has made increasing demands upon the time of the health educator for visual aids, educational pamphlets and literature, and consultation on course content, speeches, and articles for publication. He and the safety engineer have jointly edited and published the *Health and Safety Bulletin*. During the biennium he prepared a special exhibit entitled, "College Health Services in the Space Age," which was used at the American College Health Association meeting. He has continued to serve as the Health Service representative to the Minnesota Student Association and has worked closely with the editor and staff of the *Minnesota Daily*. He has prepared new, and revised old educational forms for use by the Health Service. He has met with counselors, house mothers and others on the campus to discuss and explain the Health Service program and procedures. He has edited the *Health Service Bulletin and Newsletter*. The health educator has continued to work very effectively in the new student orientation program.

St. Paul Campus—Table VI presents the outpatient and hospital services of the St. Paul Campus Health Service. The number of students using this facility has decreased, largely because of the discontinuance of the School of Agriculture on the St. Paul Campus.

Faculty Examinations—There were 288 medical examinations given to new members of the academic staff and those promoted to positions implying tenure. This is somewhat more than were given during the preceding biennium.

Civil Service Examinations—There were 1,458 medical examinations given to persons applying for positions on the regular payroll of the Civil Service staff. This represents a larger figure than that of the previous biennium. No prospective employees were found to have disabilities severe enough to prevent employment for the type of work for which they applied.

Environmental Health—As the public health department for the University, the Health Service has been given responsibility to provide a safe and healthful environment for students, staff and visiting public. During the biennium there was continued administrative support to assist in carrying out this responsibility. The Sanitary Code, first adopted by the Board of Regents in 1951, was amended and approved to provide an up-to-date Environmental Health and Safety Code. A statement of safety policy outlining responsibility for prevention of accidents was forwarded by the President's office to all faculty and supervisory Civil Service personnel. The Health Service was asked to provide routine environmental health and safety services and consultative assistance to all of the out-state campuses and stations in accordance with the provisions of the Code.

The program of inspection and technical assistance to maintain safe and hygienic housing for students continues to be of great importance. The fraternities and sororities have continued their programs of new construction and major alteration to provide safer and more adequate housing. The staff and the University administration have directed attention to the increasingly hazardous condition of the "temporary" married student housing. A program to phase-out such housing at Como Village has been recommended. Off-campus rooming house inspections were initiated in Duluth at the request of the administration and with the approval and support of the Duluth city officials.

During the biennium 830 inspections were made of dwellings providing housing for Minneapolis and St. Paul students. Of this number, 260 (approximately 30 per cent) were found to have rental units that were dangerous to the life of the student or of such condition as to be considered sub-standard.

Other areas of environmental sanitation, including water supply, waste disposal, food hygiene, and swimming pools have received the attention of

the staff. To an ever-increasing extent, sanitation problems are referred to the Health Service. Excellent cooperation has been received from the operating departments of the University in response to recommendations made following sanitary inspections.

The programs of occupational health engineering and safety engineering have presented a unified effort to provide healthful and safe laboratories for students and staff. Ventilation problems arising from the use of toxic, radioactive, or flammable chemicals have required much of the time of the occupational health engineer. Rapidly expanding research programs have added considerably to the physical, chemical and biological hazards which require evaluation.

The safety engineering program has been well received and supported by the departments of the University. A number of departmental safety committees have been organized and are giving attention to accident prevention for students and staff. A safety newsletter has been distributed at regular intervals to departments and supervisory personnel. University Safety Standards pertaining to specific safety practices have been distributed and have been well received. A report of Employee and Student Accident Experience for 1960-61 was distributed to all administrative personnel throughout the University. The National Safety Council and the Campus Safety Association requested permission to provide national distribution of this report.

Use of sources of ionizing radiation for teaching and research continues to increase at a rapid rate. Extension of the statewide program has permitted greater use of the services of the health physicists at Duluth and Austin. The number of personnel on the film badge monitoring program now number more than 450. Nearly 40 departments of the University are using radioisotopes.

The program of approving purchase requisitions and providing central receiving of radioisotope shipments started in the last biennium has proved very useful. The number of shipments arriving at the University has increased steadily: 340 shipments in 1960; 700 shipments in 1961; and 416 deliveries during the first half of 1962.

Through the cooperation and assistance of a number of different departments, the Health Service attempts to keep advised of University operations that have significance for the Environmental Health and Safety services. Plans are reviewed for new construction and for major building alterations, research grant proposals are reviewed and reports of space allocations are received.

Research—The study entitled, "Relationship of Air Pollution to Allergic Diseases," carried out jointly with the School of Public Health, has continued during the biennium. The United States Public Health Service has continued a grant in the amount of \$40,000 for each of the two years for this study during 1960-62. The Division of Environmental Health of the Health Service continued the preoperational radiologic and environmental survey of the Elk River Nuclear Power Reactor Site during the biennium. It also carried forward its study of Bacterial Contamination from Hospital Solid Wastes under a grant from the National Institutes of Health. The health educator continued study of the "Characteristics of New University of Minnesota Students with Regard to Acceptance or Rejection of Polio Vaccination" during this period under a grant from the Sister Elizabeth Kenny Foundation and from the Hill Family Foundation. During the first year of the biennium the Health Service continued to participate in a nationwide study on the incidence of rheumatic fever among college freshmen. This is a cooperative venture involving several universities and colleges in the United States, together with the United States Public Health Service.

New research projects begun at the Health Service during the biennium included a study of the human menstrual cycle, a corollary menstrual history study, a study of vaginal tampons, and a fatigue study. New studies begun include the investigation and design of linen chutes to reduce spread of bacterial infections and a study of the bacterial background in hospitals.

During the biennium a total of over \$300,000 in grants was received for the various research projects carried out by members of the Health Service staff.—D. W. COWAN, *director*

BIENNIAL REPORT

TABLE I. NUMBER OF COMPLETE MEDICAL EXAMINATIONS GIVEN

Year	Entrance	Periodic	Total
1952-53	5,831	2,894	8,725
1953-54	6,319	3,095	9,417
1954-55	7,251	3,560	10,811
1955-56	8,260	4,078	12,338
1956-57	8,510	4,375	12,885
1957-58	8,223	4,616	12,839
1958-59	8,680	4,940	13,620
1959-60	8,590	4,449	13,039
1960-61	9,689	4,204	13,893
1961-62	10,922	4,511	15,433

TABLE II. VISITS TO THE HEALTH SERVICE (MINNEAPOLIS CAMPUS)
FOR MEDICAL ATTENTION

Year	Number of Visits*	Average Number of Visits per Student (Academic Year)
1952-53	83,222	5.09
1953-54	72,684	4.40
1954-55	81,328	4.65
1955-56	91,011	4.62
1956-57	107,060	5.08
1957-58	113,653	5.28
1958-59	113,497	5.09
1959-60	99,021	4.53
1960-61	103,630	4.52
1961-62	114,554	4.59

* These totals do not include visits for physical examinations, dentistry, hospitalization, physiotherapy, laboratory or x-ray services.

TABLE III. STUDENT HOSPITAL CARE (MINNEAPOLIS AND ST. PAUL CAMPUS)

Year	Number of Patients			Rate per 1,000 Students (per Academic Year)	Number of Hos- pital Days			Average Stay in Days
	Mpls.	St. Paul	Total		Mpls.	St. Paul	Total	
1952-53	1,199	98	1,297	79.3	4,063	199	4,262	3.3
1953-54	1,137	20	1,157	70.0	3,835	64	3,899	3.4
1954-55	1,249	38	1,287	73.7	3,909	161	4,070	3.2
1955-56	1,491	48	1,539	78.1	4,839	144	4,983	3.2
1956-57	1,434	40	1,474	69.9	4,609	117	4,726	3.2
1957-58	2,057	471	2,528	117.5	7,037	1,655	8,692	3.4
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

TABLE IV. SPECIAL DIET TABLE—KIND AND NUMBER OF CASES

Type of Diet	1960-61		1961-62	
	Number on Diet	Per Cent	Number on Diet	Per Cent
Allergy	3	4.35	1	1.21
Bland	13	18.84	17	20.48
Diabetic	3	4.35	9	10.85
High Calorie Liquid	3	4.35	8	9.63
High Protein	0	0	1	1.21
High Protein-High Carbohydrate	1	1.45	0	0
Hypoglycemia	2	2.90	0	0
Low Calorie	38	55.06	41	49.39
Low Fat	3	4.35	0	0
Low Protein-Low Salt	1	1.45	0	0
Low Purine	1	1.45	0	0
Low Residue	0	0	5	6.02
Low Sodium	1	1.45	1	1.21
Total	69	100.00	83	100.00

TABLE V. AVERAGE NUMBER OF PATIENTS SERVED DAILY

Quarter	1960-61	1961-62
	Average Number	Average Number
Summer	14.75	10.28
Fall	17.95	15.57
Winter	15.96	20.13
Spring	17.57	20.22

TABLE VI. ST. PAUL CAMPUS HEALTH SERVICE: OUTPATIENT DEPARTMENT

Year	Medical Attention	Number of Hos- pital Patients	Number of Hos- pital Days	Total Services Rendered
1952-53	2,660	98	199	3,477
1953-54	2,503	20	64	3,594
1954-55	2,428	38	161	4,129
1955-56	3,025	48	144	5,173
1956-57	4,033	40	117	7,612
1957-58	5,006	471	1,655	7,757
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

UNIVERSITY PRESS

During the biennium of 1960-62 the publishing program of the University of Minnesota Press resulted in a substantial list of new publications, a few of which will be specially mentioned because of some particularly interesting aspect.

The book which attracted the widest attention and accounted for the largest volume of sales was a revised edition of *Bird Portraits in Color*, with text by Thomas S. Roberts. A guaranty of funds by Mrs. Charles C. Bovey made the publication possible, and the work was published in cooperation with the Minnesota Museum of Natural History.

Stuttering and What You Can Do About It by Wendell Johnson was written especially to help parents, teachers, and others to cope with the problem of stuttering in children or adults. A condensed version was published in the *Reader's Digest* by arrangement with the Press.

Publication of *A History of Swedish Literature* by Alrik Gustafson brought to fruition a long scholarly undertaking by Professor Gustafson. The Swedish Academy honored him with the Henrik Schück award for this book, which was published by the University Press for the American-Scandinavian Foundation.

The Sigma Delta Chi award for research about journalism was given to Burton Paulu for his book, *British Broadcasting in Transition*, which the Press published during the biennium.

The University of Minnesota Pamphlets on American Writers added thirteen new titles during the biennium. A special distribution arrangement was made with the McGraw-Hill Book Company for the distribution of the pamphlets to the high school market.

A third volume, *Scientific Explanation, Space, and Time*, edited by Herbert Feigl and Grover Maxwell, was added to the series of Minnesota Studies in the Philosophy of Science from the work of the Minnesota Center for the Philosophy of Science.

Publication of *China's Politics in Perspective* by Harold S. Quigley was enhanced by the book's selection by the Contemporary Affairs Society for distribution to its members.

The first book to result from a cooperative publishing arrangement between the University of Minnesota and Carleton College was published during the biennium. It was *The Continental Model: Selected French Critical Essays of the Seventeenth Century, in English Translation*, edited by Scott Elledge and Donald S. Schier.

Publication of the Intergovernmental Relations Series, edited by William Anderson and Edward W. Weidner, was completed with the appearance of the tenth and final volume, *Intergovernmental Relations in Review*, by William Anderson.

In March, 1962, the Press observed its thirty-fifth anniversary, having published a total of 765 books and pamphlets, sixteen tests and scales, two maps, and two journals. Of the published books and pamphlets, 370 were still in print.—JOHN ERVIN, director

BOOKS, PAMPHLETS, AND TESTS

Published July 1, 1960-June 30, 1962

- The Probation Officer Investigates: A Guide to the Presentence Report.* By Paul W. Keve. Published July 11, 1960. \$4.50. 178 plus viii pages. Hardbound. Edition: 1,500 bound.
- Decision Making in Hospital Administration and Medical Care: A Casebook.* By James A. Hamilton. Published July 11, 1960. \$10.50. 710 plus x pages. Hardbound. Edition: 1,500 bound.
- An MMPI Handbook: A Guide to Use in Clinical Practice and Research.* By W. Grant Dahlstrom and George Schlager Welsh. Published July 18, 1960. \$8.75. 559 plus xx pages. Hardbound. Edition: 4,000 bound.
- The Two-Way Mirror: National Status in Foreign Students' Adjustment.* By Richard T. Morris, with the assistance of Olaf M. Davidsen. Published July 29, 1960. \$4.50. 215 plus xiv pages. Hardbound. Edition: 1,000 bound.
- The Minnesota Community: Country and Town in Transition.* By Lowry Nelson. Published August 3, 1960. \$4.25. 175 plus x pages. Hardbound. Edition: 1,500 bound.
- Blind Children in Family and Community.* By Marietta B. Spencer. Published August 15, 1960. \$4.25. 142 plus x pages. Hardbound. Edition: 4,000 (2,000 bound).
- Intergovernmental Relations in Review* (No. 10, Intergovernmental Relations Series). By William Anderson. Published August 9, 1960. \$3.25. 178 plus xx pages. Paperbound. Edition: 1,000 bound.
- Intergovernmental Relations As Seen by Public Officials* (No. 9, Intergovernmental Relations Series). By Edward W. Weidner. Published August 9, 1960. \$3.25. 162 plus x pages. Paperbound. Edition: 650 bound.
- Music As Metaphor: The Elements of Expression.* By Donald N. Ferguson. Published September 6, 1960. \$4.75. 198 plus xii pages. Hardbound. Edition: 2,000 bound.
- Searching for Your Ancestors.* By Gilbert H. Doane. Published September 12, 1960 (revised third edition). \$3.95. 198 plus xviii pages. Hardbound. Edition: 3,500 bound.
- The Continental Model: Selected French Critical Essays of the Seventeenth Century, in English Translation.* Edited by Scott Elledge and Donald S. Schier. Published September 26, 1960. \$7.75. 406 plus x pages. Hardbound. Edition: 1,000 bound.

- Minnesota History: A Guide to Reading and Study.* By Theodore C. Blegen and Theodore L. Nydahl. Published September 30, 1960. \$5.00. 223 plus x pages. Hardbound. Edition: 1,500 bound.
- Obsessive Images: Symbolism in the Poetry of the 1930's and 1940's.* By Joseph Warren Beach. Published October 7, 1960. \$6.75. 396 plus xvi pages. Hardbound. Edition: 1,500 bound.
- The Strong Vocational Interest Blank: Research and Uses* (No. 10, Minnesota Studies in Student Personnel Work). Edited by Wilbur L. Layton. Published October 24, 1960. \$3.50. 191 plus viii pages. Paperbound. Edition: 2,000 bound.
- Bird Portraits in Color.* By Thomas S. Roberts. Published November 5, 1960 (revised edition). \$5.95. 197 plus vi pages. Hardbound. Edition: 20,000 bound.
- Portage Into the Past: By Canoe Along the Minnesota-Ontario Boundary Waters.* By J. Arnold Bolz. Published November 7, 1960. \$4.50. 181 plus viii pages. Hardbound. Edition: 3,000 bound.
- Estimated Distribution of Minnesota Taxes and Public Expenditure Benefits* (No. 21, University of Minnesota Studies in Economics and Business). By Oswald H. Brownlee. Published November 14, 1960. \$1.50. 45 plus vi pages. Paperbound. Edition: 2,500 bound.
- Ambassador from Venice: Pietro Pasqualigo in Lisbon, 1501.* By Donald Weinstein. Published November 14, 1960. \$5.00. 112 plus x pages. Hardbound. Edition: 750 bound.
- Education for Nursing: A History of the University of Minnesota School.* By James Gray. Published December 16, 1960. \$5.00. 239 plus x pages. Hardbound. Edition: 1,500 bound.
- Rodin's "Gates of Hell."* By Albert E. Elsen. Published December 19, 1960. \$7.50. 160 plus xvi pages. Hardbound. Edition: 2,000 bound.
- Talent and Education: Present Status and Future Directions* (No. 4, Modern School Practices Series). Edited by E. Paul Torrance. Published December 30, 1960. \$4.50. 210 plus xii pages. Hardbound. Edition: 2,000 bound.
- Stuttering and What You Can Do About It.* By Wendell Johnson. Published January 3, 1961. \$3.95. 208 plus xii pages. Hardbound. Edition: 5,000 (3,000 bound).
- An American Social Worker in Italy.* By Jean Charnley. Published January 9, 1961. \$5.25. 323 plus viii pages. Hardbound. Edition: 2,000 bound.
- Sumerian Economic Texts from the Third UR Dynasty: A Catalogue and Discussion of Documents from Various Collections.* By Tom B. Jones and John W. Snyder. Published January 30, 1961. \$10.00. 421 plus xx pages. Hardbound, typewriter composition. Edition: 500 bound.
- Libel in News of Congressional Investigating Committees.* By Harold L. Nelson. Published January 30, 1961. \$4.25. 174 plus viii pages. Hardbound. Edition: 1,000 bound.
- Scandinavian Students on an American Campus.* By William H. Sewell and Olaf M. Davidsen. Published February 17, 1961. \$3.50. 134 plus xii pages. Hardbound. Edition: 1,000 bound.
- The Welsh in America: Letters from the Immigrants.* Edited by Alan Conway. Published February 27, 1961. \$6.00. 341 plus x pages. Hardbound. Edition: 2,000 bound.
- The James Ford Bell Collection: A List of Additions, 1955-1959.* By John Parker. Published February 27, 1961. \$6.75. 217 plus vi pages. Hardbound. Edition: 500 bound.
- Science, Man, and Nature* (No. 10, The Gideon Seymour Memorial Lecture Series). By Detlev W. Bronk. Published March 6, 1961. Free distribution. 16 plus ii pages. Paperbound. Edition: 7,000 bound.
- An Atlas of Juvenile MMPI Profiles.* By Starke R. Hathaway and Elio D. Monachesi. Published March 17, 1961. \$8.00. 402 plus xviii pages. Hardbound. Edition: 3,000 bound.
- Congress Versus the Supreme Court, 1957-1960.* By C. Herman Pritchett. Published March 20, 1961. \$3.75. 168 plus x pages. Hardbound. Edition: 2,500 bound.
- The Precambrian Geology and Geochronology of Minnesota* (Minnesota Geological Survey Bulletin No. 41). By Samuel S. Goldich and others. Published March 27, 1961. \$4.00. 193 plus xxi pages. Hardbound. Edition: 2,000 bound.
- Recent American Drama* (No. 7, University of Minnesota Pamphlets on American Writers). By Alan Downer. Published March 28, 1961. 65¢. 46 pages. Paperbound. Edition: 20,000 bound.
- T. S. Eliot* (No. 8, University of Minnesota Pamphlets on American Writers). By Leonard Unger. Published March 28, 1961. 65¢. 48 pages. Paperbound. Edition: 25,000 bound.
- A History of Swedish Literature.* By Alrik Gustafson. Published April 3, 1961. \$8.00. 708 plus xx pages. Hardbound. Edition: 3,000 bound.
- The Impact of Unionism on Wage-Income Ratios in the Manufacturing Sector of the Economy* (No. 22, University of Minnesota Studies in Economics and Business). By Norman J. Simler. Published April 10, 1961. \$1.75. 71 plus vi pages. Paperbound. Edition: 2,900 bound.
- Man Takes Control: Cultural Development and American Aid.* By Charles J. Erasmus. Published April 18, 1961. \$6.50. 365 plus x pages. Hardbound. Edition: 2,000 bound.
- The Rhetoric of Science: A Methodological Discussion of the Two-By-Two Table.* By Roy G. Francis. Published April 21, 1961. \$4.75. 183 plus viii pages. Hardbound. Edition: 1,500 bound.
- British Broadcasting in Transition.* By Burton Paulu. Published April 26, 1961. \$5.00. 250 plus x pages. Hardbound. Edition: 2,050 bound.
- Walt Whitman* (No. 9, University of Minnesota Pamphlets on American Writers). By Richard Chase. Published May 3, 1961. 65¢. 48 pages. Paperbound. Edition: 25,000 bound.

- Gertrude Stein* (No. 10, University of Minnesota Pamphlets on American Writers). By Frederick J. Hoffman. Published May 3, 1961. 65¢. 48 pages. Paperbound. Edition: 20,000 bound.
- Wallace Stevens* (No. 11, University of Minnesota Pamphlets on American Writers). By William Y. Tindall. Published May 3, 1961. 65¢. 47 pages. Paperbound. Edition: 18,000 bound.
- The Molds and Man: An Introduction to the Fungi*. By Clyde M. Christensen. Published May 15, 1961 (revised edition). \$4.75, hardbound; \$1.75, paperbound. 238 plus viii pages. Edition: 1,000, hardbound; 5,000, paperbound.
- The Art of Child Placement*. By Jean Charnley. Published July 10, 1961 (reissue). \$5.00. 265 plus xxi pages. Hardbound. Edition: 2,000 bound.
- Pleistocene Geology of the Randall Region, Central Minnesota* (Minnesota Geological Survey Bulletin No. 40). By Allen F. Schneider. Published July 14, 1961. \$4.25. 151 plus xviii pages. Hardbound. Edition: 1,000 bound.
- Immigration and American History: Essays in Honor of Theodore C. Blegen*. Edited by Henry Steele Commager. Published July 20, 1961. \$4.50. 166 plus xii pages. Hardbound. Edition: 2,000 bound.
- Patterns of Hospital Ownership and Control*. By James A. Hamilton, with the assistance of R. Bruce Butters and Elbert E. Gilbertson. Published August 4, 1961. \$4.50. 166 plus xii pages. Hardbound. Edition: 1,500 bound.
- Freud's Concept of Repression and Defense, Its Theoretical and Observational Language*. By Peter Madison. Published September 5, 1961. \$4.75. 205 plus xii pages. Hardbound. Edition: 1,750 bound.
- Opera Production: A Handbook*. By Quaintance Eaton. Published October 2, 1961. \$6.50. 266 plus xx pages. Hardbound. Edition: 1,500 bound.
- Van Meteren's Virginia, 1607-1612*. By John Parker. Published November 9, 1961. \$5.00. 102 plus x pages. Hardbound. Edition: 750 bound.
- Edith Wharton* (No. 12, University of Minnesota Pamphlets on American Writers). By Louis Auchincloss. Published November 13, 1961. 65¢. 46 pages. Paperbound. Edition: 18,985 bound.
- Herman Melville* (No. 13, University of Minnesota Pamphlets on American Writers). By Leon Howard. Published November 13, 1961. 65¢. 48 pages. Paperbound. Edition: 21,700 bound.
- The American Short Story* (No. 14, University of Minnesota Pamphlets on American Writers). By Danforth Ross. Published November 13, 1961. 65¢. 47 pages. Paperbound. Edition: 16,100 bound.
- F. Scott Fitzgerald* (No. 15, University of Minnesota Pamphlets on American Writers). By Charles Shain. Published November 13, 1961. 65¢. 48 pages. Paperbound. Edition: 21,625 bound.
- Vocational Interests of Nonprofessional Men*. By Kenneth E. Clark. Published December 15, 1961. \$3.75. 129 plus xii pages. Hardbound. Edition: 1,500 bound.
- A Run of Jacks*. By Richard F. Hugo. Published December 20, 1961. \$2.75. 72 plus viii pages. Hardbound. Edition: 750 bound.
- Lower Upper Cretaceous Plant Microfossils from Minnesota* (Minnesota Geological Survey Bulletin No. 42). By Richard L. Pierce. Published December 29, 1961. \$3.75. 86 plus xii pages. Hardbound. Edition: 1,250 bound.
- The Physician's Guide to the MMPI*. By Patricia K. Good and John P. Brantner. Published December 29, 1961. \$1.85. 69 plus viii pages. Paperbound. Edition: 4,000 bound.
- The Old Province of Quebec*. By Alfred L. Burt. Published January 2, 1962 (reissue). \$6.50. 551 plus xv pages. Hardbound. Edition: 200 bound.
- Vocational Counseling: A Reappraisal in Honor of Donald G. Paterson* (No. 11, Minnesota Studies in Student Personnel Work). By Morris S. Viteles, Arthur H. Brayfield, and Leona E. Tyler. Published January 17, 1962. \$1.50. 70 plus vi pages. Paperbound. Edition: 3,500 bound.
- The Traditional Theory of Literature*. By Ray Livingston. Published February 9, 1962. \$4.50. 188 plus x pages. Hardbound. Edition: 1,500 bound.
- American Architectural Books*. By Henry-Russell Hitchcock. Published March 1, 1962 (reissue). \$4.75. 130 plus xii pages. Hardbound. Edition: 1,000 bound.
- They Shall Take Up Serpents: Psychology of the Southern Snake-Handling Cult*. By Weston La Barre. Published March 16, 1962. \$3.75. 208 plus viii pages. Hardbound. Edition: 2,000 bound.
- China's Politics in Perspective*. By Harold S. Quigley. Published March 30, 1962. \$4.50. 266 plus xvi pages. Hardbound. Edition: 3,800 bound.
- France and Her Eastern Allies, 1919-1925: French-Czechoslovak-Polish Relations From the Paris Peace Conference to Locarno*. By Piotr S. Wandycz. Published April 11, 1962. \$8.50. 454 plus xiv pages. Hardbound. Edition: 1,500 bound.
- Minnesota Studies in the Philosophy of Science* (Volume III, *Scientific Explanation, Space, and Time*). Edited by Herbert Feigl and Grover Maxwell. Published May 25, 1962. \$8.50. 628 plus xv pages. Hardbound. Edition: 3,000 (2,000 bound).
- Recent American Poetry* (No. 16, University of Minnesota Pamphlets on American Writers). By Glauco Cambon. Published May 31, 1962. 65¢. 48 pages. Paperbound. Edition: 15,000 bound.
- Edwin Arlington Robinson* (No. 17, University of Minnesota Pamphlets on American Writers). By Louis Coxé. Published May 31, 1962. 65¢. 48 pages. Paperbound. Edition: 18,000 bound.

- John Crowe Ransom* (No. 18, University of Minnesota Pamphlets on American Writers). By John L. Stewart. Published May 31, 1962. 65¢. 48 pages. Paperbound. Edition: 16,000 bound.
- Benjamin Franklin* (No. 19, University of Minnesota Pamphlets on American Writers). By Theodore Hornberger. Published May 31, 1962. 65¢. 48 pages. Paperbound. Edition: 20,000 bound.
- Who Goes to College?* (No. 12, Minnesota Studies in Student Personnel Work). By Ralph F. Berdie, Wilbur L. Layton, Theda Hagenah, and Edward O. Swanson. Published May 31, 1962. \$1.50. 56 plus viii pages. Paperbound. Edition: 2,000 bound.
- Aliferis-Stecklein Music Achievement Test: College Midpoint Level*. By James Aliferis and John E. Stecklein. Published June 13, 1962. Specimen set (Manual, Template, Test Booklet), \$3.75. Edition: 600 Manuals, 800 Templates, 15,000 Test Booklets.
- The Byronic Hero: Types and Prototypes*. By Peter L. Thorslev, Jr. Published June 25, 1962. \$5.00. 228 plus x pages. Hardbound. Edition: 1,500 bound.

MINNESOTA MUSEUM OF NATURAL HISTORY

Research—The Museum's research program continued to expand with the following grants:

1. *The Maud and Louis Hill Family Foundation, \$166,134*—(2 years study). A joint study of motile responses of animals to radiation fields and other environmental factors with the Institute of Technology.
2. *U. S. Atomic Energy Commission, \$53,174*—A study of radiation and other factors influencing the distribution of animals.
3. *National Institutes of Health, \$130,078*—A study of energy requirements of birds under varying activity levels and a joint study with the Medical School of infectious diseases, virology, ornithology, ecology, tropical medicine.
4. *National Science Foundation, \$4,900*—A study of prolactin on the breeding behavior of cowbirds.
5. *University of Minnesota Agricultural Experiment Station, \$2,400*—Studies of parasitic egg-laying behavior in redhead ducks.
6. *University of Minnesota Graduate School (five grants), \$2,015*.

Research in other departments and institutions was aided by the loan of 142 mammal, 375 bird and 93 reptile and amphibian specimens. Museum research benefited from the loan from other institutions of 792 bird, 20 mammal specimens. Catalogued research collections were increased by the addition of the following specimens: birds 1907, mammals 445, amphibians 389, reptiles 111.

Attendance—Seven hundred guided tours (1960-61, 327; 1961-62, 373) mainly of school children, totaled 21,671 individuals (1960-61, 10,282; 1961-62, 11,389). In addition 463 groups (1960-61, 131; 1961-62, 332) of 11,427 (1960-61, 5,702; 1961-62, 5,725) toured the exhibit halls under their own leadership. These scheduled tours for the biennium totaled 1163 made up of 33,098 students.

The Sunday Program series of 41 lectures was attended by 20,265 persons during the biennium (1960-61, 10,410; 1961-62, 9,855). This represents a distinct reduction from the previous biennium which is according to plan. This series provides the public with entertaining programs on conservation and natural history. Attendance increases markedly when the entertainment element is stressed and decreases as the programs are more informative in character. Since previous attendance was actually overtaxing the auditorium space the problem was solved by scheduling programs of a more informative nature. It is regrettable that greater public attendance at these programs cannot be encouraged but it has been necessary to curtail expansion in this public service.

Past reports have included a record of total Museum attendance, but these have been only approximate figures as there are four separate Museum entrances and a question exists as to classifying students attending classes in the auditorium and visiting adults meeting in the auditorium who incidentally

see some Museum displays as bona fide Museum visitors. For these reasons the reporting of total Museum attendance has been discontinued.

Lectures—Museum personnel gave lectures to 212 audiences in the United States and Canada, totaling 36,195 persons. These included two series of illustrated lectures under the sponsorship of the National Audubon Society. In February, 1961, 22 talks were given in cities from Louisiana through Florida; in November-December, 1961, 18 lectures were given in cities from North Dakota to Texas and Oklahoma.

State Park Naturalist Project—This project is continuing and expanding with the Division of State Parks of the Minnesota Department of Conservation financing the work and the Minnesota Museum of Natural History hiring and supervising the personnel and establishing self-guiding trails and other services in the State Parks. Five naturalists have been serving in Itasca (2), Gooseberry Falls, Interstate and O'Brien, and Whitewater Parks during the past two summers. Self-guiding nature trails have been set up in 8 additional parks. The activities involving visitors having personal contact with the naturalists (boat trips, car caravans, evening programs and trail walks) were attended by 69,396 persons during the 1960 and 1961 seasons. Self-guiding nature trails were used by 71,633 and an estimate on Museum attendance based on spot check counts at the six parks having such exhibits was well over half a million persons.

Gifts—Emphasis has been placed during this biennium on the seeking of funds for the proposed new wing. The Museum is tremendously indebted to Mr. Whitney Eastman who assumed the responsibility for soliciting \$250,000 of non-State funds for half the cost of the proposed building. Mr. James Ford Bell started the project with a \$26,000 gift and including cash, income from cash gifts, and pledges, the fund is now \$205,164. The National Science Foundation has recently approved a grant of \$50,000 for that part of the building devoted to research. The goal exceeded, a request is being made for the legislature to match this amount.

The James Ford Bell heirs donated 104 volumes on natural history from the James Ford Bell library and Dr. N. L. Huff donated his library of 250 volumes. These have been added to the Museum library, given to other departments of the University, given to libraries of other Minnesota institutions, or sold to second hand book dealers and the funds made available for the purchase of new books for the Museum Library.

Mr. James Ford Bell's regular contribution for incidental Museum expenses of \$75.00 per month continued through October, 1961, five months after Mr. Bell's death. This gift of \$1,200 was deposited in the First National Bank under the name, W. J. Breckenridge, trustee.

The collections increased through gifts as follows: birds, 858; mammals, 186; amphibians, 195; reptiles, 97; and 2 x 2 slides, 284.

Publications—The book counter in the Museum lobby shows a profit of \$695.14 after the purchase of a \$725.00 cash register. The 25-minute color sound film, "The Big Four," was completed in cooperation with the Audio-Visual Education Service. To date 29 copies of this have been sold with a financial return of \$1,968.19 to the Museum. Copies of six other films returned \$431.06. These funds are placed in the T. S. Roberts fund for Museum use mainly in publications and photography.

Exhibits—The preparation department has completed four permanent habitat displays and 13 temporary displays in addition to the preparation of specimens for the scientific collections. Portable habitat display cases continue to do nearly 12 month annual service through loans to schools and to state parks. Individual loans of these cases totaled 2,559. University Week has utilized a display during each of the past two years and an exhibit was supplied for Editors' and Legislators' Day in 1960.

Future—Future plans center mainly around the possible expansion of the Museum building and the requisite staff to properly extend the Museum's services. Already the research facilities of the Museum are bursting at the

seams with the activities concerned with the numerous projects. Expansion of present research has come about largely through the acceptance of proposals for outside support from various foundations. It must be recognized that a certain amount of financial responsibility rests with the University and the Museum for supplying housing and some basic equipment not exclusively assignable to individual projects.

For several years the possibilities for closely coordinated research as well as displays in the field of vertebrate paleontology have been discussed with the Geology Department. Their valuable collections are no longer on public display. The Museum's collection of several thousand specimens of Pleistocene bones are in need of care, cataloguing and study. Pleistocene paleontology is a somewhat neglected field and the Geology Department supports the wish to add a curator in this field who could properly care for this material and instigate studies which would bridge the present gap between the Museum's vertebrate work on present-day animals and the Geology Department's studies of more ancient fossil animals. This work might be initiated as a foundation supported project to be later transferred to a permanent staff status.

Foundation funds are largely unavailable for the expansion of public services. A need in this field is a well-trained biologist to plan and help execute public exhibits for the new wing. This person could also function in other public education services. Also required is at least a part-time librarian who could function during peak periods.—W. J. BRECKENRIDGE, *director*

DEPARTMENT OF MILITARY SCIENCE

Mission—The Army ROTC continued its traditional mission of providing students with an opportunity to earn a commission in the United States Army Reserve through an integrated program of military instruction at college level.

Curriculum—A major revision of the General Military Science program was initiated during the biennium. A modified program was authorized which permitted three quarters of elective study and a consequent realignment of military science courses. Studies were undertaken with the Senate Committee on ROTC Affairs to raise academic credit levels for military science courses and to permit joint offerings with other departments of the University.

Enrollment—

ROTC STRENGTH AT END OF EACH SCHOOL YEAR

End of School Year	Basic Course		Advanced Course		Total
	1st Year	2nd Year	3rd Year	4th Year	
1960-61	121	69	69	54	313
1961-62	106	84	45	51	286

A comprehensive study on student attitudes toward ROTC was made by the Bureau of Institutional Research and its publication led to a national conference on ROTC problems sponsored by the University on May 12, 1962. The study and the proceedings of the conference were submitted to the Army Advisory Panel on ROTC Affairs.

ROTC Graduates—A total of 112 students were commissioned during the biennium as compared to 166 graduated during the previous period.

Reserve Officer Commissions 1960-61: 42
 Reserve Officer Commissions 1961-62: 64
 Regular Army Commissions 1960-61: 2
 Regular Army Commissions 1961-62: 4

Significant improvement was noted in the performance of graduates at the various branch service schools. Many have graduated with distinction from their respective basic officer schools.

Special Activities—The Army Flight Training Program was conducted during the 1961-62 school year. Five students completed the program.

The Pershing Rifles, Scabbard and Blade Society, Army ROTC Rifle Team, and the Brigade Band continued to be active during the biennium. Top honors have been awarded to each organization.

Inspections—The ratings for annual general inspections were again "Satisfactory," the highest rating, with comments as to the excellent quality of the program.—ROBERT J. ELLIOTT, *Lt. Col., Artillery, PMS*

DEPARTMENT OF NAVAL SCIENCE

Mission—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 civil education 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 hold command and administrative responsibility for naval officers attending the University under other college training programs sponsored by the Navy Department.

Enrollment—Annual NROTC enrollment consists of two main groups—the "Regular" NROTC students and "Contract" NROTC students. Both groups follow the same Naval Science curriculum. The Regular NROTC student is a candidate for a commission in the Regular Navy. His training is subsidized by the Navy, i.e., tuition, books and monetary benefits.

The annual enrollment in the Regular Program has remained stable as the benefits to the student are so great that there are always many times more applicants than can be selected. Average enrollment is 44 students.

Contract student enrollment has increased substantially during this biennium, indicating that efforts to make entering male freshmen aware of the ROTC programs have been successful. Enrollment of Contract students this biennium is as follows: Fall 1960—44; Fall 1961—70. Total for this biennium—114, compared to 43 for last biennium.

Curriculum—The Naval Science curriculum remained substantially the same as during the preceding biennium. Curriculums are under constant review to keep students abreast of modern naval practices, and significant progress has been made in maintaining and improving the educational value of the courses offered.

All Regular NROTC students participate each year in a summer training period either on board a naval vessel or at a Naval Shore establishment. Contract students participate in only one such cruise.

Faculty—The following table provides data concerning members of the department who served during the biennium:

TABLE I. MEMBERS OF THE DEPARTMENT OF NAVAL SCIENCE

Name	Grade	Reported	Departed
Cary H. Hall	Capt., USN	August 23, 1960	July 15, 1962
Fred Laing	Cdr., USN	February 22, 1959	June 30, 1962
Edward B. Meyer	Maj., USMC	August 15, 1960	
James C. Loberger	Lcdr., USN	June 3, 1959	June 11, 1962
Goodwin Donnelly	Lcdr., USN	August 17, 1959	June 19, 1962
Larry K. Simmering	Lt., USN	July 11, 1962	
George A. Sissel	Lt., USN	August 21, 1961	
Joseph M. McCabe	Lt., USNR	August 27, 1959	

NROTC Graduates During the Biennium—NROTC graduates of the University of Minnesota were commissioned as follows:

	Academic Year 1960-1961 (Including Summer Sessions 1960)	Academic Year 1961-1962 (Including Summer Sessions 1961)
Ensign, U. S. Navy	19	16
Ensign, U. S. Naval Reserve	3	7
2dLt., USMC	1	2
2dLt., USMCR	1	0
Total for Biennium—49		

All students who qualified for commissions were ordered to active military service within a month of being commissioned.—E. M. MORGAN, *Captain, U. S. Navy*

DEPARTMENT OF AIR SCIENCE

General—The Air Force ROTC program enrollment since the last biennial report is as indicated:

AFROTC STRENGTH AT END OF EACH SCHOOL YEAR

School Year	Basic Course		Advanced Course		Total
	1st Year	2nd Year	3rd Year	4th Year	
1961	187	88	23	28	326
1962	257	82	51	28	318

The Air Force ROTC experienced a drop in freshman enrollment in 1961. The drop was unexpected and somewhat surprising in light of the Berlin crisis at that time. The Bureau of Institutional Research of the University conducted a survey of a large sampling of freshman students to determine reasons for the enrollment decrease. Using the findings of the study, this detachment devised a program aimed at increasing freshman enrollments. During the current year the success of the program is evident by the figures quoted above.

The Air Force ROTC Drill Team continued to rank nationally, placing fourth in a field of twenty-one colleges at a national finals meet held in Chicago.

Curriculum—Air Force ROTC continued to revise its curriculum during the reporting period. Certain substitutions of other University courses were allowed for previously required Air Science classes, and in one case an Air Science class which seemed to duplicate a class offered by another department was dropped with the understanding that Air Force ROTC students would enroll in the course of the other department. Presently senior cadets are enrolled in Air Science class only during the spring quarter.

The Officer Education Program (OEP), which is the proposed two-year program of the Air Force, has undergone further development by the Air Force and OEP will go into effect at the University in September 1963 if favorable congressional action is forthcoming. The year OEP goes into effect the freshman course offering will be dropped from the curriculum. The following year, the sophomore offering will be dropped from the curriculum leaving two years of course offerings. The proposed program will be highly selective in nature and those qualifying will receive favorable yearly scholarships.—F. D. STOCKDALE, *Major, USAF*

DEPARTMENT OF CONCERTS AND LECTURES

The past biennium has again been a period of expansion of services by the Department of Concerts and Lectures in its role as one of the major forces

participating in the development of the University of Minnesota as the cultural center of the Upper Midwest. Well over a million persons have attended the programs sponsored by the department both on the campus and throughout the state and adjoining states in the past two years. Ever increasing demands for services and consultation attest to the value of such programs.

In addition the increasing student and public attendance of activities on the campus have greatly increased the demands upon the department staff. The larger student body has made it necessary for the department to participate in a greater number of student organization activities than ever before.

University Artists Course—In the last biennial report the problem of decreasing attendance at University Artists Course programs was noted. The biennium just concluded was highly successful. Average attendance in Northrop Auditorium for paid events increased to 4,412 in 1960-61 and reached a record 4,690 in 1961-62. Four presentations on the Masterpiece Series were completely sold out (4,922 seats) far in advance of the concert date. The increased attendance made possible a sound financial position as of June 30, 1962.

The Masterpiece Series of the Artists Course presented its 42nd and 43rd series. The companion series, the Celebrity Series, was also highly successful during this period. In 1960-61, 7 concerts were offered in the Masterpiece Series and 5 on the Celebrity Series. Four special concerts were presented as cooperative ventures with other campus organizations. The Royal Danish Ballet was scheduled for an additional showing to accommodate the people who could not get tickets for its Masterpiece Series appearance.

In 1961-62 the Artists Course offered a total of 12 concerts with 7 on the Masterpiece Series and 5 on the Celebrity Series. Three special concerts were offered but the illness of Charles Laughton forced one to be canceled. It is noted that the twelfth joint presentation of the Parade of Quartets, this annual series, in cooperation with the Barber Shop Quartet organization, has provided a total of \$62,802.94 for the University Heart Hospital. The number of events sponsored with various student organizations has increased during the biennium. The trend has not been to professional attractions but to locally presented concerts or variety programs which have enjoyed an increasing attendance. This kind of presentation calls for additional time and consultation and actual direction by members of the staff.

Metropolitan Opera Company—The University, through the Department of Concerts and Lectures, continues to participate in one of the most exceptional musical services in the Upper Midwest. The annual visit of the Metropolitan Opera Company is considered the most significant single music event of each year.

The success of this presentation in the past biennium has been the greatest in its history. The Metropolitan Opera reversed its decision to stop appearing in Northrop Auditorium or the Upper Midwest, but the terms of return agreement required a one-third increase in the number of operas presented. In 1961 and 1962, 6 operas were performed in 5 days. Prices of tickets were scaled lower than had been the case in the previous biennium when higher fees for the 4 operas had necessitated a price range from \$3 to \$12. This biennium the prices were \$4, \$6, \$8, and \$10.

The result of the first season of 6 operas was extremely gratifying. More than one-third of all seats sold were to people from outside the Minneapolis-St. Paul area, reflecting the interest and the close University ties of the 43 committees organized to promote the season in out-state cities. The interest of those committees has remained high. Members of the general committee for the Spring Season of the Metropolitan Opera in the Upper Midwest represent 7 states and 3 Canadian provinces.

The second season was almost equally successful. Five performances were complete sell-outs and several hundred orders had to be returned. The sixth performance came within 115 seats of also being a sell-out.

At the present time a seventh performance has been scheduled for the 1963 season to accommodate more patrons. The longer season will necessitate a slightly higher average cost per opera. The Metropolitan Opera is sponsored each year by the University and the Minnesota Orchestral Association and is financially guaranteed by an Upper Midwest group of guarantors and sponsors.

Special Cultural Projects Fund—The University of Minnesota's share of the profits realized each year from Metropolitan Opera presentations is dedicated to underwrite projects of a cultural nature that could not be undertaken with regular funds.

During 1960-61 this fund provided the advance to cover the publication of *An Opera Manual* written by Quaintance Eaton to help local communities develop their own opera productions. The book was successful and has entered a second printing. The fund was also used to present a number of recitals to assist other departments, to finance a scholarship, to assume a large part of the cost of the campus Bach Festival, to provide assistance for the Opera Workshop, and to underwrite the costs of "An Introduction to the Lively Arts," a Freshman Week convocation on both the Minneapolis and Morris campuses.

1960-61		1961-62	
University Artists Course Presentations		University Artists Course Presentations	
Masterpiece Series	Attendance	Masterpiece Series	Attendance
Royal Danish Ballet	4,822	Joyce Flissler	4,481
Yugoslavian Chorus	4,379	Goldovsky Grand Opera	4,822
Israel Philharmonic	4,835	Eileen Farrell	4,922
Isaac Stern	4,343	Byron Janis	4,598
Mary Costa	4,124	Cornell MacNeill	4,518
Glenn Gould	4,746	Van Cliburn	4,922
Giorgio Tozzi	3,969	National Ballet of Canada	4,822
Total	31,218	Total	33,085
Celebrity Series		Celebrity Series	
Mantovani	4,922	Mantovani	4,922
Coldstream Guards (Fieldhouse)	8,374	Stratford Festival Players	4,577
J.B.	4,720	Andahazy Ballet	4,822
Andahazy Ballet	4,822	Jose Greco	4,822
Segovia	3,923	Genevieve & Company	3,738
Total	26,761	Total	22,881
Special Concerts		Special Concerts	
Royal Danish Ballet	4,822	Brothers Four	4,922
Mort Sahl	4,451	Charles Laughton (Cancl.)	4,822
Limelitters	4,203	Parade of Quartets	4,775
Parade of Quartets	4,776	Total	9,697
Bob Newhart	2,866	Grand Total	65,663
Total	21,118	Receipts	\$138,399.21
Grand Total	79,097		
Receipts	\$176,301.50		

In 1961-62 the fund was used primarily to cooperate with other departments in musical presentations. The operating deficit of the annual Bach Festival was completely covered by this fund. The new and successful series of noon Koffee Konzerts held at the student union was supported jointly by this fund and the Recording Trust Fund of the American Federation of Musicians. A concert for the University Gallery Open House, a series of three Chamber Music Concerts co-sponsored by the Humanities Department, and a performance of the Minneapolis Civic Orchestra were supported partially or entirely with this fund. The Freshman Week "An Introduction to the Lively Arts" was also supported by this fund.

Summer Session Entertainment—Funds for the summer session entertainment program come from a recreation fee which as a part of the tuition is administered by the Office of the Summer Session, but this department arranges the concerts and convocations presented in Northrop Memorial Auditorium and contributes some financial support. The continued generous support of the Minneapolis Musicians Association made it possible to continue the series of musical programs which has given the University of Minnesota a reputation for fine summer programs. Funds to cover the costs of two-thirds of the orchestral musicians performing in the summer months come from grants from the Music Performance Trust Fund of the recording industry.

Convocations—The tradition of convocation at 11:30 every Thursday during the regular academic year continues. These presentations are primarily for the enlightenment and enjoyment of students, faculty and staff members, but there is never an admission charge, and the public is kept informed and is urged to attend. An advisory committee assists the director in providing the broadest possible range of topics of general interest. Foreign relations, science, current events, history, theater, music, and sports have been presented to generally increasing audiences. Attendance has fluctuated widely during the past two years from relatively small audiences to overflow crowds of 5,000. During the biennium these presentations included Carl Rowan, Robert Frost, Sir Leslie Munro, Senator Eugene McCarthy, Dickey Chapelle, John R. Pierce, Athelstan Spilhaus, and the Ceylon Dancers. Traditional programs include the President's Opening Convocation, Football Awards, Charter Day, and Cap and Gown Day.

Special Lectures and Scientific Conferences—The department feels that one of its most important services is in cooperating with the colleges and other departments in bringing special lecturers to the campus to speak on topics of special appeal to small but interested groups. The audiences normally average fewer than 200 for these lectures, but an increasing number of interested persons are attracted each year. The department requesting the speaker normally shares the cost of the presentation. A maximum feasible amount of money for this cooperation has been established by this department in order to fill as many of these requests as is possible. The honorariums are usually small, often barely covering the out-of-pocket costs for the speaker.

This program should be greatly expanded. The benefits to the students, faculty and staff are immeasurable in their contribution to the total program of the University. During 1960-61, 52 such programs were offered. In 1961-62, there were 65 presentations. Many more requests were made, but they could not be filled because funds were not available to meet the modest fees requested. The problem is becoming more acute as student enrollment increases.

Honeywell Engineers Lecture Series—This series is jointly sponsored by Minneapolis Honeywell and the Institute of Technology under the direction of this department. Minneapolis Honeywell provides the necessary funds. The past year's presentations included William Pickering speaking on the exploration of the solar system, the Andahazy Ballet Borealis, and the Minneapolis Civic Orchestra. The last program attracted a turn-away crowd.

University of Minnesota Program Service—This service provides concerts, lectures, theater, and general school assembly programs for private and public schools, colleges, and community organizations throughout the Upper Midwest. A summary of the program for the past biennium is as follows:

	1960-61	1961-62
Number of Programs Presented	3,367	2,718
Estimated Attendance	467,050	500,000
Total Receipts	\$123,884	\$115,982

This series faces a number of serious problems. All University support has been withdrawn from this operation. Schools are consolidating faster than new schools are opened. It is necessary that this operation contribute financially to the general administration of this department. The constantly increasing number of student councils in charge of the selection of programs necessitates two and three "selling" calls annually to many schools. Either general University support should be resumed for the University Program Service, or its contribution to the administration of this department should be replaced by direct University support.

The programs offered to the schools of Minnesota, parts of Iowa, South Dakota, and two Canadian provinces are considered among the best in the nation. Programs during the past biennium included science lectures and demonstrations, travel film lectures, live bird biology demonstrations, a concert pianist, a pianist-humorist, marionettes, folk singers, touring theater, and lectures on the nation's space program. This department uses lecturers and theater programs from the University whenever possible.

Drama Advisory Service—A survey conducted by this office during the past biennium showed that the educational theaters of Minnesota involve annually over 1,000 directors and 57,881 other persons in the production of 2,292 plays presented to a total audience of 1,190,678. In support of a vital part of the state's educational and cultural life, the following services are provided.

High Schools—Some 974 high school drama directors and teachers are registered with the Drama Advisory Service making them eligible to use the Loan Play Library and the consulting services of this office. Regional Drama Advisory Service workshops were held in 7 high schools in Minnesota. These workshops were attended by 786 students and 87 teachers.

The consulting service covers all phases of the secondary school drama program including the renovation of existing facilities, the purchase of new equipment, production problems and textbook and play selection.

This office works with the Minnesota State High School League by compiling lists of plays suitable for league-sponsored contests and through the management of the annual Minnesota State High School One-Act Play Festival. The state festival brings 80 visiting actors, actresses and directors from the eight regions of Minnesota, and the audience exceeds 1,000.

Community Theaters—In 1958-60, the number of community theaters in Minnesota increased from 3 to 15. During the past biennium, this number increased to 24. These theaters are incorporated under Minnesota law as "non-profit, educational" organizations, and they have formed the Living Theater Association of Minnesota. This office has provided guidance for the organization of such new theaters. Working with the Living Theater Association, this office maintains a register of persons qualified to direct in community theaters. Workshops at individual theaters and at the Center for Continuation Study have also been sponsored. The Drama Advisory Service has continued to provide an advisory service for civic summer theaters.

Other Services—The Drama Advisory Service continues to serve as the central office of the North Central Theater Association. The Drama Advisory newsletter, *The Curtain Line*, now has a circulation of 1,091, a 100 per cent increase over circulation during the last biennium. Other publications edited in this office are the North Central Theater Association *Newsletter* and *10:31*, a publication of the Living Theater Association. A new *Catalog of Short Plays* and a supplement to the *Catalog of Long Plays* were also published.

During the past biennium, the number of volumes in the Loan Play Library section of this office increased to 7,340 making it the largest of such collections in the country. The library received 1,867 requests and circulated 6,487 volumes.

Northrop Auditorium Facilities—During 1961 a new steel acoustical shell was installed in Northrop Auditorium. This shell has increased both the difficulty and the cost of making the stage changes necessary to accommodate the daily use of the auditorium stage for classroom space, rehearsals, lectures and demonstrations.

Approval has been given to arrangements for providing air conditioning in the central auditorium in 1963. A surtax on tickets rather than an appropriation will provide the necessary funds.

Special Needs—1. **Auditorium Renovation**—It has become increasingly necessary to make adjustments and regrettable compromises in presentations in Northrop Auditorium because of certain inherent limitations. Definite improvements are needed now especially since the building is used two, three, or more times daily all through the year.

- a. The stage lighting control board, in use since the opening of the building, is not only inadequate to present demands, but it is worn to a dangerous condition.
- b. Additional space at stage level is highly desirable and might be obtained by building on to the back of the building.

- c. The orchestra pit must be given acoustical treatment. Several very desirable attractions have refused to come until changes are made in the pit. The problem has only become acute since the installation of the steel orchestra shell.
- d. Showers are desperately needed in at least some of the dressing rooms on each side of the stage.
- e. Restriction of the use of Northrop when smaller auditoriums would suffice should be initiated by the administration.

2. *Increased Funds for Convocations, Special Lectures, and Scientific Conferences*—With the increased enrollment and the increased cost of such programs, it will become necessary to increase the funds for these programs. The present budget is inadequate to provide speakers to meet all the needs in the several fields of interest.

3. *General University Financial Support*—The Artists Course now bears an undue burden in supporting the total cost of operation of this department. This office has full responsibility for scheduling the auditorium and provides increasing amounts of professional advice to both campus organizations and off-campus groups. The members of the staff are called upon repeatedly for general University responsibilities. Salary support from the University should more accurately reflect this situation and relieve the sections of this department from this financial burden.—JAMES S. LOMBARD, *director*

DEPARTMENT OF UNIVERSITY RELATIONS

General—The Department of University Relations is the information center of the University. Through a variety of creative activities, which utilize many methods of communication, it endeavors to acquaint the public with the University's objectives and to record the University's progress toward fulfilling its threefold purpose of education, research and public service. The Department has the responsibility of interpreting, in the widest sense, the University's program to the people of Minnesota from whom the whole institution is indivisible and from whose continuous support has come its distinguished position in American higher education.

Fund-Raising—The University seeks to show its appreciation to its benefactors in various ways. The Department of University Relations plays a vital role in this program by making personal contacts with the benefactors, by sending them University publications, and by extending hospitality when they visit the campus to see its general progress or to attend special functions pertaining to their particular field of interest.

The Regents Award is another way in which the University expresses its gratitude for distinguished service. The Department handles the arrangements for the presentation of this award and makes every effort to see that these occasions are meaningful to the recipient.

The Masons of Minnesota were given the Regents Award at a luncheon in Coffman Union to which more than 600 Masons, representing lodges and chapters throughout Minnesota, were invited, and a copy of the award, suitable for framing, was sent to each of Minnesota's 564 Masonic lodges and Eastern Star chapters. The late James Ford Bell was honored by his fellow Regents in a surprise ceremony held in the James Ford Bell Room of the Walter Library. A special "Regents Award Exhibition" of paintings from the George P. Tweed Memorial Art Collection marked the presentation of the Regents Award to Mrs. Alice Tweed Tuohy. The Regents Award to Charles Lesley Ames was made at an open house for the Ames Library of South Asia.

Plans were made at the close of this biennium for a change in the University's fund-raising structure. Under these plans the Department of University Relations will assume a larger responsibility for major fund raising. A Special Projects Program was established as a new activity of the Department. A report of the functions and progress of these developments will be included in the next biennial report.

Information and News Program—Information about the University is disseminated daily to the public and news media by the University News Service. News releases covering new academic programs, curriculum and admission changes, grants, lectures, research activities, conferences, scientific discoveries, music department events, commencements, convocations, enrollment, student activities, building programs, legislative requests, faculty appointments and achievements and other University activities are sent to newspapers, radio and television stations, magazines and wire services.

During the biennium, the News Service, in co-operation with the Audio-Visual Education Service's motion picture production department, started a program of preparing and sending out film clips on the University for television news shows.

The practice of distributing reports of University Senate action to the press on a regular basis was established. In accordance with new bylaws adopted by the Senate, the News Service now sends the Senate dockets to news outlets in the Twin Cities area and arranges news conferences immediately following the meetings.

News conferences and individual interviews for visiting dignitaries and University officials and faculty are arranged by the News Service. This office also provides articles, photographs and information to specialized publications, encyclopedias and such agencies as the United States Information Agency and assists authors in the preparation of material relating to the University. Several national television network programs featuring University departments and staff have been arranged through the News Service. The News Service also works with organizations in publicizing fund-raising campaigns involving the University.

The News Service maintains a file of biographies and portraits of University staff members, photographs of University scenes and activities and newspaper and magazine clippings relating to the University.

The Department of University Relations annually dispenses much information at its exhibit in the Education Building at the Minnesota State Fair. At the 1961 fair, visitors requested 1,310 educational and informational bulletins.

The Minnesotan, the publication which served as the primary source of internal communication for staff members, was published semi-monthly during the first period of the biennium. For reasons of economy *The Minnesotan* was replaced by the *Staff Bulletin* at the beginning of the 1961 academic year. Produced at a much lower cost than *The Minnesotan*, the *Staff Bulletin* continued to keep the staff informed of all significant events occurring at the University. *The University of Minnesota Calendar of Events* was printed once each month as the back cover of the *Staff Bulletin*. Additional copies of the *Calendar of Events* were published and mailed to University departments, business firms, organizations and any interested individuals. *Reports From Your University of Minnesota* is the publication sent by the Department of University Relations to parents of all students at the beginning of each academic quarter. The Department also continued to prepare the *Official Daily Bulletin* for inclusion in *The Minnesota Daily*.

Two significant new publications were initiated during this biennium. *The Needs of the University of Minnesota*, the legislative request for 1961-1963, was published in a new enlarged form and distributed to 100,000 persons. The December, 1960, *Minnesotan* carried the entire needs statement. It was also printed in a special edition of the *Alumni News* and was prepared as a smaller fold sheet for use by editors and others. *The President's Report*, 1960, the first annual summary of the University's work, was published and distributed to interested persons throughout the state.

Tours of the Campus—Diplomats, prospective students, organizations, and individual 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 familiar with the campus and who are able to show the visitors the University as a whole as well as any particular activity that the visitor wishes to see. Twelve tour guides work under the leadership of a tour manager. The guides are students of the University se-

lected on the basis of familiarity with the campus, demonstrated strong sense of responsibility, and marked spirit of identification with the University. The Department tries whenever feasible to assign one guide to each 10 visitors, and large groups visiting the campus are assigned several guides. More than 4,000 visitors toured the campus during the 1960-1962 biennium.

Functions and Special Events—The Department is responsible for making significant occasions of opening convocations, presentation of the Outstanding Achievement awards, Cap and Gown Day convocations, commencements, University receptions for graduating classes, and the annual party for retiring staff members.

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 Union for the convenience of those graduates and their parents who are on campus for the evening ceremony.

The Department of University Relations co-operates 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 more than 30 University departments and units, a special luncheon, and attendance at the football game.

Under the authority of the University Senate's Functions Committee, the Department of University Relations planned and executed the details of the inauguration of O. Meredith Wilson as the ninth President of the University. More than 500 delegates of academic institutions and learned societies, state and other public officials, and alumni and friends of the University gathered on the campus with University staff members and students to participate in inaugural events.

The Department of University Relations took the initiative in establishing the use of the Mace as a part of the fabric of the University's ceremonial occasions. Designed by University staff members for the inauguration of President Wilson, the Mace will be used hereafter for commencements and comparable occasions.

The many inaugural events arranged by this Department included a reception for President and Mrs. Wilson, an official dinner, open houses, luncheons, and tours for out-of-town visitors. A dignified printed program, reflecting the spirit of the occasion, was sent to interested institutions and individuals throughout the United States, and films were made of the proceedings.

A second major event during the biennium was the Land Grant Centennial Observance. The Department of University Relations aided in securing a group of sponsors—leaders of Minnesota communities, businesses, and professions—who would be willing to become well-informed spokesmen for the Land Grant ideal, and to participate in the Land Grant Conference held at the University. The Department distributed Land Grant publications to all sponsors. It also co-operated in making arrangements for the special observance which included a Land Grant convocation and a luncheon.

The Department also participates in the dedication of new University buildings. Dedication ceremonies were held during the biennium for the Ralph T. Knight Anesthesiology Research Laboratory, the E. T. Bell Laboratories, the Architecture Building, the Peter J. Brekhus Laboratories, and Diehl Hall. Special topping ceremonies, held when the last piece of structural steel is erected on a building, were conducted for the Classroom Building and for the new Business Administration Building on the West Bank.

Policy—Members of the Public Information Council continued to meet weekly to co-ordinate the many informational and public relations activities at the University. An outline of items for discussion at each meeting was prepared by the director of the Department of University Relations. The Council is composed of representatives of the Department of University Relations, the Athletic Department, 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 Greater University Fund, the World Affairs Center, and the Department of Student Unions.—WILLIAM L. NUNN, *director*.

—MALCOLM M. WILLEY, *vice president*

Divisions of Business Administration

PLANT SERVICES DEPARTMENT

Land

During the biennium, additions were made to the Minneapolis Campus as follows:

In Block 48, St. Anthony City, bounded by Fulton, Oak, River Road and Walnut, four parcels	24,493 sq. ft.
Parts of Blocks 48 and 49, St. Anthony City, including portions of Walnut and Hill Streets S.E., the area bounded by Fulton and Oak Streets on the north and east and by River Road East on the south, except the north half of Block 48, one transaction	60,930 sq. ft.
In Block 21, Regents Addition, on the east side of Oak Street between Beacon Street and University Avenue S.E., the west 108 ft. of Lots 2 and 3, three parcels	14,256 sq. ft.
In Edward and Lewis' Subdivision of Lots 1, 2, 3, and 4, Block 6, Baker's Addition, on the south side of Beacon Street between Oak and Ontario Streets S.E., five parcels	31,200 sq. ft.
In Block G, Tuttle's Addition, on the south side of 4th Street S.E. between 17th and 18th Avenues S.E., the northeast 117 ft. of the northwest 55 ft. of Lot 5, one parcel	6,435 sq. ft.
In Block H, Tuttle's Addition, on the south side of 4th Street S.E. between 18th and 19th Avenues S.E., the SE 22.02 ft. of Lot 4 and the NW 22 ft. of Lot 3, one parcel	7,307 sq. ft.
In Block 6, Mower's Addition, on the east side of 16th Ave. S.E. between 6th and 7th Streets S.E., Lots 7 and 8 except the southwest 80 ft., one parcel	6,391 sq. ft.
In Block 5, Mill Company's Addition, on the north side of 5th Street S.E. between 10th and 11th Avenues S.E., Lot 1, one parcel	10,890 sq. ft.

For the development of the West Campus, the following parcels were acquired:

In Block 7, Hancock and Rice's Addition, on the north side of 2nd Street S. between 20th and 21st Avenues S., the west ½ of Lot 1, one parcel	4,676 sq. ft.
In Block 9, Hancock and Rice's Addition, on the south side of 2nd Street S. between 21st and 22nd Avenues S., Lot 7, one parcel	5,713 sq. ft.
In Block 165, Town of Minneapolis Addition, east of 21st Ave. S., and south of Washington Ave., Lots 8 and 9, one parcel	18,150 sq. ft.
In Block 176, Town of Minneapolis Addition, on the east side of 20th Ave. S. between 3rd and 4th Streets S., the south 80 ft. of the north 125 ft. of Lot 5, one parcel	5,280 sq. ft.
In Block 177, Town of Minneapolis Addition, on the north side of 4th St. S. between 19th and 20th Avenues S., the south 76.75 ft. of Lot 7, except the west 36.5 ft., one parcel	2,648 sq. ft.
In Block 178, Town of Minneapolis Addition, on the west side of 19th Ave. S., between 3rd and 4th Streets S., Lots 1 and 2, one parcel	21,780 sq. ft.
In Block 184, Town of Minneapolis Addition, on the west side of 22nd Ave. S. between 5th and 6th Streets S., Lot 8 of the Re-arrangement of Lots 9 and 10, one parcel	2,717 sq. ft.
Total Minneapolis Campus Acquisitions	161,936 sq. ft. or 3.72 acres

A deduction was made from the Minneapolis Campus as follows:

In Block G, Tuttle's Addition, on the east side of 17th Ave. S.E. between 4th St. and University Ave. S.E., the SW 20 ft. of Lot 5 and the SW 20 ft. of the NW 44 ft. of Lot 4	2,200 sq. ft.
--	---------------

Additions were made to the Saint Paul Campus as follows:

The north 200 ft. of the west 100.9 ft. of the east 829.4 ft. of the NE ¼, Section 20, T29N, R23W, Ramsey County	0.46 acres
--	------------

Lots 10, 11 and 12 together with half of the vacated alley, in Block 1, Garcelon's Addition, Roseville, Ramsey County 0.45 acres

The west 244 ft. of the south 535.56 ft. of the east 710.69 ft. of the SE ¼ of the SE ¼, Section 17, T29N, R23W, except the west 140 ft. of the east 606.69 ft. of the south 350.56 ft. of said SE ¼ of the SE ¼, in Falcon Heights, Ramsey County 1.76 acres

Deductions were made from the St. Paul Campus as follows:

The west 104 ft. of the east 710.69 ft. of the south 266 ft. of the SE ¼, Section 17, T29N, R23W; and, the north 5 ft. of the south 355.56 ft. of the west 140 ft. of the east 606.69 ft. of the SE ¼, Section 17, T29N, R23W, 4th Principal Meridian, Falcon Heights, Ramsey County 0.54 acres

Larpenteur Avenue was widened from a 66 ft. to a 100 ft. right-of-way from Fulham Street to Cleveland Avenue, reducing the area of contiguous parcels 1.8 acres

Additions were made to the University of Minnesota, Duluth Campus, in the City of Duluth as follows:

Lots 3 and 4, Block 5, Nortondale Development, First Division 15,583 sq. ft.

Lots 11, 12 and 13, Auditor's Plat No. 8 of Farrell's Addition 21,535 sq. ft.

Lot 10, Block 38, Nortondale Development, Second Division 2,299 sq. ft.

Deductions were made from the Duluth Campus as follows:

Lots 6 through 10, Block 1, Longview Addition, and fractional Lots 1 and 2, Block 12, New Endion Division, at 2316 East First Street (Alcott Hall, garage and grounds) sold 28,000 sq. ft.

In Block 4, Longview Addition to Duluth, Lots 5, 6 and 7; the north-easterly 10 ft. of the northwesterly 120 ft. of Lot 8; the southeasterly 30 ft. of Lots 8, 9 and 10; and, Lots 11 through 15 (Tweed Hall, Annex and grounds) sold 52,800 sq. ft.

Additional land was acquired at the University of Minnesota Morris Campus as follows:

Part of the E½ of the SW¼, Section 36, T125N, R42W, Stevens County 33.01 acres

At Morris, a reduction in experiment field acreage resulted from the relocation of U. S. Highway 59 (Minn. 28) through the Experiment Station's northwest field, as follows:

Parts of the north half and of the SW¼ of Section 35, T125N, R42W, Stevens County, taken for highway right-of-way (sold to Minn. Highway Dept.) 16.64 acres

A deduction was made from the experiment fields at the Northwest School and Experiment Station, Crookston, as follows:

The East 888 ft. of the South 1233 ft. of the SE¼ of the SE¼, Section 24, T150N, R47W, Polk County (sold to Red River Valley Winter Shows) 25.13 acres

At Waseca, a 30 acre wooded tract on the east side of Clear Lake was given to the University for use by the School of Forestry, described as follows:

Maplewood Park (plat) in the south half of Section 9, T107N, R22W, Woodville Township, Waseca County 30 acres

At the Rosemount Research Center, the Steam Plant site and structures (within the Center boundaries) were declared surplus by the U. S. government and were purchased by the University:

A rectangular tract in the east half of Section 36, T115N, R19W, Dakota County 26.70 acres

Additional land was purchased in the Cedar Creek Natural History Area as follows:

The SW¼ of the NW¼ of Section 27, T34N, R23W, Anoka County 40 acres

In St. Louis County, at Crane Lake, 401.25 acres of land along both sides of the Vermilion River were given to the University for Geological and Botanical research and education, and for recreational uses, described as follows:

The SE¼ of the SW¼ and Lots 1 through 7, Section 22; also Lot 3 Section 15 and Lot 1 Section 21, T67N, R17W, St. Louis County 401.25 acres

Buildings and Tunnels

Minneapolis Campus—Contracts were awarded for buildings as follows:

A complex of three buildings is under construction on the west side of the Mississippi River between 20th and 21st Avenue South and 2½ and 3rd Streets. The exteriors are of matching brick with architectural cast stone window frames, and they are connected below grade with tunnels and the second, third, and fourth floors are connected with enclosed bridges.

Total cost of this complex \$6,579,000
Source of funds State Appropriation

A. The Business Administration Building will have 14 stories with eleven finished, one unfinished, and two housing mechanical equipment. Primarily designed to provide offices, seminar rooms and laboratories for the School of Business, it will also have a service area on the west side of the lower level for deliveries, Plant Services facilities, mimeograph room, vending machine room, and other service group areas. This building will have 83,610 usable square feet.

B. A Social Science Building is under construction to provide 78,527 usable square feet of space for seminars, offices, and laboratories for the social science departments. Eleven of the sixteen floors are finished, three unfinished, and two will have mechanical equipment.

C. Large and small classrooms, library and map rooms, along with book store, lunch, and study space is provided in the 92,875 usable square feet in the five-level General Purpose Classroom Building. The two largest classrooms have 250- and 150-seat capacities; all classrooms have conduit for closed circuit television. At the north end of the lower level will be the entrance for bus traffic from the proposed new bridge, and the first level will take the pedestrian traffic from the upper level of the new bridge.

An underground utilities tunnel has been constructed to the new West Campus buildings. Beginning at the west end of the Northern Pacific Railroad bridge, upon which the University steam lines cross the river, the 2300-foot tunnel extends beneath 21st Avenue to a shaft below the west end service entrance to the Business Administration Building. This tunnel is 5 feet wide, 7 feet high, and has a 5 inch concrete liner. A service shaft makes it accessible from Washington Avenue.

Total cost of this work \$635,000
Source of funds State Appropriation

A second floor addition was constructed over the existing kitchen of Shevlin Hall. The purpose of this structure is to provide 2036 usable square feet of dining and study hall space for University High School students. Remodeling of the kitchen was also accomplished as a part of the total project.

Total cost of this structure \$211,166
Source of funds State Appropriation

An Office for Civil Engineering was gained through construction of an addition on the north end of the existing Hydraulics Laboratory. This building was constructed of structural steel frame with metal panel walls.

Total cost of this structure \$117,786
Source of funds Income from contractual research

An addition to the Chemical Storehouse has been constructed at the south end of the present building. The purpose of this addition is to create more chemical storage space and to provide temporary depository space for the Library.

Total cost of this structure \$504,000
Source of funds State Appropriation

A portion of the second level of Diehl Hall left unfinished in the original construction was completed. This space, amounting to 6360 usable square feet,

was provided for the Scientific Apparatus Shop to replace their present inadequate and non-fireproof quarters in a temporary building.

Total cost of this work 175,000
 Source of funds State Appropriation

A reinforced concrete addition to Morrill Hall for a data processing center has been constructed underground between Morrill Hall and the Physics Building. It is attached to Morrill Hall by a tunnel. This single level building of 7,388 square feet is air conditioned to provide the proper operating temperature and humidity for the computer and associated machines it will house.

Total cost of this structure \$313,942
 Source of funds University Services Income

St. Paul Campus—Contracts were awarded for buildings as follows:

Phase I of the Crops Research Building has been erected on the east side of the campus across Gortner Avenue from Agronomy Building. This building is constructed of exposed structural steel with a masonry exterior. Its two levels contain 27,247 usable square feet of space. Laboratory and office space for research on field crops is provided.

Total cost of this structure \$1,130,000
 Source of funds State Appropriation

Duluth Campus—Contracts were awarded for buildings as follows:

A major move of student population from the old campus was made possible through construction of an Education Classroom Building with facilities for teacher education, offices, and general classrooms. This building was constructed of reinforced concrete with masonry exterior and has 39,443 usable square feet of space.

Total cost of this structure \$845,600
 Source of funds State Appropriation

Construction has been completed on an Industrial Education Building north of, and separate from, the Classroom Building. The reinforced concrete frame and masonry portion of this segmented building contains the offices and classrooms. The shops are in the structural steel frame with masonry exterior portion. This structure contains 43,876 usable square feet of space on the two levels.

Total cost of this structure \$950,000
 Source of funds State Appropriation

A combination pedestrian and utility tunnel has been constructed between the Social Science and Science Buildings, and from the Science Building to the Student Center. This tunnel, which is partially above ground, is made of reinforced concrete with a masonry exterior provided for walkways on the top. The east side is exposed above ground and has windows. It is 8 feet high and 21 feet wide with 16 feet for pedestrians and provides 11,400 usable square feet.

Total cost of this structure \$258,000
 Source of funds State Appropriation

Rehabilitation

Minneapolis Campus—Contracts were awarded or work performed by the University as follows:

Wullung Hall, the old Pharmacy Building, has been remodeled and rehabilitated to provide space for departmental offices and classrooms. Old heating and electrical systems, toilet rooms, entrances, and stair towers have been replaced and offices, classrooms, and laboratories provided.

Total cost of this work \$220,000
 Source of funds State Appropriation

A new elevator has been installed in Zoology to replace the obsolete one. General improvement of the building is taking place with steam cleaning, tuck

pointing, reflashed cornices, improved electrical system, vinyl asbestos flooring, a new hot water heating system, and a new roof being provided.

Total cost of this work \$189,000
 Source of funds State Appropriation

Rehabilitation of Owre Hall included new electric breakers, lighting, circuit wiring, new roof, re-keying, the replacement of hardware as necessary, rehabilitation of the elevator, and new ventilation for rooms 12 and 15. New and improved clinic space for dentistry was obtained by the remodeling.

Total cost of this work \$277,500
 Source of funds State Appropriation

The University Press Building has been improved through continued rehabilitation and more space made usable through remodeling. New lighting, branch circuit wiring, hot water heating, roof, windows, toilet rooms, entrances, stair wells, sprinkler system, and vinyl asbestos floors in the finished areas have been installed. Work on the building exterior is in progress.

Total cost of this work \$135,000
 Source of funds State Appropriation

Phase II of the Walter Library rehabilitation is completed. Two zones have been converted to hot water heat, the sub-basement ventilated, the roof house completed and the main electrical switchboard and transformer vault partially rehabilitated.

Total cost of this work \$96,500
 Source of funds State Appropriation

Jackson Hall phase II rehabilitation and remodeling is near completion. The large lecture room 102, the Gross Anatomy, the Elementary Anatomy, and the Microscopic Anatomy teaching laboratories, and the remodeled Pathology areas are completed. Rehabilitation included installation of a new air supply system, new electric switch gear, electric panels and feeders, replacement of wooden floors and sleepers with concrete, vinyl asbestos flooring in areas not remodeled and doors and hardware.

Total cost of this work \$339,652
 Source of funds State Appropriation

St. Paul Campus—Contracts were awarded on work performed by the University as follows:

In the old portion of the Home Economics Building the clothing storage and laboratory rooms have been rehabilitated.

Agricultural Engineering has been improved through replacement of lighting, branch circuits, new hot water heating, water piping, toilet rooms, re-keying and replacement of deteriorated hardware. Work is under way on new roof cornices, gutters, valleys and ventilators.

Total cost of this work \$162,150
 Source of funds State Appropriation

Major Improvements and Alterations

Minneapolis Campus—The worn and unsafe terrazo stairway treads in Eddy Hall were replaced.

General remodeling and renovation to provide space for research laboratories is underway in Pillsbury Hall.

In order to correct the icing problem on Pattee Hall, the roof overhang was reduced, new fascia board installed, new gutters hung and down spouts connected to storm sewer.

Space to move the Art Library from Northrop Auditorium was gained through remodeling Room 104 Jones Hall.

Some of the rooms were remodeled, and some wooden floors and sleepers replaced with concrete and vinyl tile flooring in the Institute of Child Welfare. Norris Gym Rooms 2, 4, and 201 were rehabilitated.

The locksets in Appleby Hall were replaced with the best lock system.

Stage facilities in Scott Hall were improved through installation of a new switchboard and lighting brought to a classroom level in the auditorium.

A platform to handle trucks for dumping snow was erected on the river bank adjacent to Mines Experiment Building.

Remodeling and altering of Temporary South Court Engineering provided space for the Upper Midwest Economic Survey and the Institute of Technology Mathematics Department.

A truck dock and book return were installed in Walter Library.

Electrical Engineering graduate research laboratories rooms 335 and 337 were altered to provide more adequate space.

Folwell Hall received a new tile roof on the north and south sides, new copper drains, and the floors were rehabilitated on the second floor.

The water piping in Morrill Hall was replaced with copper pipe, and the Regents room was altered and ventilated.

A fire alarm system was installed in Pioneer Hall.

A new steel shell and other acoustical treatment was installed in Northrop Auditorium.

Space in Vincent Hall basement was converted for a computer.

An electronics laboratory was constructed in the basement of the Museum of Natural History.

Room 30 of Mechanical-Aeronautical Engineering Building was remodeled into three laboratories.

Laboratory space for pediatrics was obtained through completion of a previously unfinished area on the fifteenth floor of Mayo.

An inflammable liquid storage building with stairway enclosed, interior fire escape, and fire detection system was constructed for the Linear Accelerator.

Building 90 was rehabilitated and remodeled to house the Department of Police.

Eastcliff, the President's residence, was repaired and renovated for occupancy by the University president.

Approved exit lights are in the process of being installed in Burton Hall, Folwell Hall, Main Engineering, Mechanical Engineering, Electrical Engineering, and Murphy Hall.

Electrical primary service and distribution was improved through replacement and rehabilitation of transformer vaults, panel boards, and feeder systems as needed in Nicholson Hall, Psychology, Shevlin Hall, Scott Hall, Physics, Continuation Center, Coffman Memorial Union, and Variety Club Heart Hospital.

Lighting was improved through installation of fluorescent fixtures in some rooms of Nicholson Hall, Institute of Child Welfare, Appleby Hall, Zoology, Walter Library, Chemistry, Morrill Hall, Physics, and Cooke Hall.

A building was acquired on 1805—5th St., S. E. and improved to serve as an Inventory Surplus Building.

A new Centrex telephone system was installed on the Minneapolis and St. Paul Campuses to replace the overloaded and inadequate manual switchboards.

A 190-foot reinforced concrete stack with masonry liner and incinerator is under construction to provide adequate and approved facilities for combustible refuse disposal.

Clinic and office facilities have been provided for the Cancer Detection Center in the basement of Masonic Cancer Hospital through completion of a previously unfinished area.

Otolaryngology and Ophthalmology laboratories have been constructed in the unfinished areas in Diehl Hall, largely with gift funds.

A commuter lunch and recreation room was constructed from an unexcavated area beneath the existing cafeteria in Coffman Memorial Union and named the "Gopher Hole."

St. Paul Campus—The east side of Coffey Hall received a new loading dock, doors, retaining wall, and granite facing.

The laboratory in Room 113, Snyder Hall was rehabilitated.

Space for Agricultural Extension was obtained by reconditioning and remodeling Temporary South of Coffey.

Temporary South of Haecker was wrecked.

Lighting was improved in the Gym, Agronomy, and Plant Pathology through installation of fluorescent fixtures.

Duluth Campus—A ventilating system was installed in the unfinished space under the Physical Education Building to facilitate the development of certain athletic activities.

The windows in the Science Building have been rehabilitated.

Space in which to service, repair, and store vehicles will be gained when construction of a field equipment shed is completed.

New sections of primary electrical service were installed to gain additional capacity and the street lighting extended.

Campus landscaping was extended and improved particularly at the entrances where signs were erected. The campus parking lots were black topped.

Morris Campus and Experiment Station—Many miscellaneous changes were made in classrooms, laboratories, offices, and service facilities to prepare for sophomore and junior year collegiate instruction. The electrical service was generally improved through installation of a transformer vault and rearranging primary service at the rear of Agriculture Hall and adding to underground distribution.

Remodeled campus entrance and installed new identification sign.

General remodeling and repairs were made to Agricultural Engineering.

Northeast Experiment Station—The sidewalks and curbing were rebuilt, outside lighting erected, and underground electrical distribution system installed.

Rosemount Agricultural Experiment Station—At the dairy farm the obsolete feed processing plant was replaced, and the calf barn remodeled.

A dairy nutrition laboratory and a milk parlor were also constructed.

Rosemount Research Station—The old undependable No. 2 boiler was replaced. Construction of a hog house for Veterinary Medicine was completed.

Crookston—Installation of drainage sump pumps and the related wiring and piping was completed in the tunnels. In order to qualify for certified seed processing the grain elevator was rehabilitated. The two main front entrances to the Dining Hall were rebuilt and remodeled. Minor construction consisted of a pole barn for dairy calves and heifers and replacement of the old greenhouse with a new one.

Waseca—A shelter with one end for sheep and the other end for cattle was constructed to provide full time shelter and feeding space.

Cedar Creek—A combination garage and laboratory 20 x 36 has been constructed.

Zumbra Heights—A farm shop to provide space for machine repair was constructed.

Grand Rapids—Remodeling included removing the top floor of the creamery, and enlarging the milk house to add a locker room and shower area. The roads, entrances, parking lots, and curbing were redone with State emergency funds. Heating for the laboratory school has been extended from the main heating plant.

Lamberton—A quonset hut obtained from government surplus was erected and put into operation as a machine shed. The electrical distribution was changed to underground.

OFFICE OF CIVIL SERVICE PERSONNEL

The functions of personnel service were maintained during the first year of the biennium under the guidance of an acting director in the absence of the director who had been seriously injured in an automobile accident. Upon

determination that the director would not be able to resume his responsibilities, a new director was appointed in July, 1961.

Emphasis during the first months of the second year of the biennium was placed on a thorough re-evaluation of the programs and goals of the department. A long-range improvement program was planned to provide better service to University departments, to promote better employee relations, and to develop better communications between the personnel department and other departments and employees.

By the end of the biennium, a number of changes in the administration of the department were in progress. The department had been reorganized

1. To combine staff from the old Classification Division and the Employment Division into a pool of personnel "generalists," with each one assigned the responsibility of carrying on a variety of personnel services for an organizational sector of the University, instead of working as "classification" or "employment" specialists.
2. To create an Applicant Recruiting and Screening Section which has as its special function the attraction of applicants for University jobs and their evaluation to determine which may be likely candidates for University employment.
3. To create a Management Services Division by removing from the Training Division the responsibility for making organization and procedures surveys for University departments.
4. To create the new position of Assistant Director with the responsibility for administering the "core" personnel services of position classification, applicant recruitment and screening, applicant placement, personnel problem solving, salary administration, and personnel records. The Assistant Director also assists the Director in labor relations negotiations. The new position was established to provide day-to-day coordination and supervision of the core personnel services and to provide continuity in the administration of the department in the event of the absences of the Director.

In addition, a number of changes in the procedures of the Office of Civil Service Personnel had been initiated by the end of the biennium. The Civil Service employment application blank was redesigned, the application files were revised, and the handling of applications was improved. The first result of a review of the Civil Service applicant testing program was a shift in emphasis toward group testing and test scheduling. The student application blank was redesigned and equipment was purchased which allowed a new work-flow arrangement for serving students in the Student Employment office.

Other procedural changes being considered include a plan to consolidate into a few forms the many forms used to process personnel actions (requisitions, appointment forms, leave forms, and so forth).

Employment—The overall employment picture during this biennium has been about the same as it was during the last biennium. The same recruiting difficulties still exist, and they are being aggravated by the inability to compete with industry's fringe benefits. There were 3108 terminations, almost exactly the same as last biennium. As in the past, most quit because of "other employment," which often means "low pay." Change of residence and pregnancy are also frequent reasons for resignations.

The monthly turnover was 2.27 per cent, although for some hospital classes it was as high as 6 or 7 per cent. The shortage of clerical workers, nurses, and medical research personnel is still critical. One-fourth of the vacancies this biennium were in the hospital and medical research areas, up almost a third over the preceding biennium. Of these vacancies, 41 per cent were in the Clerical, Administrative and Fiscal service, mostly in clerical positions. Including part-time and temporary positions, there were 5146 vacancies this biennium. The limited number of qualified applicants allowed the referral of only 1.3 applicants per vacancy which resulted in a very limited choice for employing departments.

It is becoming increasingly difficult to maintain high employment standards, which are particularly important in research work. The "trainee" system developed by the Training Division has helped to fill many positions. A \$10,000 budget was spent for "help wanted" advertising, about the same as was spent during the past two bienniums. Of this amount, 40 per cent went for office help. Some 400 full-time employees and 150 students were promoted to higher level positions. Only 44 aliens were hired during the biennium. The number of qualified applicants has been fewer except in the unskilled areas, and salaries, particularly in professional areas, have not been keeping up with those offered by industry.

Personnel Records—The number of personnel documents processed during the past biennium increased from 44,306 to 52,905, an increase of approximately 20 per cent. Student personnel actions totalled 7,341; civil service, 9,506; and academic, 11,302. This reflects the overall growth of the University, especially in research areas. The procedural improvements now being studied in the Personnel Department should result in a reduction in paperwork and a better records management program.

Testing—During the biennium 25,535 tests were administered. This was an increase of 32 per cent over the previous biennium. Of the applicants tested, 6,722 were new, 2,284 were retests, and 515 were students. This represents an increase of over 31 per cent. As the number of borderline applicants increases, the necessity for testing increases. A survey of the testing activities is being carried out as a part of the general improvement program of the department.

Unemployment Compensation—During the calendar years 1960 and 1961, the second 2-year period of unemployment compensation coverage, 622 new claims were filed by terminated Civil Service employees. The University protested 245 claims and 134 of these were disqualified for 3 to 7 weeks. Later, additional claims were disqualified because of the refusal of the claimants to accept jobs. Of the 12 disqualified claims that were appealed, 9 were decided in favor of the University by the appeal tribunal. A total of 946 individual claims were paid during the biennium, some of them carrying over from the previous biennium.

The University's unemployment compensation cost for the biennium was \$188,659.41 compared to \$91,353.93 for the previous biennium. This increase in cost was due to a gradual buildup in the number of claims carrying over from one year to the next; an increase in the number of repeat claims by employees who have six or nine month appointments; a greater awareness of compensation possibilities on the part of employees; and higher salary levels. Every effort is being made to help departments reschedule work, reduce layoffs, rehire layoffs, and become more familiar with the provisions of the law. However, most of the claimants are voluntary quits, and under the present law the University is liable for compensation regardless of the reason for termination.

Classification and Pay—Position Classification—The Position Classification Plan now includes 512 different classes of work covering some 9,000 full and part time Civil Service positions. The administration of this plan involves the classification of new positions, the review of vacant positions, the review of reclassification requests, the establishment of new classes and the abolition of obsolete classes, classification surveys, salary studies, the maintenance of class specifications.

Of the 1,179 new positions established by departments during the biennium, 1,117 were classified as requested, 42 to a lower level, 12 to a higher level, and 8 into a different class at the same salary level as requested. Some 225 new positions were reviewed after several months to verify the accuracy of the original classification.

During the biennium 449 requests for reclassification were submitted. Of this number 137 were not approved as requested, and the balance were reclassified. Four decisions were appealed to the Civil Service Committee by departments, the Committee supporting the original decisions. One employee

appealed a decision to arbitration, and the arbitrators upheld the employee's position.

The Personnel Department received 2,954 requests to fill vacant positions during the biennium. Of these 13 were reclassified to a lower level, 7 to a different class at the same pay level, and 7 to a higher class than requested.

Forty new classes were established, and eight obsolete classes were eliminated. A total of 157 positions were studied in connection with classification surveys. Of these, 16 were assigned to a higher class, 3 to a lower class, and 5 to a different class at the same pay level.

Salary Plan—The cost of living adjustment plan was suspended by the 1959 and 1961 legislatures. The 1961 legislature provided for pay rate changes for most classes effective July 1, 1961. At the same time 40 per cent of the necessary money was provided for July 1, 1962 merit increases, which moved the University in the direction of granting increases only for completely satisfactory work. During the biennium 36 classes were reallocated to higher and 2 to lower pay ranges on the basis of comparability with State Civil Service or community rates or internal job rates.

A comprehensive salary survey carried out in cooperation with the State Civil Service Department at the end of the biennium covered hospital employees and other employees. The hospital questionnaires covered 22,169 workers in 126 hospitals. The others covered 256,250 workers representing 489 employers in industry and government. The results indicate that University rates have fallen behind. The University and the State Civil Service will make salary recommendations to the 1963 legislature based on these survey findings. A number of small informal surveys were also made during the biennium for specific classes.

A major problem in the pay plan is the inability to adjust quickly to salary trends. If it were possible to make 6- or 12-month adjustments to correspond with salary trends, the system would be more realistic and increases for merit could be administered more easily.

Student Employment—Although the figures for the past two bienniums indicate little change in the volume of activity, the past year broke all records for the number of applicants, vacancies and placements. The first half of the past biennium was characterized by a scarcity of jobs. The business recovery during the second half plus the increase in enrollment created a volume of work that was almost beyond the capacity of the present staff. Comparative figures for the past two bienniums follow:

	Interviews	Applicants	Vacancies	Placements	Earnings
1958-60	55,754	17,592	17,205	14,614	\$14,970,890
1960-62	55,110	18,540	16,529	14,554	17,909,316

The applicant total for the past two years is the largest ever. Of 18,540 applicants, 11,082 were placed. Many were placed more than once since some jobs are of short duration.

The nearly \$18 million in student earnings sets a new high. This figure includes both campus and estimated off-campus earnings. An additional \$750,000 was earned by students living in University residence halls and was credited to their board and room.

The Work Scholarship Program had the best period in its ten-year history. Placements totaled 267 this past biennium, compared with 157 the previous biennium.

Streamlined procedures are being developed to keep pace with the increase in enrollment and do a more effective job of placement.

Employee Training—The Training Division continued to improve and expand its employee development programs and other services to departments during the 60-62 biennium.

Central programs—The orientation of new employees was continued through the "Get Acquainted with the University" session presented every

two weeks. Orientation materials were sent through supervisors to 1,713 new full time Civil Service workers this biennium, and 368 of these were able to attend the session. Several large administrative units of the University were assisted in developing and presenting their own orientation programs. An entirely new orientation program is being planned which will reach all new employees with no increase in cost.

The University Business Procedures Course, now in its eleventh year, had an enrollment of 175 key secretarial and supervisory employees in 10 groups. This 12-session course covers the personnel and fiscal policies and procedures and the internal services of the University. Many private sessions were also presented at the request of departments which had special training needs or procedural problems.

The Manual of Business Procedures, basic text for the Business Procedures course, was completely revised each year of the biennium as in the past. This involves the Training Division in a continuing program of improving existing procedures and developing new ones.

The 12-session University Office Practices Course was presented to 24 groups totaling 157 employees. In addition 42 special sessions were held for one or more people, and a large quantity of training materials was provided to supervisors developing their own training programs.

An English Refresher Course (16 sessions) was tested and presented to 4 groups totaling 49 employees. Twenty special sessions were also held for smaller groups, and training materials were provided to a number of departments.

The Supervisor Training Courses, "Responsibilities of a University Supervisor" and "Understanding Yourself and Others," introduced during the preceding biennium stimulated a great deal of interest among supervisors and administrators. The emphasis this biennium has been on individual followup with these employees, on a number of supervisory problems including staffing, scheduling, and absenteeism. As these key foremen and managers learn to become more effective in the day-to-day application of management techniques, other groups will be admitted to the courses with similar personal followup. The Supervisor's Information Service, a circulating library of some 20 professional journals and periodicals in the field of management and supervision, has increased in circulation from 152 to 217 employees. This service stimulates the professional growth of management personnel by supplying new concepts and ideas for improving their departments.

Departmental Skills Programs—The Training Division continues to assist departments in developing and administering training programs tailored to meet specific needs. Services include conducting work analyses, improving work methods, establishing work standards, and preparing work methods manuals which are occasionally copyrighted and published. One example is the new "Work Methods for Care and Handling of Laboratory Animals" which has already received the same nationwide recognition as the recently revised "Work Methods for Building Caretakers." The Training Division encourages supervisors and administrators to assume the training function within their departments.

Individual Self-Development Programs—The Training Division also administers the Regents' Scholarship Program. The number of day school scholarships was increased from 100 to 120 and evening school scholarships from 40 to 65 during this biennium. In addition, 128 employees took courses on their own by paying the tuition and making up work time used to attend classes. In view of the negligible cost to the University, the scholarship program could be greatly expanded. The Training Division continued to provide vocational guidance services to employees who requested help in planning self-improvement programs.

Trainee programs were devised to permit the employment of basically qualified candidates who lack specific skills or experience. Trainees are started several steps below the minimum of the salary range for the class of work and advance through a series of organized phases of training with an incentive salary increase at the end of each phase. When the minimum salary step is reached, they are qualified employees. The Training Division works

with departments to develop these trainee programs. The number of trainee programs has doubled since the preceding biennium, with a present total of 40 programs involving some 65 individuals.

Supplementary Services—The Training Division receives numerous requests from departments to perform related services, particularly in the field of communication. These include assistance in designing, illustrating, editing, and laying out brochures, questionnaires, forms, and letters. Advice on the graphic arts processes and the preparation of visual training aids is also sought.

Management Services—A Management Services Division was established during the second year of the biennium because the increasing demand for this type of service had outgrown the capacity of the Training Division. The Management Services Division helps administrators and supervisors evaluate and improve the organization, procedures and business management of their departments through the application of specialized management analysis techniques.

Management studies result in written reports of findings, recommendations for improving procedures and instructions for the installation of new procedures, and suggestions for mechanization, redesigned physical layout, better forms control and records management systems, and work simplification.

Several major procedural studies have been completed and new systems have been installed in units such as the Graduate School, the Law School, and the State Organization Service. A special study was completed for the University Records Management Committee. A number of smaller studies have also been made. At the close of the biennium a major procedures and forms control study was under way in the Office of Civil Service Personnel.

Employee and Labor Relations—Employee and labor union relations deteriorated during the first year of the biennium. The department, without a permanent Director, did not sense the urgency of employee unrest in several large University operating departments. Employees and employee union representatives became increasingly disturbed about unsolved problems, and one union picketed the Administration Building in February, 1961, in a demand for action.

During the second year of the biennium, the new Director and Assistant Director devoted substantial time to investigating these problems and negotiating solutions. The major problems were related to inadequate communication between supervisors and employees and to poor communication between the Office of Civil Service Personnel and union representatives. Many employees and supervisors were interviewed. In one department, over fifty separate problems were identified and solved. Many meetings were held with union representatives to negotiate solutions to problems on which differences of opinion existed.

The new Director and Assistant Director attended by invitation three meetings of large groups of employee union members at union headquarters. They also met with smaller groups of union members on several campuses and with the executive board of one union at its regional convention.

During the biennium, unions were allowed to collect dues by payroll deduction, and two unions availed themselves of the opportunity.

Several craft unions asked for payments into their private pension funds for their members in addition to the University policy of allowing these employees to be covered under the State Employees Retirement Plan. The request was not granted, and the question was still being negotiated at the end of the biennium. The problem was complicated by the fact that the craft unions were not in agreement on the issue.

Civil Service Committee—The following staff members served on the Civil Service Committee during this biennium: Mr. Ray Archer and Professors Clarence Cole, Richard Jordan, Burtrum Schiele, James Stephan, and John Turnbull. Dr. Stephan served as chairman during the 1960-61 fiscal year, and Dr. Turnbull served as chairman during the 1961-62 fiscal year. The director of Civil Service Personnel serves as executive secretary.

The Committee, which meets on call, held 33 meetings during the biennium. In addition to considering proposals for new classes of work and proposals for changes in salary range assignments of existing classifications and making appropriate recommendations to the Board of Regents, and awarding Regents' Scholarships, the Committee devoted many meetings during the second year of the biennium to considering proposals for changes in the Civil Service Rules. During the biennium, the Committee also heard three appeals of disciplinary action and four appeals of position classification or pay range decisions.

The Office of Civil Service Personnel is deeply indebted to the individuals who serve as members of the Committee for the conscientious and helpful way in which they guide personnel policy at the University.—FRANK PIEPER, *director*

UNIVERSITY SERVICES

Residence halls, housing accommodations for married student families, and food services on the Minneapolis and St. Paul campuses, along with several other auxiliary enterprises established to serve student, staff, and departmental needs, are coordinated and administered through the Department of University Services. The departments administratively responsible to University Services are listed below in the table of comparative earnings. A comprehensive history and a statement of philosophy for each of the departments are contained in the *University Services Annual Report 1961-62* along with a detailed financial report for the biennium.

University Housing—Before the start of the 1960-61 school year the fact was evident that existing facilities in women's residence halls would not accommodate all girls who wished to make application. At the same time, the completion of two new halls for men on the Minneapolis campus within the previous two years, which had been planned to meet demands of increasing enrollments in the near future, resulted in the apparent availability of a limited amount of space in the men's halls. During the preceding two years, coeducational housing had been initiated successfully at Bailey Hall, the new residence for men and women on the St. Paul campus, and a similar type of housing had been suggested for the Minneapolis campus. The unique design of Pioneer Hall for men made possible the approval for conversion of the south court to a women's residence area which has been named Pioneer Court. The Court was organized into houses accommodating no more than 30 women, with a private lounge and supervision by an experienced counselor provided for each house. The most popular features of the Bailey Hall program were introduced at Pioneer including dining rooms, lounges, and recreation areas shared by the men and women. The development of coeducational housing has been administratively workable and enthusiastically accepted by the participants. Occupancy at Pioneer Court increased from 145 women in the fall of 1960 to 323 women at the start of the 1961-62 academic year.

A major goal of residence halls administration and the counseling program is academic achievement of residents. In the accomplishment of this purpose, a responsible program of extra-curricular activities has been fostered. Intramural athletics, social service programs, social-recreational occasions, and cultural-educational activities have been encouraged. Student government willingly assumed leadership of student-oriented programs with a minimum of staff control and direction, and student opinion has been considered in matters of policy.

The Sanford Hall kitchen served as an experimental area for the evaluation of new developments in the food industry, to determine the feasibility of reducing labor costs by using more prepared foods without sacrificing the standards of quality of food served or the homelike atmosphere.

Renovation projects in Sanford Hall were limited to those essential to the safety and comfort of present residents, in view of the study that is to be made to determine the future of this building in the total housing program intended to meet the predicted needs.

University residence halls were hosts to special groups representing a variety of local, national, and world-wide projects. Comstock Hall was the

site of a "Foreign Student Orientation" to the American way of life for 52 students from all over the world who were matriculating to colleges throughout the United States. Bailey Hall is being readied for the arrival of Peace Corps trainees whose field of service is to be Pakistan.

The third phase in the construction of permanent apartments for married student families was completed by June, 1962, providing 142 one- and two-bedroom units in addition to the 220 previously constructed. Located on a site pleasantly landscaped on the south end of the St. Paul campus, Commonwealth Terrace was designed to provide as good housing as is compatible with the lowest possible rates. The programming of further construction is based on plans for the discontinuance of the Como Avenue and Grove East quonsets and barracks. The decision to remove these units by systematic scheduling through June, 1967, developed from the growing concern for the maintenance of reasonable health, safety, and sanitation standards, and the prohibitive cost involved in further rehabilitation of these postwar emergency buildings. Continuous attention is directed toward maintenance necessary for structural safety and sanitation of units scheduled for use. The 38 efficiency and one-bedroom furnished permanent apartments in Thatcher Hall are restricted to married students registered in the Graduate School.

As the barracks are removed from Grove East, the site is being readied for the extension of the University Grove staff housing development. Title to these lots remains with the University, and leasing of lots for home construction or purchase of existing residences is restricted to academic and administrative staff who have acquired tenure and who have at least ten years to serve before compulsory retirement. Future expansion of University Grove is expected to be an immeasurable aid in attracting and retaining staff. The Staff Housing Bureau aids in arrangements for University Grove residence and in general exists to give new staff an orientation to housing and transportation facilities.

The Center for Continuation Study residence, serving in conjunction with the classroom areas for institute groups, was the object of study in the past year relative to modernization and expansion. Continued growth and future success of this facility in fulfilling its special services to the citizens of the state would appear to depend on the provision of standard services and conveniences to warrant room rates comparable with those of downtown hotels. A definite proposal resulted from the comprehensive study to be submitted for consideration in the 1963 legislative building request.

Food Services—A significant trend affecting Coffman Union Food Service has been the tremendous growth in service to commuter bag lunch customers, with a resulting decrease in patronage in the cafeteria, fountain, and counter unit. Party and banquet volume has shown no definite trend, but fluctuates widely from year to year. Recognition of the need for increased bag lunch facilities resulted in activation by the Union of the new and as yet officially unnamed basement room below the cafeteria to be used by bag lunchers and for other purposes. Continued study of student food service needs, desires, complaints, and suggestions is being accomplished through reactivation in the past year of the Union Board Food Service Liaison Committee to work with representatives of Food Service. It is felt that the committee will prove valuable to help Food Service do a more effective job of serving the University community and to find solutions to problems created by rising customer counts and increased payroll and other operating costs in the face of decreasing sales volume. The School of Journalism was authorized to conduct a public opinion poll and survey relative to Coffman Union Food Service by which information might be obtained which would indicate corrective measures to improve service to students, staff, and guests of the University.

Shevlin Cafeteria serves a limited menu for University High School and the Elementary School, and students and staff whose activities take them to the northwest section of the Minneapolis campus. This cafeteria provided service from an improvised kitchen and counter during the remodeling of the kitchen and the construction of the high school lunchroom addition. The improvised facilities were necessary from fall, 1960, until winter, 1962. Shevlin now has a modern kitchen, an attractive lunchroom for the laboratory school students which also serves as a University student study hall before and

after the lunch period, and a cafeteria which will adequately service University students and staff when the ventilation problems have been corrected.

By spring, 1962, the addition to the Dining Center on the St. Paul campus was completed to house the office, the Home Economics program connected with the laboratory course in quantity cooking taught in the Dining Center main kitchen, and the Staff Dining Room, the third new food service facility opened on the St. Paul campus in a three-year period. The room provides a quiet, attractive atmosphere for the discussion of business or for pleasure while leisurely eating lunch. It is available by special reservation for dinners or coffee hours at any time other than the noon hour.

Auxiliary Enterprises Serving University Departments—Audio-Visual Education Service supplied a variety of engineering, booking, production, and artist requirements through the biennium. The engineering division designed and installed a new hospital paging system, a new sound distribution system for Northrop Auditorium, and installed a new tape duplicating machine for the Language Training Program. Booking services included the rental of equipment, scheduling of operators, procurement of films, participation in a University-wide audio-visual equipment survey, and supervision of the Faculty-Staff Laboratory. Evaluation of equipment, materials, and techniques, training of University staff in the use of equipment and materials, new service development, and research and experimentation constitute the functions of the Faculty-Staff Laboratory. The production division equipped itself for color printing and processing of films, began construction of a new sound stage in North Hall, St. Paul campus, and made plans for the addition in the coming year of a Xerox reproduction service in the instant copy section located in the Walter Library.

Physical limitations have been a major concern of the Printing Services. A preliminary study was started to determine the plant needs of a printing department to serve the University efficiently, to keep pace with the increasing volume of work, and to take advantage of the technological changes in the industry. As plans were made for the activation of the West Bank buildings, consideration was given to the requests for mimeograph service in that area. The Mimeograph and Bulletins Department on the St. Paul campus has instituted a service of instruction to University clerical staff members in the preparation of multilith copy.

The Food Stores and Milk and Cream departments have aimed to supply controlled quality foods at a saving of money by the quantity purchase for University hospital, residence hall, and other food services kitchens. The Milk and Cream Department provided substantial employment and experience for students working in the plant. The new plant has resulted in improved efficiency and has permitted the extension of products to include individual servings of ice cream and 6-gallon containers of bulk dispenser milk. On a limited basis Food Stores has been preparing wholesale cuts of meat for individual servings as an experiment toward labor economy in individual kitchens.

Other Services—Inter-Campus bus responsibilities for transporting students between campuses and student teachers to Tuttle, Pratt, and Motley demonstration schools were extended by plans made for the transportation of faculty members from the Minneapolis campus to the new West Bank site when it is opened next fall.

The University fleet of trucks and cars, operated by Truck Service for the coordination of the vehicle program for departments which serve the whole University such as General Storehouse, Chemical Storehouse, Plant Services, Administration, and Police, has outgrown the present service, repair, and storage garage. Yearly checks have been made to compare leasing costs with ownership costs, and it has been proved that with modern equipment and an efficient garage, the University can maintain the fleet for the least possible expense and enjoy the best in service. For those departments where vehicle ownership is not essential, the Transportation Department rents cars, station wagons, a scooter, and a panel truck, minimizing the extent of vehicle idleness and total investment in vehicular equipment. Proper use of the eyes was the basic subject in the Driver Techniques course offered by the University's

professional driving staff. The increase in accidents occurring among the University's occasional drivers points up the need for communication on the aspects of privilege and responsibility in driving University vehicles.

The Post Office and Campus Mail service, responsible for operating the contract station at Coffman Union, maintaining the outside bulletin boards on the Minneapolis campus, and picking up and distributing mail on the Minneapolis campus, initiated plans for incorporating West Bank Service.

Scientific Apparatus Services completed the move in December, 1961, to their new location in the basement of Diehl hall. The new space of approximately 6,800 square feet, twice the area in the old temporary building quarters, was essential to meet the steadily increasing work volume resulting from the University's expanding research work. The Glassblowing Shop must continue in planning for increased working area and facilities in order to render efficient service to University departments.—C. L. CARLSON, *director*

Comparative Earnings, University Services Departments

	1960-61	1961-62
Centennial Hall	\$ 623,660.92	\$ 613,394.35
Pioneer Hall	276,512.71	417,035.60
Territorial Hall	324,643.38	362,189.03
Frontier Hall	353,270.71	399,642.26
Comstock Hall	504,713.68	551,744.77
Sanford Hall	217,013.52	233,382.21
Bailey Hall	80,153.38	96,435.00
St. Paul Campus Dormitories	38,996.03	37,482.48
Como Avenue and Grove East Housing Project	260,204.93	212,443.67
Commonwealth Terrace	196,759.98	237,598.68
Thatcher Hall	33,072.16	31,857.76
Kewanis Court	21,723.70	21,396.27
University Grove Rentals	5,634.13	6,366.75
Center for Continuation Study Hall	44,537.70	45,914.57
Coffman Union Food Service	626,505.81	629,150.09
Shevlin Cafeteria	73,442.44	92,894.36
St. Paul Dining Center	243,169.24	258,918.73
St. Paul Student Center Snack Bar	89,551.18	89,761.41
Milk and Cream	262,251.06	269,779.98
Food Stores	898,613.60	959,871.65
Audio-Visual Education Service	237,404.05	219,023.73
Photographic Laboratory	62,726.11	59,492.41
Printing Department	559,514.56	590,699.38
Bindery	64,672.98	66,399.01
Mimeograph Department	72,032.54	67,567.82
Mimeograph and Bulletins (St. Paul Campus)	74,617.31	74,423.70
Laundry	352,377.43	366,207.09
Post Office and Campus Mail	999.96	999.96
Transportation	34,136.18	33,779.30
Lockers	4,389.96	4,520.61
Como Clinic Building	550.00	650.00
Barber and Beauty Shops	6,867.60	5,414.62
Pioneer and Centennial Recreation Dens	39,006.90	8,957.64
Pioneer and Centennial Laundry Dens	5,654.72	2,174.28
Comstock Hall Candy Counter	18,727.42	9,965.34
Sanford Hall Candy Counter	8,780.61	3,264.63
St. Paul Campus Residence Halls Candy Counters	7,998.16	5,239.81
Inter-Campus Bus	22,017.05	25,637.09
Scientific Apparatus Services	35,990.42	45,529.05
Glassblowing Shop	26,538.16	30,733.97
Truck Service	29,466.94	41,276.55
	\$6,838,899.32	\$7,229,215.61

THE BUSINESS OFFICE

The Business Office has the responsibility for many functions in the business administration structure of the University. Probably the most fa-

miliar of these are payroll, purchasing and accounting, with some others being the general and chemical storehouses, bursar, treasurer's office, inventory, investments, trusts and research contract coordination.

Three topics have been chosen to describe some of the special responsibilities carried out by the Business Office during the 1960-62 biennium.

Endowments and Investments—The endowments of the University of Minnesota contribute substantial amounts annually both to the general maintenance of the University and to numerous scholarships, professorships, and research projects which have been specified by many donors. On June 30, 1962, the endowments totaled \$66,096,143.32. Of this sum, \$46,623,105.60 is known as the Permanent University Fund and is administered by the State Board of Investments. This fund was accumulated primarily through the occupational tax and royalties on iron ore mined in the state.

Another \$125,613.81 is managed by banks acting as Trustees. The University has been named as the recipient of the income from these endowments under the terms of various gifts and bequests.

The remainder, amounting to \$19,347,423.91, is administered by the Board of Regents and represents the aggregate of bequests made directly to the University during the many years it has existed. These gifts, which were unpredictable in nature and varied widely in amount, have all contributed to many worthwhile projects and phases of University endeavor.

The two largest individual endowments are the Minnesota Hospital and Home for Crippled Children Fund and the Mayo Foundation for Medical Education and Research Fund. The former was donated by William Henry Eustis during the 1920's. Income from this \$3.5 million fund is used to maintain the Eustis Wing of University Hospitals and to provide crippled children with necessary treatment. The Mayo Foundation for Medical Education and Research Fund was established by Doctors William J. and Charles H. Mayo and the Mayo Properties Association in 1915. The income from this fund, which approximates \$3.3 million in value, is used for graduate medical and surgical instruction and research.

During the recent two-year period, the larger endowment gifts included the following:

Donald J. Cowling Medical Research Fund, \$29,500.00. This anonymous gift named for Dr. Cowling is to be used in the treatment and prevention of coronary arteries disease and of malignant disease.

Elmer E. Stoll Estate, \$221,977.84. This gift is to be used toward the construction of a University Theater Building.

Sophie Dufresne Memorial Scholarship Fund, \$86,482.91. This gift is to be used for scholarship aid to needy and deserving students.

Louise T. Dosedall Scholarship Fund, \$147,156.82. This gift is to be used for scholarships for graduate study in science by women.

Max Ogden Cole Fund, \$40,822.92. This bequest is to be used for the support of research into the causes, treatment and care of ailments in cancer, heart disease and poliomyelitis.

William W. Stout Memorial Scholarship Fund, \$157,500.00. A bequest from the estate of William W. Stout to be used for scholarship aid to worthy and needy students.

Faith Thompson Scholarship Fund, \$30,362.65. This gift is to be used for scholarship aid to worthy and needy students registered in Law, Pre-law, or Music.

In addition, several other gifts of \$25,000 and \$40,000, and many smaller donations were received for various University purposes.

The income from the endowment funds administered by the Board of Regents approximated \$700,000 each year during fiscal 1961 and 1962.

The endowments under the control of the Regents of the University of Minnesota are managed by the office of the Investment Counsel. Most of the individual funds, while maintaining their respective identity, are invested in a pooled account known as the Group Investment Fund. In this way, each of the funds, regardless of size, may achieve the diversification and degree of investment management and control usually possible only in a large account.

The following summary details the changes in the University's investment portfolio during the past 2 years.

**ENDOWMENT FUNDS MANAGED BY BOARD OF REGENTS
BOOK VALUE OF ASSETS HELD**

	June 30, 1961		June 30, 1962	
	Amount	Per Cent	Amount	Per Cent
Cash	\$ 170,084.29	.9	\$ 99,657.07	0.5
Bonds:				
U. S. Government and Agencies	1,932,730.53	10.8	1,604,316.30	8.3
Public Utility	1,116,343.54	6.3	2,438,292.80	12.6
Industrial	2,606,625.00	14.6	2,591,627.08	13.4
Railroads, Including Equipment Trust Certificates	1,120,763.21	6.3	1,445,763.21	7.5
Finance	1,316,781.25	7.4	1,311,281.25	6.8
Other	15,083.32	.1	25,407.54	0.1
Unamortized Premium	26,363.77	.1	39,471.43	0.2
Mortgages	546,497.04	3.1	614,560.18	3.2
Preferred Stocks	743,581.50	4.2	685,766.28	3.5
Common Stocks	7,882,703.68	44.2	8,106,059.77	41.9
Real Estate	365,446.00	2.0	385,221.00	2.0
Total Endowment Assets Managed by the Board of Regents	\$17,842,903.13	100.0	\$19,347,423.91	100.0
Book Value—Group Investment Fund	\$16,888,844.00		\$18,137,044.99	

Research—Research has become an increasingly important part of the activities of the University. It is an essential part of a complete educational program. Its main value from an educational standpoint is to provide training for graduate students. It is the duty of a great educational institution to train graduate students because they are the future instructional staff of a university. With the great increase in enrollment forecast for the period between now and 1970, many new instructors will be needed. Already there is a shortage of teaching personnel and unless this situation can be alleviated, the instructional program will suffer.

Since the end of World War II, research has grown tremendously. In 1946-47 the University spent \$1,581,594.00 for organized and sponsored research while in 1961-62 the University spent \$17,304,403.30. The accompanying schedule shows the growth by years of research expenditures. This schedule also shows the source of the funds for this research. For the year 1961-62 the source of these funds and the percentage of the total were as follows:

Source of Funds	Amount	Per Cent to Total
The Federal Government	\$12,803,203.52	74.0
The State	1,357,443.09	7.8
Gifts	2,781,710.71	16.1
Income from Endowment	362,045.98	2.1
Total	\$17,304,403.30	100.0

A further explanation of what is included in each of these four categories is as follows:

From the Federal Government—This includes direct Federal appropriations (Bankhead-Jones, Consolidated Hatch Funds, and others); income from Federal agencies for Defense Contracts Research (Departments of the Air Force, Army, Navy, Atomic Energy Commission, and others); grants from other Federal agencies (National Science Foundation, United States Public Health Service, Department of Agriculture, and others); and subcontracts for Federal prime contracts. A further breakdown of Federal funds for research is as follows:

Federal Appropriations—Agricultural Research	\$ 780,560.69
Federal Agencies	12,022,642.83
Total	\$12,803,203.52

From State Funds—This includes special State appropriations for research such as medical research, soil survey, beneficiation of manganiferous ores, and agricultural research. This also includes grants from State agencies such as the Iron Range Resources and Rehabilitation Commission, and the Department

of Conservation. A breakdown of these two main sources of State funds for research is as follows:

Special State Appropriations	\$1,256,775.20
State Agencies	100,667.89
Total	\$1,357,443.09

From Gifts—This includes gifts and grants from business and industries, foundations, associations, individuals, and others. These funds are expendable for the specific research. Examples are as follows:

Business and Industries:

Pillsbury Company and National Dairy Council.

Foundations:

Louis W. and Maud Hill Family Foundation, Rockefeller Foundation, and Nutrition Foundation.

Associations:

Minnesota Heart Association and American Cancer Association.

A further breakdown of the source of these funds is as follows:

Business and Industry	\$ 587,531.51
Foundations and Associations	1,654,884.56
Individuals and Other	539,294.64
Total	\$2,781,710.71

Income from Endowment—This category includes for the most part income from various endowment funds such as the Mayo Foundation, Malignant Disease Research Fund and American Legion Memorial Heart Research Professorship. Some gifts are given to the credit of an endowment fund and part or all of these gifts may be expendable and are not to be invested. If this is the case, these funds would show in the report under the heading of Endowments. In either case the funds under this category are expendable and are not to be invested. The total amount of funds expended for research from income from endowment was \$362,045.98 in 1961-62. Of this amount, the largest was the income from the Mayo Foundation Endowment which amounted to \$148,700.00.

SUMMARY OF RESEARCH EXPENDITURES FROM ENDOWMENT INCOME
GIFTS, GRANTS, AND FROM SPECIAL APPROPRIATIONS FROM THE STATE AND FEDERAL GOVERNMENTS

1946-47 to 1961-62

Year	Total			Governmental Sources									Non-Governmental Sources						
	No.	Amount	% Inc. Over Prev. Year	Total			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				
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	1,303,288.22	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	855,276.63	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	6,217,762.70	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	5,411,866.92	33.3	257	4,259,556.27	38.5	27	727,744.96	32.6	230	3,531,811.31	39.8	274	964,127.92	21.5	18	168,202.73	3.3	
1950-61	463	4,058,614.66	20.5	202	3,074,612.59	27.8	18	549,006.33	0.4	184	2,525,606.26	35.9	246	810,077.45	0.7	15	173,924.62	19.1	
1949-50	426	3,307,130.06	8.1	165	2,405,242.21	6.8	21	546,825.40	18.8	144	1,858,416.81	3.8	246	815,810.40	7.6	15	146,077.45	38.1	
1948-49	386	3,114,927.24	18.8	133	2,251,224.44	27.6	18	460,436.53	4.1	115	1,790,787.91	35.5	243	757,937.73	0.2	10	105,765.07	6.5	
1947-48	336	2,622,534.71	65.8	108	1,763,837.46	92.2	19	442,101.12	86.3	89	1,321,736.34	94.3	219	759,399.26	33.8	9	99,297.99	2.8	
1946-47	294	1,581,594.22	40.7	74	917,510.17	29.2	12	237,323.20	8.2	62	680,186.97	50.6	213	567,522.42	80.2	7	96,561.63	2.3	
Total Expenditures 1946-47 to 1961-62					\$124,311,893.41			\$95,874,391.93			\$13,364,320.37			\$82,510,071.56			\$24,858,656.54		\$ 3,578,844.94

¹ State sources include State Appropriations and Contracts.

² Federal sources include Federal Appropriations, Contracts and Grants.

Notes: A. Figures do not include expenditures for non-research fellowships.

B. No research expenditures on the Support Fund have been included in these totals.

Source: Financial Reports

A second schedule shows research expenditures by colleges in 1961-62. This schedule shows the number of research grants or contracts in the first column, the amount in the second column and the per cent to the total in the last column.

	Number	Amount	Per Cent to Total
Science, Literature, and the Arts	124	\$ 793,383	4.6
Institute of Technology	261	5,368,203	31.0
Institute of Agriculture	156	2,512,179	14.5
College of Medical Sciences	566	5,955,429	34.5
Dean of Students	2	18,843	.1
College of Veterinary Medicine	46	494,541	2.9
School of Dentistry	12	43,176	.2
Law School	3	22,016	.1
College of Pharmacy	6	22,082	.1
College of Education	27	267,318	1.5
Graduate School	53	1,112,152	6.4
School of Business Administration	16	515,572	3.0
University of Minnesota, Duluth	6	29,844	.2
Others	11	149,665	.9
Total	1,289	\$17,304,403	100.0

—C. T. JOHNSON, *assistant vice president*

DEPARTMENT OF POLICE

During the first year of the biennium, the Department of Police received 2,488 offense reports. The second year of the biennium, 2,677 offense reports were received. This total of 5,165 offense reports represented an increase of 38 per cent over the past biennium. During the present biennium 69 per cent of current offense reports were successfully closed.

Services—Several additional types of services are handled by the Department of Police:

- a. Money pick-ups and deliveries of thousands of dollars of University funds.
- b. Transportation of sick and injured University staff members and students.
- c. Operation of the Lost and Found Department.
- d. Supervision and control of all University building keys.
- e. Assistance to strangers in finding various buildings and University personnel.
- f. Provision for fingerprinting and notarial services for the public.
- g. Supervision of alcohol storage units to comply with the regulations on the storage of alcohol.
- h. Supervision of narcotic storage and distribution procedures.
- i. Participation on state, county, and municipal boards for selection and promotion of police officers.
- j. Maintenance of uniformed patrols at the University Rosemount facility and the University of Minnesota, Duluth.

Security—The Department of Police is the University's security office for the government research contracts conducted by the University. The Department processes all personnel security questionnaires, including fingerprinting. The Department also maintains classified information files regarding individual clearances.

The Department also processes all visit authorizations. These are required by the Department of Defense for any research project staff member who must visit another facility.

The periodic inspection of facilities for the storing of classified information is also a duty of the Department of Police. This also includes changing the combinations on security safes as required by the Department of Defense and the periodic changing of combinations on all University safes.

Polygraph Examinations—During the biennium 314 polygraph (lie detector) examinations were conducted for 114 different agencies. The total represents 563 subjects examined. It constitutes an increase of 39 per cent more cases, 43 per cent more subjects, and 24 per cent more agencies served than in the previous biennium.

Parking—The Department of Police is responsible for the operation of all campus parking facilities. A summary of the available parking space at the close of the biennium is as follows:

	Transient	Contract	Total
Outside Lots	4,875	1,078	5,953
Garages and Ramps	577	739	1,136
Total	5,452	1,817	7,089

The following tabulation shows the number of cars parked during the last biennium.

	1960-61	1961-62	Total
Transient Cars	1,830,769	1,819,335	3,650,104
Contract Cars	473,200	472,420	945,620
Total	2,303,969	2,291,755	4,595,724

This represents an increase in vehicles parked of 329,871 over the previous biennium.

In acquiring labor to meet the increasing parking workload, the Department of Police enthusiastically supports the policy of using students to the maximum possible extent. During the last biennium, 433 students were employed. The payroll for these students amounted to \$309,924.62 for the biennium.—C. B. HANSCOM, *director*

OFFICE OF THE FIELD AUDITOR

During the 1960-1962 biennium, the Office of the Field Auditor continued to work closely with the State Public Examiners staff assisting them in obtaining data during their audit, discussing suggested changes in procedures, and effecting in the various departments the agreed upon changes.

An extensive audit was made of the Chemical Storehouse during this period, and the value of the physical inventory was reconciled to the general ledger controls. Changes in pricing, record keeping, and disposal of obsolete items were instituted and procedures were established so that annual inventories could be made by storehouse personnel.

This biennium saw the completion of the audits of the General and Military Deposit Account and the Agricultural Deposit Account with the recommendation that these deposit accounts be discontinued as the need for them seemed to have dwindled over the years and the costs of maintaining them properly at the present time greatly exceeded any gains from their continuance. The recommendation was accepted, and this office assisted in the final phasing out of the program, the refundment to students of deposits on hand, the adjustments necessary to close the accounts, and the institution of new procedures for departmental collection of charges previously deducted from these deposit accounts.

Programs in the Office of the Field Auditor are constantly being revised to provide more complete audits, to aid departments in the collection of old accounts, to assist in the establishment and maintenance of effective book-keeping procedures and cash controls, and to make annual audits and reviews

of the University campuses at Duluth and Morris and of the agricultural schools and experiment stations.—JAMES L. DUFFY, *field auditor*

DEPARTMENT OF INSURANCE AND RETIREMENT

The following changes were made in programs administered by the Department of Insurance and Retirement.

Faculty Retirement Plan

- a. Effective July 1, 1960 the total retirement allowances were increased to a maximum of \$5,500 per year for Professors, \$5,000 per year for Associate Professors and \$4,500 per year for Assistant Professors and Instructors.
- b. Effective October 1, 1960 the purchase of retirement units jointly by the University and the staff member was accelerated from one unit per year to three units per year (beginning with the fourth year) which very effectively increased the amount of retirement income available upon retirement. The number of units offered was increased to thirty units.

Health Care Plans

- a. Effective October 15, 1960 Major Medical health care coverage was added to the Hospitalization and Medical-Surgical plans available to all staff on a group basis.
- b. Effective July 1, 1961 full-time permanent academic staff of the rank of instructor or above received \$150.00 per month Group Income Disability coverage with the entire cost paid by the University.
- c. Effective September 16, 1961 the Group Life Insurance coverage was increased to a maximum of \$12,000. For the first time the University assumed the entire cost.
- d. Effective January 1, 1962 the advantages of the "Mills Bill" or "Salary or Annuity Option" were made available to all academic staff members of the rank of instructor or above including full-time, part-time or temporary members of staff.—RAY F. ARCHER, *director*

PATENTS

Assignment of Patent Applications, 1960-61

Assignment of Application for Patent, Serial No. 33,020, Fred Smith and Edmund F. Graham, Preservation of Animal Material.

Assignment of Application for Patent, Serial No. 43,376, Le Roy Fingerson, High Temperature Probe.

Assignment of Application for Patent, Serial No. 43,919, Harald D. Frederiksen, Wave Attenuator.

Assignment of Application for Patent, Serial No. 52,400, Kenneth T. Whitby, Sonic Jet Ionizer.

Assignment of Application for Patent, Serial No. 5051, B. J. Lazan, Damping Means.

Patents Received, 1960-61

Original Patent No. 2,945,755 (Application Serial No. 619,443) Norman F. Schulz, Magnetic Roasting Process and Apparatus.

Original Patent No. 2,932,759 (Application Serial No. 444,773) William G. Shepherd, Vacuum Tube.

Original Patent No. 2,959,580 (Application Serial No. 616,372) Hermann Schlenk et al., Formation of Inclusion Compounds.

Original Patent No. 2,972,349 (Application Serial No. 782,757) Richard A. DeWall, Capillary Oxygenator.

Original Patent No. 2,958,037 (Application Serial No. 638,968) John R. Riede and Robert C. Cahill, Magnetic Shield for Coils.

Assignment of Patent Applications, 1961-62

Assignment of Application for Patent, Serial No. 99,007, Fred Smith and Edmund F. Graham, Preservation of Animal Material.

Assignment of Application for Patent, Serial No. 123,020, James J. Ryan, Safety Seat Belt.

Assignment of Application for Patent, Serial No. 130,379, Helmut G. Heinrich, Speed Retardation Device.

Patents Received, 1961-62

Original Patent No. 2,981,253 (Application Serial No. 672,438) Richard A. DeWall and C. Walton Lillehei, Oxygenator.

Original Patent No. 267,639 (Spanish) Fred Smith and Edmund F. Graham, Preservation of Animal Material.

Original Patent No. 3,024,413, Stanley M. Block, Sequential Electronic Motion Timer and Recorder.

Original Patent No. 61/1879 (South African) Fred Smith and Edmund F. Graham, Preservation of Animal Material.

Original Patent No. 11,146 (Turkish) Fred Smith and Edmund F. Graham, Preservation of Animal Material.

Original Patent No. 604,399 (Belgian) Fred Smith and Edmund F. Graham, Preservation of Animal Material.

Original Patent No. 22,892 (Greek) Fred Smith and Edmund F. Graham, Preservation of Animal Material.

Original Patent No. 3,017,275, Dr. Samuel T. Coulter, Method for Improving Butter Spreadability.

CASH GIFTS

Summary of Gifts, 1960-61

(Exclusive of Federal and State)

Expendable		
For Education and Research	\$3,627,500.79	
For Student Aid	980,362.60	
For Other Purposes	590,133.77	
Total Expendable		\$5,197,997.16
Capital		
Endowment		
For Education and Research	\$ 72,090.53	
For Student Aid	202,839.64	
Subject to Annuity	147,156.82	
For Other Purposes	7,916.84	
Operating Temporarily as an Endowment	17,838.09	
Loan Funds	79,551.18	
Plant Funds	728,526.56	
Total Capital		\$1,255,919.66
Grand Total		\$6,453,916.82

Summary of Gifts, 1961-62

Expendable		
For Education and Research	\$2,131,255.43	
For Student Aid	1,281,484.84	
For Other Purposes	887,854.53	
Total Expendable		\$4,300,594.80
Capital		
Endowment		
For Education and Research	\$ 89,801.18	
For Student Aid	70,430.06	
Subject to Annuity	3,898.03	
For Other Purposes	221,609.30	
Operating Temporarily as an Endowment	29,634.13	
Loan Funds	134,721.25	
Plant Funds	353,424.48	
Total Capital		\$ 903,518.43
Grand Total		\$5,204,113.23

—L. R. LUNDEN, vice president

INDEX

	Page		Page
Absence, leaves of. <i>See</i> Leaves.		Cook, Walter W., report	153-56
Academic Administration, Divisions of		Continuation Study, Center for	179
honors	47-52	Correspondence Study Department	174
reports	195-251	Cowan, D. W., report	230-35
Academic Structure Reorganization Plan	1	Crawford, Bryce, Jr., report	159-66
Administration, honors	46-47	Crawford, W. H., report	144-49
Admissions and Records, Office of		Crookston. <i>See</i> Agriculture, Schools of.	
honors	47	Darland, Raymond W., report	168-69
report	200-24	Davidson, J. H., report	190-91
Agricultural Experiment Station	124-26	Dean of Students. <i>See</i> Students, Dean of.	
Agricultural Extension Service	126-28	Deaths	6-7, 44-46
Agriculture, Forestry, and Home Economics, College of	128-30	Degrees conferred	215-18
Agriculture, Institute of		Dentistry, School of	
honors	64-67	honors	90-91
report	124-30	report	144-49
Agriculture, Schools of	130	Distinctions	46-117
Air Science, Department of	243	Drama Advisory Service	247
Alumni Relations, Department of	187-90	Duffy, James L., report	273-74
Alumni Service Awards	2	Duluth, University of Minnesota. <i>See</i> University of Minnesota, Duluth.	
Amberg, Ray M., report	140-44	Earnings, University Services	267
Anderson, Gaylord W., report	138-40	Education, College of	
Appointments	14-21	honors	75-81
Archer, Ray B., report	274	report	153-56
Armstrong, Isaac J., report	183-87	Elliott, Robert J., report	241-42
Artists Course	244	Endowments	268-69
Athletics. <i>See</i> Physical Education.		Enrollment	
Audio-Visual Extension Service	181	annual	206
Auditor. <i>See</i> Field Auditor.		collegiate, by colleges and schools	203-06
Awards and citations	1	collegiate, by quarters	207-08
Baker, Gertrude M., report	156-57	comparative	214-15
Breckenridge, W. J., report	239-41	continuation study	212-14
Briggs, Rodney A., report	169-72	extension	211
Buchta, J. W., report	168	geographic distribution	223-24
Buildings and tunnels	254-55	new students	220-22
Business Administration, Divisions of		out-of-state	223-24
honors	52-53	ROTC, Air Force	243
reports	252-75	Army	241
Business Administration, School of		Navy	242
honors	109-11	short courses	211
report	157-59	subcollegiate	209-10
Business Office	267-72	summary	214
Carlson, C. L., report	264-67	summer sessions	206
Center for Continuation Study. <i>See</i> Continuation Study.		Ervin, John, report	235-39
Certificates conferred	219	Evening classes	172
Child Development, Institute of		Extension. <i>See</i> Agricultural Extension. <i>See</i> Audio-Visual Extension. <i>See</i> General Extension.	
honors	81	Faculty	
report	157	changes in	8-45
Civil Service Personnel, Office of	258-64	honors and distinctions	46-117
Concerts and Lectures, Department of		Field Auditor, Office of	273-74
honors	51	Forestry. <i>See</i> Agriculture, Forestry, and Home Economics.	
report	243-48	Fritz, Edna L., report	136-38
Convocations	246		

	Page		Page
General College		Medical Sciences, College of	
honors	111	honors	81-90
report	167-68	report	132-36
General Extension Division		Metropolitan Opera Company	244
honors	115-16	Military Science, Department of	241
report	172-82	Morgan, E. M., report	242-43
Geological Survey, Minnesota		Morris. See Agriculture, Schools of.	
honors	64	Morse, H. T., report	167-68
report	121-22	Mortuary Science, Department of	174
Gifts, cash	275	Municipal Reference Bureau	178
Graduate School		Museum of Natural History	
honors	94	honors	51
report	159-66	report	239-41
Grambsch, Paul V., report	157-59	Naval Science, Department of	242-43
Grand Rapids. See Agriculture, Schools of.		Nolte, Julius M., report	172-82
Greater University Fund	190-91	North Central School of Agriculture	130
Hager, George P., report	150-53	Northwest School of Agriculture	130
Haislet, Ed, report	187-90	Nunn, William L., report	248-51
Hanscom, C. B., report	272-73	Nursing, School of	136-38
Health Service, University		Outstanding Achievement Medals conferred	1
honors	50	Patents	274-75
report	230-35	Personnel, Civil Service. See Civil Service.	
Heneman, H. G., report	191-94	Pharmacy, College of	
Home Economics. See Agriculture, Forestry, and Home Economics.		honors	93-94
Honorary degrees conferred	2	report	150-53
Honors	46-117	Physical Education and Athletics, Department of	
Hospitals, University of Minnesota	140-44	honors	116-17
Howard, Robert B., report	132-36	report	183-87
Industrial Relations Center	191-94	Physical Education for Women, Department of	156-57
Institutional Research, Bureau of		Pieper, Frank, report	258-64
honors	51	Plant Services Department	252-58
report	225-26	Police, Department of	272-73
Insurance and Retirement, Department of	274	Press, University of Minnesota	
Investments	268-69	honors	50
Johnson, C. T., report	267-72	report	235-39
Johnson, Victor, report	166-67	Program Service	246
Land additions	252-53	Promotions	21-32
Law School		Public Health, School of	138-40
honors	92-93	Public relations. See University Relations.	
report	149-50	Radio and Television, Department of	175
Leaves of absence	32-43	Reassignment of administrative responsibilities	1
Lectures. See Concerts and Lectures.		Regents Awards	3-5
Lectureships, special	246	Regents, Board of	ii; 8
Libraries, University		Regents special citations	5-6
honors	50-51	Retirements	8-9
report	198-200	ROTC	
Lockhart, William B., report	149-50	Air Force. <i>See</i> Air Science.	
Lombard, James S., report	243-48	Army. <i>See</i> Military Science.	
Lunden, L. R., report	252-75	Navy. <i>See</i> Naval Science.	
Macy, Harold, report	124-30	Science, Literature, and the Arts, College of	
Mayo Foundation		honors	53-64
honors	94-109	report	118-21
report	166-67	Sims, P. K., report	121-22
McDiarmid, E. W., report	118-21		
Medical examinations for administrative personnel	1		

	Page		Page
Southern School of Agriculture	130	Thorp, W. S. T., report	130-32
Special classes	172	Transfers	21-32
Stanford, Edward B., report	198-200	Unions. See Student Unions.	
Starr, Gordon L., report	226-30	University College	168
State Organization Service	182	University of Minnesota, Duluth	
Stecklein, John E., report	225-26	honors	111-14
Stevenson, Harold W., report	157	report	168-69
Stockdale, F. D., report	243	University of Minnesota, Morris	
Student Unions, Departments of		honors	114-15
honors	51-52	report	169-72
report	226-30	University Relations, Department of	248-51
Students, Dean of		University Services	264-67
honors	47-50	Verbrugge, Frank, report	122-24
report	195-98	Veterinary Medicine, College of	
Summer Session		honors	74-75
honors	94	report	130-32
report	182-83	Waseca. See Agriculture, Schools of.	
Summers, Robert Edward, report	200-24	West Central School of Agriculture	130
Technology, Institute of		Willey, Malcolm M., report	195-251
honors	67-74	Williamson, E.G., report	195-98
report	122-24	World Affairs Center	182
Television. <i>See</i> Radio and Television.		Ziebarth, E. W., report	182-83
Terminations	9-14		